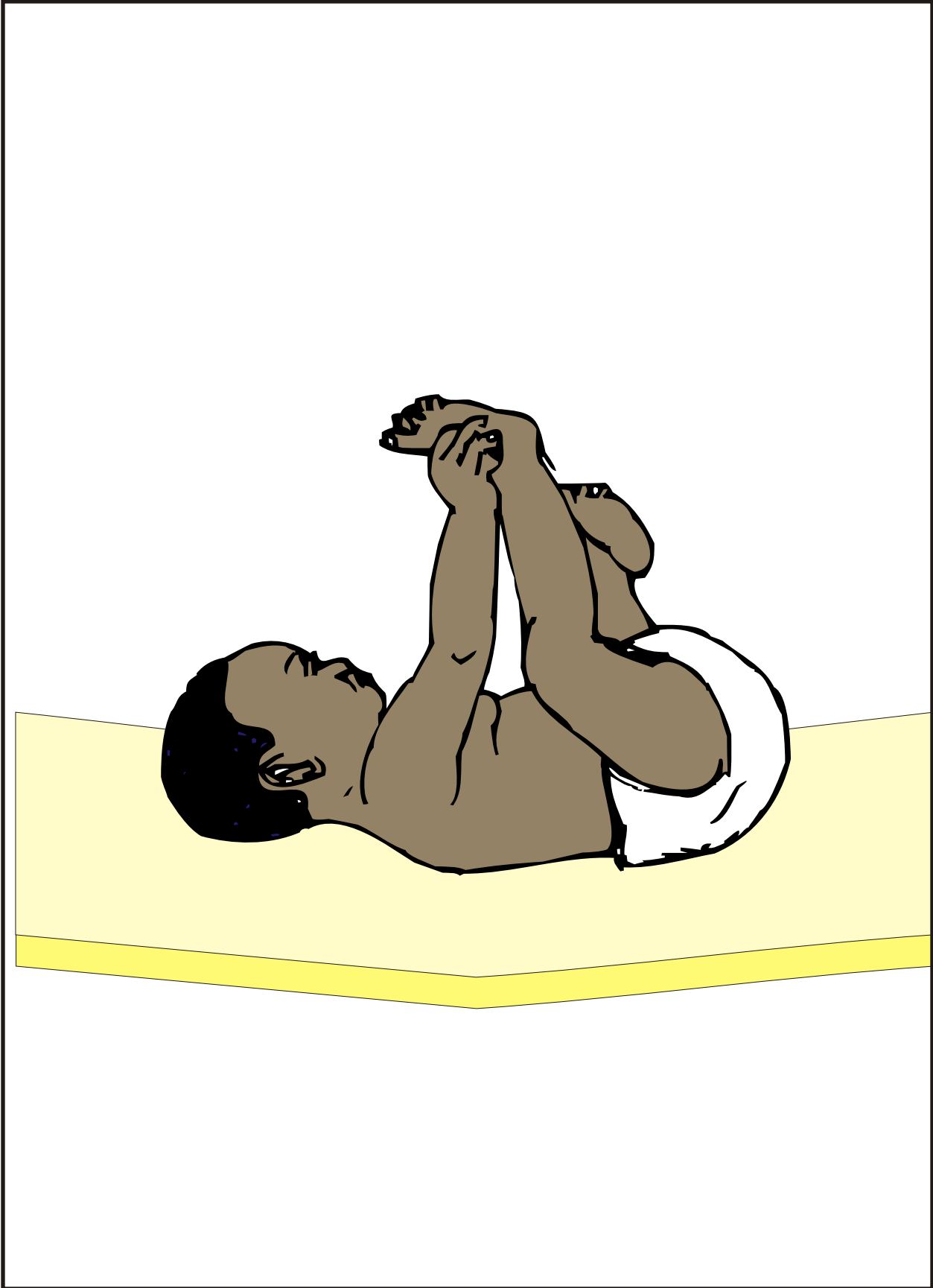


The baby is not yet 6 months old



DidacArts, Mars 2003

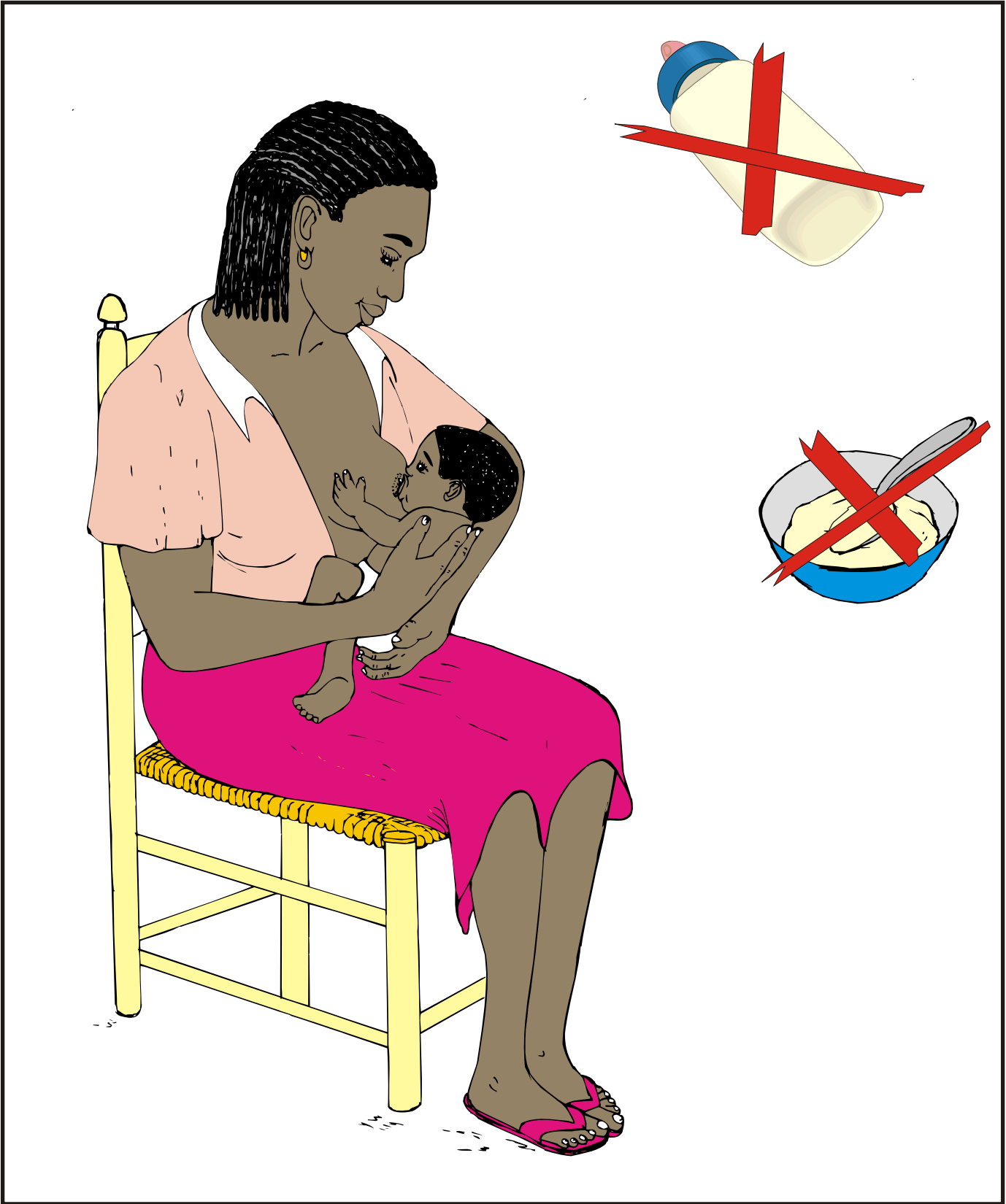
Start breastfeeding the baby within one hour after birth



DiigoAtis, Mairis 2003

**Infant and young child feeding**  
**Session 1:** Importance of good breastfeeding practices  
**Session 2:** Good breastfeeding practices

Breastfeed exclusively during 6 months  
Breastfeed the child to prevent from illness



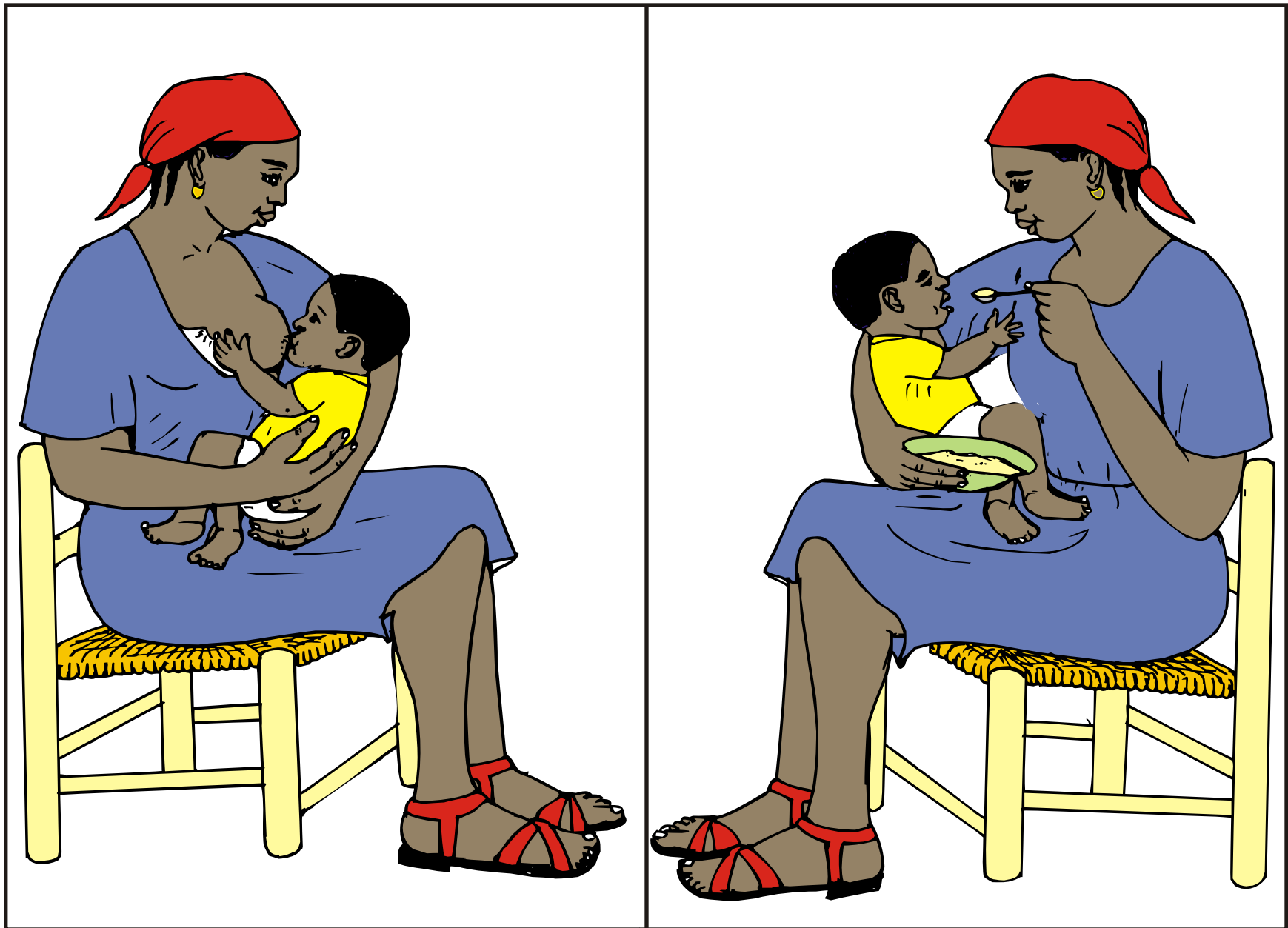
**Infant and young child feeding**

**Session 1:** Importance of good breastfeeding practices / **Session 2:** Good breastfeeding practices

**Session 5:** LAM - Lactational Amenorrhea Method / **Session 6:** Start giving other rich foods to complement breast milk when children are 6 months old

**Session 11:** Protecting your food - protecting your children

Continue breastfeeding for up to 2 years and beyond while introducing complementary foods at about 6 months



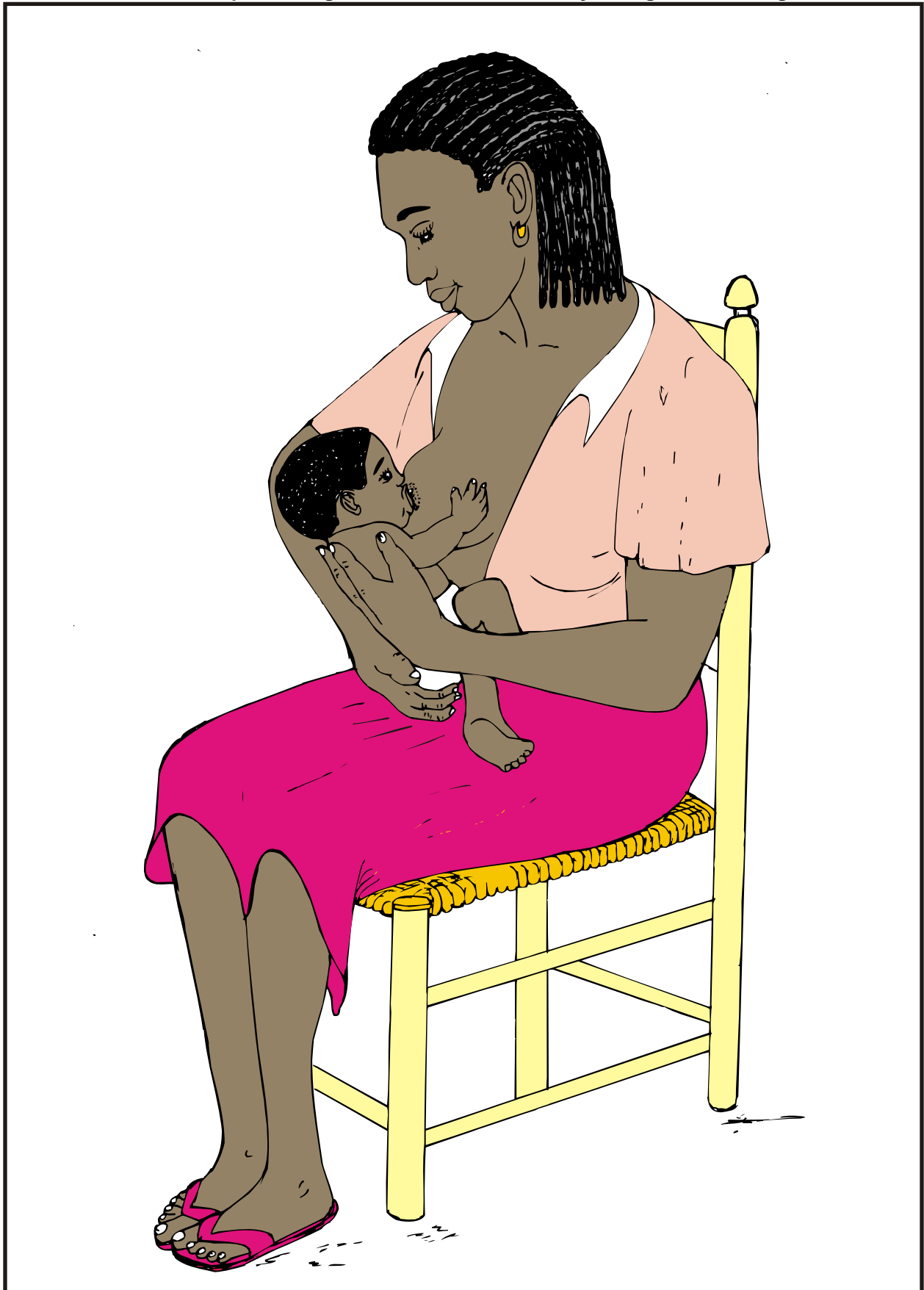
DidacAfts, Mars 2003

**Infant and young child feeding**

**Session 1:** Importance of good breastfeeding practices

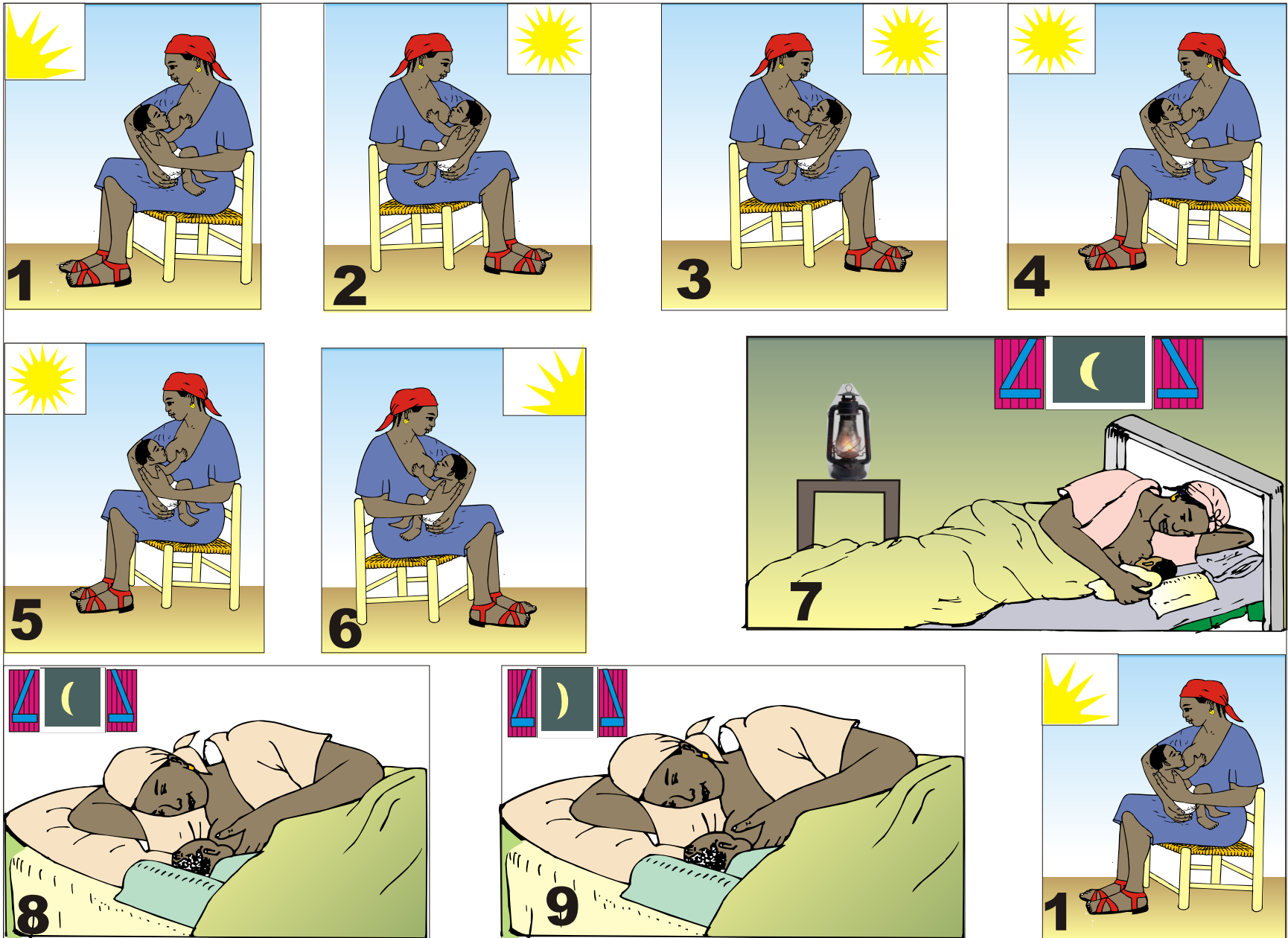
**Session 6:** Start giving other rich foods to complement breast milk when children are 6 months old

**Good positioning and attachment of the baby during breastfeeding**



**Infant and young child feeding**  
**Session 2:** Good breastfeeding practices  
**Session 3:** Always promote breastfeeding

Breastfeeding frequency during 24 hours



Infant and young child feeding  
Session 2: Good breastfeeding practices  
Session 3: Always promote breastfeeding

# CHILD DEVELOPMENT AND FEEDING CHART

	0	6	9	12	18	24
Child Development						
Food Texture						
Breastfeeding and Feeding						
Participating in Feeding						
Frequency of Feeding						
Quantity of Food						

Child Development

Food Texture

Breastfeeding and Feeding

Participating in Feeding

Frequency of Feeding

Quantity of Food

Child Development

Food Texture

Breastfeeding and Feeding

Participating in Feeding

Frequency of Feeding

Quantity of Food

Keep the area around your home clean - especially clean up feces

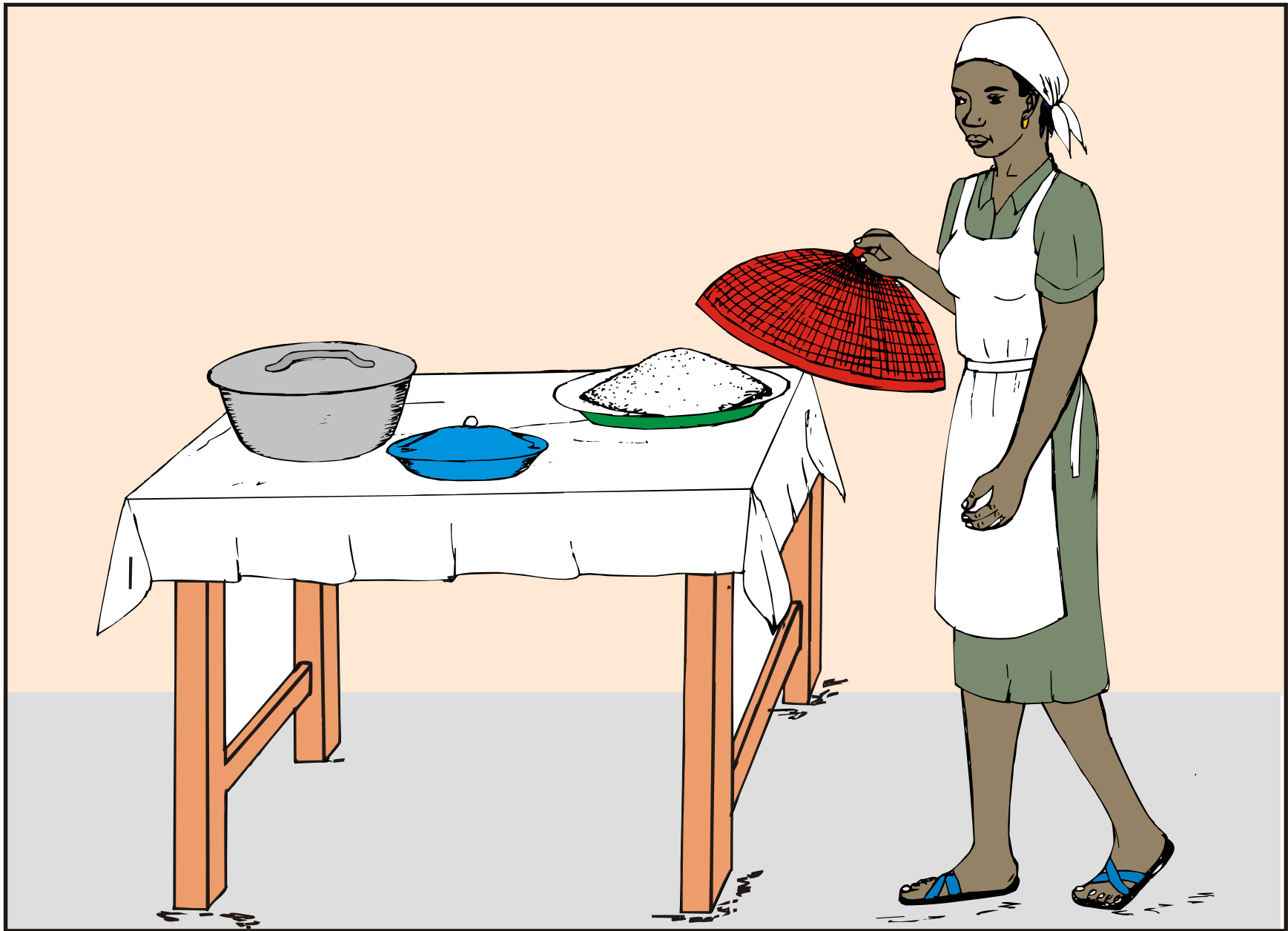


DidacArts, Mars 2003

Infant and young child feeding  
Session 11: Protecting your food - protecting your children



Cover uneaten food to protect it from flies



DidacArts, Mars 2003

Infant and young child feeding  
Session 11: Protecting your food - protecting your children

**Development of a Behavior Change Communications Program to  
Prevent Malnutrition in the Central Plateau of Haiti:  
Results and Challenges from a Formative Research Study**

**IFPRI-Cornell University-World Vision Team**

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## **ACRONYMS USED**

BCC	Behavior Change Communication
BF	Breast feeding
CF	Complementary feeding
CSB	Corn-Soy Blend
EBF	Exclusive Breast Feeding
FANTA	Food and Nutrition Technical Assistance
IFPRI	International Food Policy Research Institute
PVO	Private voluntary organization
SD	Standard deviation
SFB	Soy-fortified bulgur
TIPS	Trials of Improved Practices
USAID	United States Agency for International Development
WSB	Wheat-Soy Blend
WV	World Vision

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## EXECUTIVE SUMMARY

This report describes the formative research process undertaken in Haiti to assist World Vision in the development of a Behavior Change Communications (BCC) program aimed at the *prevention* of childhood malnutrition in the Central Plateau region. This formative research is part of a larger evaluation being conducted by the International Food Policy Research Institute (IFPRI) and Cornell University in collaboration with World Vision-Haiti, to compare two models for delivering an integrated food and nutrition program with a take-home food ration component. The formative research activities reported here were conducted specifically to produce insights and information for adapting World Vision's current recuperative health and nutrition education model to the needs of a preventive BCC program as well as for strengthening the current recuperative BCC program. Both the preventive and recuperative program models will be fully implemented by World Vision-Haiti.

The objectives of the formative research were the following:

- to provide a knowledge base about infant and young child feeding and care that would serve as the foundation for a BCC program,
- to develop, through participatory recipe trials, enriched complementary foods to be promoted in the BCC program using locally available and affordable foods, and
- to identify possible avenues and delivery systems for inserting preventive BCC activities into the current structure of World Vision program activities in the Central Plateau of Haiti.

The formative research activities utilized a variety of qualitative data collection methods. These included individual and group interviews with mothers of young infants, grandmothers, fathers, and World Vision program staff. Participatory group recipe trials were conducted to develop recipes for enriched complementary foods and to discuss their feasibility, acceptability and affordability under real-life conditions in the program areas. Finally, observations of World Vision's program activities were conducted in the Central Plateau area as well as on the island of La Gonâve to understand the implementation of current program activities and to explore the feasibility of enhancing current educational activities.

Results of the formative research are summarized below with an emphasis on how they relate to the development of the BCC program. Overall, three key aspects are addressed:

- *Key behaviors*: the research identified specific behaviors that need improvement, as well as positive behaviors that could be reinforced through the BCC intervention; factors that may "facilitate" behavior change were also identified as well as aspects that may affect capacity for behavior change (see Table 1 for a summary of findings).
- *Programmatic opportunities*: designing and planning the preventive BCC requires building on existing program structure and activities. This includes identification of program contact points and the design of specific communications approaches and materials for different venues.



- *Supporting program activities*: considering the potential constraints to behavior change that were identified in the research, supporting program activities were identified that could help relieve some of these constraints and potentiate the effectiveness of the BCC intervention.

## **Key behaviors**

### ***0-6-month-old infants***

Our results revealed that breastfeeding is widespread and highly valued, and practiced mostly on demand, at least when mothers are at home and available to their infant. On the other hand, the widespread use of complementary liquids and starchy gruels often fed with a baby bottle to very young infants raises serious concerns about the potential displacement of breast milk, the resulting nutrient inadequacy of the diet, and the excessive risk of contamination. Teas are often fed to treat colic (*gaz*), while gruels and other liquids are mostly fed when mothers have to leave home either to return to their income-generating market activities or to take care of other household responsibilities. Although the use of expressed breast milk is not common, most women were positive about it and willing to try it, given enough training and information.

Interviews with “positive deviant” mothers who had breastfed exclusively for at least four months showed that factors such as support from family members and/or peers, positive role models in the community, and perceived benefits to the infant were important motivating and sustaining factors. Potential constraints to adoption of exclusive breastfeeding include economic needs, which force women to return to their income-generating activities soon after delivery, and the perception that “breastfeeding all the time” weakens the mother and results in fatigue and reduced energy. These aspects will need to be considered carefully in the design of the BCC program and alternative strategies to address these potential constraints to behavior change will need to be addressed.

### ***6-24-month-old children***

Some of the encouraging findings related to the feeding of 6-24-month-old children are that continued breastfeeding is normative and the concepts of fluid replacement and continued breastfeeding during diarrhea are well ingrained. However, a number of non-optimal feeding practices, which may result in inadequate energy and nutrient intakes, were identified. In particular, the variety of complementary foods seems low, and micronutrient-rich foods such as animal products, fruits, and vegetables are consumed infrequently and in small amounts. This appears to be due to a lack of household access to these expensive products, especially animal source foods, and to certain cultural barriers regarding the use of some fruits and vegetables for young children. The frequency of feeding also appears lower than recommended, probably due to true economic constraints but also in part to the belief that evening meals cause indigestion in young children. There also seems to be no recognition of the need to increase the number of feedings of complementary foods as children grow older, and as the expected contribution of complementary foods to their nutrient requirements increases. Baby bottles appear to be widely used and breastfeeding may not always be on demand, especially when mothers return to their regular income-generating activities away from home. Cultural constraints to optimal feeding

practices will have to be addressed in the BCC intervention, whereas other supporting programs should address the problems of limited access to food and overall household food insecurity.

The recipe trials confirmed that traditional complementary foods are low in micronutrient-density, although they are generally of adequate energy density. A number of improved recipes was developed, using traditional preparation methods and ingredients, and adding locally available nutrient-dense foods such as fish, eggs, beans, and vitamin A-rich foods. The most promising recipes from both a feasibility and an economic point of view were the wheat flour gruels enriched with either black beans and dried fish, beans and sugar, or with an egg; and mashed plantain with pumpkin, fish sauce, and oil. Although these improved recipes would allow young children to meet their energy requirements if fed the recommended number of times per day for their age, they still would fall short in helping children meet their iron and zinc daily requirements.

Recipe trials using Corn Soy Blend (CSB), a fortified food aid commodity, showed that the iron and zinc content of the diet of children fed CSB-based gruels with the recommended frequency (and in the age-specific average amount) would still be too low. Further ways to enrich the diet with bioavailable iron and zinc, such as promoting intake of some minimal amounts of meat or liver on a regular basis, will need to be explored further. Our current assessment is that, although there are no cultural restrictions to feeding these animal products to young children, the amounts and frequencies required to significantly improve iron and zinc intakes are well beyond the reach of poor households. Amounts as large as 300-500 g of red meat would have to be consumed on a daily basis, at a cost of 30-50 Gourdes (equivalent of \$1 to \$2). The feasibility of alternative approaches such as using dietary supplements in the form of dispersible tablets, spreads or sprinkles will be explored.

The collection of information on the psychosocial care aspects of infant feeding was beyond the scope of the present study because of the intensive data collection methods required to obtain reliable and valid data on these aspects of child feeding. However, the principles of psychosocial care will be considered in the development of the BCC program. In addition, the multiple substitute caregivers who take on a variety of childcare responsibilities when mothers are away from home will be considered in planning the delivery of the preventive BCC model. Specifically, fathers, grandmothers, school children, and adolescent siblings will be considered as additional BCC program beneficiaries.

### ***Maternal diet during lactation***

The present study revealed the existence of a number of dietary restrictions during lactation, which may affect the quality of the diet of lactating mothers. This in turn could affect their lactation performance. The dominant food proscriptions include avoidance of a number of white-colored foods like fish, milk, white beans, and some vegetables. These restrictions were reported to be particularly important during the first three months of lactation and our interviews with breastfeeding women confirmed that they were adhered to. In the absence of quantitative dietary information, our study did not allow an examination of the implications of these restrictions for maternal energy intake and dietary quality. This issue, however, will be addressed in the future because dietary proscriptions during lactation may affect the quantity and quality of lactating women's diet at a time when their energy and nutrient requirements are

particularly high. Moreover, we suspect that these proscriptions may, at least to some extent, be responsible for the concern reported by women about fatigue and weakness resulting from breastfeeding frequently and/or exclusively.

### **Programmatic opportunities for implementing the BCC intervention**

Three main program delivery points are used by World Vision in their program and information was gathered at each one of these delivery points: 1) the Rally Posts (where growth monitoring, immunization, and health education activities are held); 2) the food distribution points (where food commodities are distributed); and 3) the Mothers' Clubs (group meetings held in the communities and used primarily for discussions on health education topics). The goal was to improve our understanding of current health and nutrition education program activities and to identify focal points for introducing our preventive BCC intervention.

Observations at the Rally Posts showed that the weighing and recording of children's weights took up most of the time of health agents and resulted in little interaction with program participants and little or no individual counseling of mothers. Additionally, program education sessions were scheduled at the beginning of the Rally Post, a time when the large majority of beneficiaries had not yet arrived from their long journey to the Post. While the Rally Posts may be a promising entry point for the BCC program, some aspects of program implementation will have to be modified to improve their potential for effective communication with participants. First, the timing of the education session will have to be reconsidered to accommodate the majority of participants. Second, health agents should be trained on the use of communication techniques to improve their skills and interest in this area, and they should be provided with appropriate material to communicate more effectively. Finally, the time allocation of health agents should also be shifted to allow more time for communication and counseling, and less to weighing, charting, and reporting children's weights. It may be useful to consider training a *colvol* (community volunteer) or an assistant mother in weighing children, so that health agents can be freed from this responsibility and can dedicate a larger proportion of their time to the BCC intervention.

The food distribution points were identified as the least promising delivery point for the BCC intervention because of their crowded, busy, and distracting environment. However, the structured progression of beneficiaries through the food distribution system could facilitate the incorporation of a system to distribute brochures, counseling cards, or handouts to beneficiaries based on their child's current age and health status. The venue could also be used to inform program beneficiaries about the proper use of donated commodities and their potential use for preparing enriched complementary foods.

The Mothers' Clubs are an excellent setting for group communication and discussions, and thus a promising venue for the BCC program. However, it will be important to modify current teaching and communication approaches to ensure effective learning and behavior change communication. Specific modifications that could help the process include training health agents and *colvols* in the principles of adult learning, providing visual communication material, and training health agents in providing the group with local and contextual examples to accompany the theoretical aspects of the topics discussed. Also, in addition to the usual classroom-like activities, the sessions could be used to facilitate innovative activities such as participatory recipe

trials. The venue could also possibly be used to set in place mechanisms that can *support* behavior change, like peer groups to encourage and support exclusive breastfeeding.

### **Supporting program activities**

The promotion of resources to support translation of knowledge into behaviors and child outcomes can be achieved by a variety of supporting program activities. Some examples of potential activities that could enhance the effectiveness of our preventive BCC strategy include the following:

- Initiate and support community childcare initiatives to assist working parents with their childcare responsibilities. This type of initiative may also become a source of income for those mothers who run the day care centers. Other initiatives could include identifying a safe spot in markets where substitute caregivers can care for young infants when mothers are attending to their market activities. This would allow market mothers to exclusively breastfeed for the first half of infancy and to continue, on demand, frequent breastfeeding up to 2 years of age and beyond.
- Provide microcredit programs to increase resource availability within households and communities.
- Promote food-based interventions to increase the production and intake of micronutrient-rich animal foods and fresh fruits and vegetables; and explore the possibility of using some preservation techniques such as solar drying to extend the life of micronutrient-rich fruits and vegetables beyond their season of high availability.
- Promote overall poverty reduction programs and activities to increase access to water, sanitation, and health services.

### **Next steps**

The information provided by this formative research is currently being used to assist World Vision in the design and development of the BCC program to incorporate into the preventive approach and to strengthen the existing recuperative model. The study findings were presented at a series of workshops held in Haiti in October 2002, which involved key decision-makers and program staff from World Vision-Haiti, as well as staff from a number of other PVOs, the government, USAID- Haiti and Washington, and FANTA. The workshops were successful in raising interest and fomenting collaboration between stakeholders involved in similar programs in Haiti. A work plan was defined for the next steps, which involve the production of communication and training material, the development of a training curriculum for World Vision staff, and the design of the BCC program implementation plan. The two models will be fully implemented early next year.

**Table 1 Infant and child feeding practices in Haiti compared to best practices, and constraints and opportunities for behavior change in Central Plateau**

Goals	Practices to promote	Practices in Haiti	Facilitating conditions for behavior change	Issues that may affect capacity for behavior change
<b>A. Infant feeding from 0 to 6 months of age</b>				
<b>Exclusive Breastfeeding (BF)</b>				
<ul style="list-style-type: none"> <li>➤ <b>Ensure exclusive BF</b></li> <li>➤ <b>Prevent bacterial contamination</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ Early initiation of exclusive BF (EBF)</li> <li>➤ Feeding of colostrum</li> <li>➤ BF on demand</li> <li>➤ Avoidance of pre- and post-lacteal feeds</li> <li>➤ Using expressed breast milk if needed</li> <li>➤ Avoidance of baby-bottles</li> </ul>	<p><i>Positive:</i></p> <ul style="list-style-type: none"> <li>➤ BF widely practiced</li> <li>➤ Reported to be mostly on demand</li> </ul> <p><i>Non optimal:</i></p> <ul style="list-style-type: none"> <li>➤ Pre-lacteals and post-lacteal liquids and gruels widely used</li> <li>➤ Complementary liquids and foods introduced at a <u>very young age</u></li> <li>➤ Widespread use of baby bottles</li> </ul> <p><i>Not enough information:</i></p> <ul style="list-style-type: none"> <li>➤ Timing of initiation of BF<sup>a</sup></li> <li>➤ Colostrum use<sup>a</sup></li> </ul>	<ul style="list-style-type: none"> <li>❖ Experienced, successful positive deviant mothers (who EBF) exist in communities</li> <li>❖ Positive deviant mothers had received information from health agents, media, health center staff</li> <li>❖ EBF moms report it is cheaper to EBF and child is healthier</li> <li>❖ No objection to use of expressed breast milk – some mothers do it; but training needed</li> </ul>	<ul style="list-style-type: none"> <li>➤ Water-based liquids and teas given to treat colic (<i>gaz</i>)</li> <li>➤ Gruels given because mothers need to leave home for work or other activities</li> <li>➤ Mothers' time and employment constraints</li> <li>➤ Mothers are concerned about feeling too weak and depleted if they EBF</li> <li>➤ Concept of <i>let cho</i> (prevents mothers from breastfeeding, but seems to be only in the short term)</li> <li>➤ Use of expressed breast milk is rare, milk expression unknown in some areas</li> </ul>
<b>B. Feeding practices for infants and young children 6-24 months of age</b>				
<b>Breastfeeding</b>				
<ul style="list-style-type: none"> <li>➤ <b>Ensure sustained, frequent, on demand BF up to 24 months of age and beyond</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ Continue to BF frequently and on demand</li> <li>➤ Using expressed breast milk if needed</li> <li>➤ Avoidance of baby-bottles</li> </ul>	<p><i>Positive:</i></p> <ul style="list-style-type: none"> <li>➤ Mothers traditionally continue to BF up to 24 months of age</li> </ul> <p><i>Non-optimal:</i></p> <ul style="list-style-type: none"> <li>➤ Widespread use of baby bottles</li> </ul> <p><i>Not enough information:</i></p> <ul style="list-style-type: none"> <li>➤ Mothers may not always BF on demand because of need to leave home for work or other tasks</li> <li>➤ Children whose mothers are frequently absent may not receive sufficient nutrients from breast milk</li> </ul>	<ul style="list-style-type: none"> <li>❖ No objection to expression of breast milk, but training needed</li> </ul>	<p>No need for behavior change, but continue promotion of continued BF up 24 months and beyond</p> <p><i>Potential constraints to frequent, on demand BF:</i></p> <ul style="list-style-type: none"> <li>➤ Mothers do need to leave home to work and/or go to markets</li> <li>➤ Milk expression rarely practiced, unknown in some areas</li> </ul>

<sup>a</sup> Information on this was not available in the formative research study but was gathered through the baseline survey. Data from the baseline survey are currently being analyzed.

(Table 1, continued)

Goals	Practices to promote	Practices in Haiti	Facilitating conditions for behavior change	Issues that may affect capacity for behavior change
<b>Complementary Feeding</b>				
<p>➤ <b>Provide foods to complement breast milk and to allow adequate intake of energy and micronutrients</b></p>	<ul style="list-style-type: none"> <li>➤ Feed child special energy- and nutrient-dense foods of appropriate texture and consistency for age</li> <li>➤ From 6 months on, gradually increase amounts and quantity of foods as child gets older</li> <li>➤ Increase number of times child is fed CF as he/she gets older (at least 2-3 times/d for 6-8 mo old; 3-4 times/d for 9-24 mo old)</li> <li>➤ Feed a variety of foods (gradually increase variety with age); animal foods should be eaten daily, or as often as possible</li> <li>➤ Practice responsive feeding, applying the principles of psychosocial care (assisted feeding, interactive feeding style, encouragement to eat, etc.)</li> <li>➤ Continue to BF and feed CF to child during diarrhea; ensure fluid replacement</li> </ul>	<p><i>Positive:</i></p> <ul style="list-style-type: none"> <li>➤ Mothers continue to BF and give liquids when child has diarrhea</li> </ul> <p><i>Non optimal:</i></p> <ul style="list-style-type: none"> <li>➤ Complementary foods (CF) of low energy and very low nutrient-density</li> <li>➤ No “special” complementary food for child; gruels are consumed by all family members</li> <li>➤ Frequency of feeding is low (2-3 times/d) and does not seem to increase with age</li> <li>➤ Evening meal not fed to young children</li> <li>➤ Variety of foods seems low; animal foods consumed infrequently and in small amounts; low intake of vitamin A fruits and vegetables</li> <li>➤ Mothers reduce feeding of CF during diarrhea</li> </ul> <p><i>Insufficient information at this point on:</i></p> <ul style="list-style-type: none"> <li>➤ Psychosocial care (needs to be assessed through observations, which was beyond the scope of the present study)</li> </ul>	<ul style="list-style-type: none"> <li>❖ No cultural barriers to feeding young children animal foods</li> <li>❖ Mothers know that eggs, liver are good for child</li> <li>❖ Mothers usually feed child when they are present</li> <li>❖ Mothers leave prepared food for child when they have to leave</li> <li>❖ Fathers seem involved in childcare and feeding</li> <li>❖ Good recognition of importance of fluid replacement during diarrhea</li> </ul>	<ul style="list-style-type: none"> <li>➤ Lack of availability and access to food, especially animal foods and micronutrient-rich fruits and vegetables</li> <li>➤ Overall poverty, lack of economic resources</li> <li>➤ Poor access to water, sanitation, health services</li> <li>➤ Time constraints of caregivers to prepare “special foods”</li> <li>➤ Belief that evening meal causes indigestion</li> <li>➤ Lack of recognition of importance of high feeding frequency for young children</li> <li>➤ Belief that children are ready for family foods and family meal patterns by 12 months of age</li> <li>➤ Some cultural barriers to feeding young children specific fruits/vegetables</li> </ul>

# 1. INTRODUCTION

## 1.1 Background

This report describes the formative research process undertaken in Haiti to assist World Vision in the development of a Behavior Change Communications (BCC) program aimed at the *prevention* of childhood malnutrition in the Central Plateau. The research is part of a larger evaluation being conducted by the International Food Policy Research Institute (IFPRI) and Cornell University in collaboration with World Vision-Haiti, to compare two models for delivering integrated food and nutrition programs with a take-home food ration component. The two models, which will be implemented by World Vision-Haiti, are: 1) the traditional *recuperative* approach, whereby children under 5 years of age are targeted to receive food supplements, nutrition counseling and follow up when they are identified as malnourished (i.e., their weight-for-age is below  $-2SD$  of the median of the reference population); and 2) the *preventive* approach, which targets food supplements and other preventive interventions to all children below 2 years of age. The rationale behind this approach is to intervene before growth retardation occurs, and thus, to prevent, rather than cure, malnutrition.

As part of the project, the IFPRI-Cornell team is assisting World Vision-Haiti in designing and implementing a fully developed preventive model and in strengthening their current recuperative program model. This involves the development of a BCC strategy, which will be fully implemented by World Vision-Haiti, with technical assistance for the design and development by the IFPRI-Cornell team. Within this larger goal, the formative research activities were intended specifically to produce insights and information for strengthening the current recuperative education model and to design a new preventive behavior change communications program.

The first step in this process, which was initiated in November-December 2001 and has been reported previously (Menon et al. 2001), was to gather information on the existing nutrition and health education models currently used in Haiti. Following this, a rapid qualitative study was conducted in January 2002 to gather information on general patterns of infant and child feeding practices, which was used to guide the development of the baseline quantitative survey for the evaluation (Menon et al. 2002) and the design of the formative research for developing the BCC strategy.

The results of this formative research study were presented at a series of workshops held in Haiti, which involved key decision-makers and program staff within World Vision-Haiti, as well as the U.S. Agency for International Development (USAID) and other private voluntary organizations (PVOs) working in the area of child nutrition in Haiti. The workshops focused on discussing the design, technical and operational aspects of the BCC strategy and, more importantly, on developing the strategy for its implementation by World Vision-Haiti in the Central Plateau.

## 1.2 Objectives of the formative research

The overall purpose of the formative research described in the present report was to augment the findings of the previous qualitative studies and to provide a strong foundation upon which to build the BCC program to reduce malnutrition among infants and young children. Because the

preventive model being developed targets 0-24 month-old children, the formative research activities were designed to obtain more in-depth information on children in this age range, and to explore the feeding and caring practices of Haitian mothers during this critical period.

The specific objectives of this study were:

- 1) To provide a knowledge base about infant and young child feeding and care that would serve as the foundation for both preventive and recuperative BCC programs;
- 2) To develop enriched complementary foods to be promoted in the BCC programs, using locally available and affordable ingredients;
- 3) To identify possible avenues and delivery systems for inserting preventive BCC activities into the current structure of World Vision program activities in the Central Plateau of Haiti.

### **1.3 Structure of the report**

The report is structured as follows. The rationale for a BCC program is described in Section 2, followed by a section that summarizes the key findings of the previous qualitative study carried out in January 2002 (Section 3). Section 4 describes the topics addressed in the current formative research, the methods used to gather the information and the main characteristics of the communities included in the study. Findings of the individual and group interviews on child feeding and care patterns and on the resources and constraints to optimal caregiving practices are presented in Section 5. Section 6 presents the results of the group recipe trials carried out in the communities to develop new, enriched complementary foods to be promoted in the behavior change communications (BCC) program. Section 7 presents results of follow-up research that was conducted following the workshop in Haiti to address some of the issues raised during the discussions. based on feedback on an earlier version of this report from PVOs in Haiti and FANTA. The final results section (section 8) reports on observations and interviews to document program implementation issues and to identify potential vehicles and delivery points for the BCC program. Finally, the document concludes with a discussion of the implications of the research for World Vision's program in the Central Plateau, and provides suggestions for focusing and delivering the BCC intervention.



## **2. RATIONALE FOR A BEHAVIOR CHANGE COMMUNICATIONS (BCC) STRATEGY TO REDUCE CHILD MALNUTRITION**

In children, positive changes in health and nutrition manifest themselves in many forms, including improvements in growth and development and reductions in morbidity and mortality. Each of these outcomes is the result of complex interactions between familial caregiving behaviors and the biological underpinnings of health and nutrition. For example, in order to protect a child from a vaccine-preventable disease, such as measles, the family must know when and where to take the child for the vaccination, must have the resources to carry out these actions, and the vaccine itself must be safe and effective. The availability of the vaccine is powerless to prevent the disease in the child without the parental behaviors.

Similarly, to enable children to grow normally, there are many parental caregiving behaviors related to food that are essential to ensuring adequate nutritional intake. These behaviors include obtaining and selecting foods that meet nutritional requirements, preparing them safely and in a form that is appropriate for the child's age, and feeding them in a manner that encourages adequate intake. In order to engage in these critical caregiving behaviors, parents need access to the foods their children require, they need access to fuel, water and other materials to prepare and preserve these foods, and time and physical energy to carry out the activities. They also need knowledge. These are essential underpinnings of nutrition and health-giving behaviors, which in turn are the prerequisites for child health and well-being. Because caregiving behaviors are the links between resources and knowledge, on one hand, and child health on the other, programs that seek to improve child health and nutrition must, by definition, change caregiving behaviors.

Programs that aim to improve child outcomes by improving childcare behaviors are collectively referred to as behavior change communications (BCC) programs. A recent review of complementary feeding programs provides evidence that BCC programs can be effective in reducing child malnutrition in a variety of contexts (Caulfield, Huffman, and Piwoz 1999). A more recent review of nutrition programs addressing a variety of nutritional issues also indicates that, in the case of vitamin A, for instance, BCC programs are slightly more cost-effective, in terms of cost per lives saved, than supplementation, and much more cost-effective than fortification (ACC/SCN 2001). The review also provides a basis for understanding the various factors that influence the success of behavior change communications programs to achieve their goals. The authors found that the success of BCC programs depends not only on the design, targeting, and outreach of the program, but also on contextual factors, such as community involvement and political commitment.

The successful programs reviewed by Caulfield and collaborators had used very similar approaches to program design. These approaches all included a number of stages of formative research, including a review of existing materials related to infant feeding in the program areas, ethnographic research to understand current infant feeding behaviors and their motivations, an assessment of current complementary foods, and recipe trials to develop enriched complementary foods. Additionally the development of program strategies in all cases used a comprehensive approach, which took into account contextual facilitating factors and the findings from the formative research. These programs showed substantial improvements in caregiver knowledge and recall of program messages, increased intakes of complementary foods and, furthermore, improvements in child nutritional status (height-for-age and weight-for-age) that

were similar to improvements seen from food supplementation studies. Even taking the problematic design of some of the program evaluations into account, the authors estimated that BCC programs could improve child nutritional status by as much as 0.1 to 0.4 Z-scores.

Some of the features of the programs that could have contributed to these successes are likely to be their attention to the local context within which the program was to operate, an in-depth understanding of infant feeding practices that was based on solid formative research, and a program strategy that used a comprehensive approach in its design and implementation. Almost all the programs reviewed, for instance, used very clear key messages that were age-appropriate and action-oriented and that would allow caregivers to make easy changes in infant feeding that were adapted to the child's stage of development. The programs also used multiple approaches to reach caregivers, usually combinations of mass media and individual advice and counseling. In addition, they used a variety of communications methods, such as radio spots, cooking demonstrations, story telling and drama, and all of these were accompanied by appropriate visual communications materials like posters, counseling cards, and take-home cards on infant feeding.

The success of BCC programs also depends on consideration of the various resources or constraints that facilitate or impede upon achieving the expected change in behavior. Specifically, there is a large body of empirical epidemiological research, as well as strong theoretical models on the determinants of nutrition and health outcomes, that supports the proposition that improving nutritional conditions in populations requires both improvements in resources and improvements in knowledge within the household. In particular, either one alone is rarely sufficient to bring about significant improvements in health and nutrition in conditions of poverty and underdevelopment.

The preventive BCC program to be developed in the current research is intended to provide families with a resource (i.e., the donated food commodities) and, at the same time, provide them with a knowledge base that can support behavior change to *prevent* child malnutrition. In addition to these aspects, other contextual factors needed to allow the transformation of both resources and knowledge into improved childcare practices and child health should be acknowledged. Specifically, these include the other resources needed to ensure that caregivers and families are able to provide adequate care to their children, such as caregiver's time, mental and physical health, social support, and a minimum level of economical resources (Engle, Menon, and Haddad 1999). Although some of these issues cannot be directly addressed through the current preventive BCC program model alone, they are factors that will be acknowledged and investigated further in the program operations research and the overall evaluation of this program in Haiti.

Thus, the research presented in the present report describes some of the preliminary stages of formative research that were identified as critical in the review: ethnographic research on infant feeding and its determinants, an assessment of currently used complementary foods, recipe trials to develop modified recipes for complementary foods that can be promoted through a BCC program, and an understanding of program activities. The formative research will also provide some understanding of the contextual factors that are likely to influence the successful adoption of the recommendations of the BCC program. Further development of this formative research into a strong BCC program to prevent child malnutrition will depend strongly on the outcomes of the planning workshop to be held in Haiti with World Vision in October 2002.

### **3. SUMMARY OF FINDINGS FROM PREVIOUS QUALITATIVE RESEARCH AND IDENTIFICATION OF TOPICS REQUIRING FURTHER INVESTIGATION**

The overall goal of the qualitative research carried out in early January 2002 (Menon et al. 2002) was to gather information on community norms and general patterns of infant and child feeding practices and care. The goals of the study were mainly to provide preliminary information that could be used in the design of the baseline survey for the evaluation and to provide a basis for the design of this more in-depth formative research study.

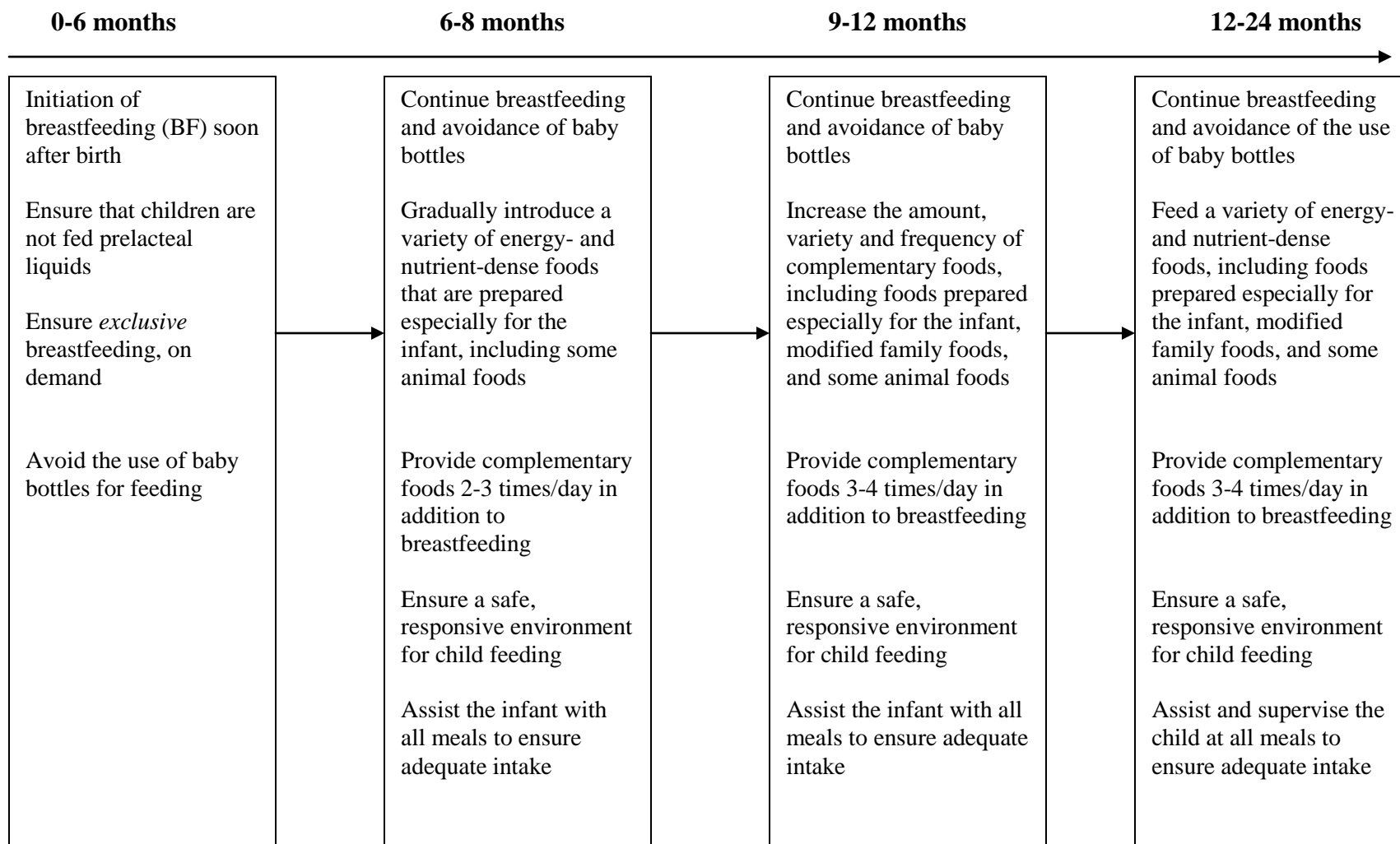
Interviews with key informants and with young mothers were carried out to investigate the following topics: maternal knowledge, attitudes and practices regarding child feeding, maternal dietary restrictions during lactation, and maternal time, workload and childcare arrangements. A brief summary of the results of the initial research is presented below.

#### **3.1 Infant and child feeding practices**

Current infant and child feeding recommendations (Dewey and Brown, 2002; PAHO/WHO in press) are that infants should be exclusively breastfed starting from soon after birth and up to 6 months of age. Starting at 6 months of age, complementary foods should be gradually introduced in the diet, while frequent, on demand breastfeeding should be continued until 2 years of age or beyond. Figure 3.1 depicts the progression of infant feeding practices by age and shows that the introduction of complementary foods should be done gradually and the quantity, frequency, and variety of foods should be increased as the child gets older. For the average healthy breastfed infant, complementary foods should be provided 2-3 times at 6-8 months of age and 3-4 times per day at 9-23 months of age. If energy density or amount of food per meal is low, more frequent feedings may be required. Dietary diversity is also recommended to ensure that nutrient needs are met, and it is recommended that meat, poultry, fish, or eggs be eaten daily, or as often as possible. The consistency of foods should also be adapted to the infant's requirements and abilities, and responsive feeding should be practiced, applying the principles of psychosocial care (PAHO/WHO, in press).

Our findings from the qualitative study showed that breastfeeding was widely practiced among mothers interviewed, and was generally highly valued for the benefits it provides to the child. Mothers reported breastfeeding up to two years of age on demand, or as frequently as they could manage it. They, however, also reported giving infants apparently low nutrient dense, starchy gruels like porridges made with salt crackers or wheat flour, *beginning at a very early age*. As infants reached the age when foods to complement breast milk are biologically required for normal growth, the types of preparations that were commonly given appeared to be low both in energy and nutrient density, and particularly so in essential micronutrients such as iron, zinc,

**Figure 3.1. The progression of infant and child feeding, by age**



Source: Adapted from (Ruel and Menon 2002).

and vitamin A. Although fish (herring and sardines) was reported to be used in many of the bean and vegetable preparations, it was not clear how much of these potentially rich sources of micronutrients was actually given to infants and young children.

The findings also showed that “colic” or “gas” was a common concern and that the way in which it was managed affected infant feeding. Families gave young infants various liquids and foods in order to avoid or to cure symptoms that are interpreted as symptoms of colic or gas. These liquids or foods were often given to infants at a very young age.

To meet their nutrient requirements, older infants and young children need to be fed more frequently than do older children and adults. However, in the initial study there was a suggestion that the frequency with which young children are usually fed is based on family meal patterns and household food availability. There was also some indication that children are usually not fed an evening meal, but a full investigation of this was beyond the scope of the previous qualitative research.

Overall, the results of the first phase of research suggested that the current infant and child feeding patterns departed from international feeding recommendations, especially with regard to exclusive breastfeeding up to six months of age, and the complementation of breast milk with frequent feeding of energy- and micronutrient-dense complementary foods after six months of age.

The first phase of research raised a number of questions related to infant feeding that are further investigated in this stage of formative research. These include issues related to the role of colic in the early introduction of foods and liquids, the nutrient composition and mode of feeding of the early complementary foods, the timing and patterns of feeding young children during the day, and the rationale for those behaviors.

### **3.2 Maternal dietary restrictions during lactation**

Interviews with key informants in the previous study suggested that there were a number of dietary restrictions for lactating women. For example, foods that are white in color or that contain blood apparently are to be avoided by lactating women. This includes foods such as white peas, okra, blood, liver, tripe, certain types of fish, crabs, white potatoes, manioc and fresh cow’s milk. Since these restrictions were not explored in the interviews with mothers, however, we were unable to determine how well they were adhered to and whether they affected the dietary quality of lactating mothers. Considering that some of these foods are high in bioavailable micronutrients, it is possible that these dietary restrictions affect the nutrient intake of lactating mothers and possibly their health, nutritional status and lactation performance. More information will be needed to assess whether or not these restrictions are widely adhered to, and whether they do result in dietary deficits. An additional reason to be concerned about these dietary changes is the fact that many mothers reported introducing liquids and foods in their young infant’s diet before 6 months of age because they felt tired and depleted and they were worried of losing too much weight. Thus, it is possible that dietary restrictions are reducing maternal intake of energy and essential micronutrients at a time when daily requirements are significantly higher because of the extra demands of breast milk production.

Thus, additional information is necessary to better understand the implications of the dietary restrictions during lactation in terms of changes in dietary patterns and nutrient intakes. This in turn will determine whether these restrictions are likely to affect the mothers' health, nutrition and lactation performance and how to address these issues in the behavior change intervention.

### **3.3 Women's work and childcare arrangements**

The findings from the initial study suggested that mothers utilized a variety of substitute childcare when they were away from home, either for work or for fulfilling other household responsibilities. It was found that children are left in the care of other siblings or an older adult in the family when mothers need to leave home, and that mothers usually leave some prepared foods to be fed to children during their absence.

Additional information on maternal employment and time spent away from home will be needed to better understand some of the constraints to optimal breastfeeding and complementary feeding practices. Additional information will also be needed on the role and responsibilities of substitute child caregivers, and on the level of maternal control over them.

## 4. METHODS

This section describes the topics addressed in the present phase of formative research, the methods used to examine these various topics, and the communities included in the study.

### 4.1 Topics addressed

The formative research described in this report examined some of the same topics addressed in the previous qualitative work and included additional ones. The goal was to examine the specific issues of interest in greater depth, seeking to understand the underlying determinants and motivations of the patterns identified, as well as verifying their generalizability.

Table 4.1 presents the themes explored in the present research and also summarizes the methods used to study each of them. Selection of the themes was based primarily on the gaps identified in the previous qualitative study and the need for additional information to help guide the development of the preventive behavior change communications (BCC) program to be implemented by World Vision in the Central Plateau region of Haiti.

The topics addressed and the specific focus of each one are summarized below:

- 1) *Breastfeeding*. Information was gathered to continue to explore the constraints to exclusive breastfeeding and to identify, from discussions with positive deviant mothers (i.e., mothers who did exclusively breastfeed), some culturally appealing arguments that could be used in the BCC program to motivate mothers to adopt exclusive breastfeeding. Reactions to the idea of expressing breast milk were also investigated.
- 2) *Complementary feeding practices*. More in-depth information on patterns of introduction of complementary foods, mode of feeding and meal patterns was gathered, as well as information on food prescriptions and proscriptions at different ages. More specifically, in addition to exploring *what* children are fed, information was gathered on the social and behavioral aspects of feeding, which include *when, where, and how* children are fed (see Section 5 for more information on this focus). Further, information was gathered on the perceptions of caregivers on the stages of development of infants, specifically to understand the implications of these stages in terms of their influence on caregiving behaviors.
- 3) *Feeding during illness*. Information on the types of diarrhea identified in the population and on feeding during diarrhea and other related illnesses was gathered.
- 4) *Maternal diet during lactation*. Additional information on maternal dietary restrictions during lactation was gathered to assess whether these restrictions are

**Table 4.1 Overview of topics and methods**

No.	Topic	Methods used	Communities where data were collected
1.	<b>BREASTFEEDING</b> <ul style="list-style-type: none"> <li>➤ Exclusive breastfeeding (when, where, why)</li> <li>➤ Expression of breast milk</li> </ul>	<ul style="list-style-type: none"> <li>➤ 4 Interviews with positive deviant mothers</li> <li>➤ 2 Group interviews with mothers of children 0-6 months old</li> <li>➤ Other group interviews               <ul style="list-style-type: none"> <li>○ 4 with mothers</li> <li>○ 1 with mothers and fathers</li> <li>○ 1 with grandmothers</li> </ul> </li> <li>➤ Individual interviews               <ul style="list-style-type: none"> <li>○ 1 mother</li> </ul> </li> </ul>	<i>Hinche:</i> Bassin Zim, Trois Bois Pin, Pablocal, Madame Brun, Doco <i>Thomonde :</i> Tierra Muscadi <i>Lascahobas:</i> Savane Perdue, Fond Pierre, Casse
2.	<b>COMPLEMENTARY FEEDING</b> <ul style="list-style-type: none"> <li>➤ Pattern of introduction and mode of feeding (what, why, when and who)</li> <li>➤ Food prescriptions and proscriptions</li> <li>➤ Meal patterns</li> </ul>	<ul style="list-style-type: none"> <li>➤ Individual interviews               <ul style="list-style-type: none"> <li>○ 4 mothers</li> </ul> </li> <li>➤ Group interviews               <ul style="list-style-type: none"> <li>○ 7 with mothers</li> <li>○ 2 with grandmothers</li> </ul> </li> </ul>	<i>Hinche:</i> Bassin Zim, Coloroche, Trois Bois Pin, Madame Brun <i>Thomonde:</i> Tierra Muscadi <i>Lascahobas:</i> Savane Perdue, Fond Pierre, Casse
3.	<b>FEEDING DURING ILLNESS</b> <ul style="list-style-type: none"> <li>➤ Types of diarrhea</li> <li>➤ Feeding and home treatment for each type of diarrhea and stomach ache</li> </ul>	<ul style="list-style-type: none"> <li>➤ Group interviews               <ul style="list-style-type: none"> <li>○ 3 with mothers</li> <li>○ 1 with grandmothers</li> </ul> </li> <li>➤ Individual interviews               <ul style="list-style-type: none"> <li>○ 2 mothers</li> </ul> </li> </ul>	<i>Hinche:</i> Pablocal, Bassin Zim <i>Lascahobas:</i> Casse, Fond Pierre
4.	<b>MATERNAL DIET DURING LACTATION</b> <ul style="list-style-type: none"> <li>➤ To assess likelihood of dietary deficits, which could affect lactation performance and maternal nutrition and health</li> </ul>	<ul style="list-style-type: none"> <li>➤ Group interviews               <ul style="list-style-type: none"> <li>○ 2 with mothers</li> <li>○ 1 with grandmothers</li> </ul> </li> </ul>	<i>Hinche:</i> Bassin Zim <i>Lascahobas :</i> Savane Perdue
5.	<b>MATERNAL WORK AND ALTERNATIVE CHILDCARE USE</b> <ul style="list-style-type: none"> <li>➤ Maternal work patterns (frequency, duration of absence)</li> <li>➤ Organization of childcare substitutes</li> <li>➤ Role of fathers</li> </ul>	<ul style="list-style-type: none"> <li>➤ Individual interviews               <ul style="list-style-type: none"> <li>○ 3 mothers</li> </ul> </li> <li>➤ Group interviews               <ul style="list-style-type: none"> <li>○ 4 with mothers</li> <li>○ 1 with mothers and fathers</li> </ul> </li> </ul>	<i>Hinche:</i> Bassin Zim, Coloroche, Doco <i>Thomonde:</i> Tierra Muscadi <i>Lascahobas :</i> Fond Pierre
6.	<b>RECIPE TRIALS</b> <ul style="list-style-type: none"> <li>➤ To develop new and enriched complementary foods (recipes, mode of feeding, pattern of introduction)</li> </ul>	<ul style="list-style-type: none"> <li>➤ Group recipe trials in three stages               <ul style="list-style-type: none"> <li>○ 3 initial group discussions</li> <li>○ 3 recipe trials with tasting and discussion</li> <li>○ 3 follow-up discussions to assess feasibility</li> </ul> </li> </ul>	<i>Hinche:</i> Bassin Zim, Trois Bois Pin <i>Thomonde:</i> Tierra Muscadi
7.	<b>WORLD VISION PROGRAM IMPLEMENTATION</b> <ul style="list-style-type: none"> <li>➤ Program activities at different delivery points</li> <li>➤ Roles, responsibilities and time allocation of health program staff</li> <li>➤ Patterns of utilization of services by beneficiary families</li> </ul>	<ul style="list-style-type: none"> <li>➤ Observation of various program activities:               <ul style="list-style-type: none"> <li>○ 2 Rally Posts</li> <li>○ 2 Food distribution</li> <li>○ 6 Mothers' clubs</li> </ul> </li> <li>➤ Individual interviews               <ul style="list-style-type: none"> <li>○ 6 Program personnel</li> <li>○ 10 Program beneficiaries</li> </ul> </li> </ul>	<i>Hinche:</i> Madame Brun, Bassin Zim, Marmont <i>Thomonde:</i> Cachiman <i>Lascahobas:</i> Casse <i>La Gonâve:</i> Ti Palmiste, Trou Luigène, Mare Sucrin, Anse à Galets, Palma



widely adopted and whether they are likely to result in dietary deficits among lactating women.

- 5) *Maternal work and alternative childcare use.* A potentially important constraint to optimal child feeding practices is the absence of the mother from home when she has to work or carry out other household responsibilities. Information was therefore collected on maternal work patterns, the frequency and duration of separations from their young children, the type of childcare substitutes used, and the level of maternal overall control over childcare responsibilities.
- 6) *Recipe trials.* Recipe trials were carried out in a number of communities to develop new and enriched complementary foods using locally available ingredients and traditional recipes. The main objective of the recipe trials was to develop new complementary foods that would have a more adequate energy and nutrient density, but that could still be prepared from locally available and affordable foods.
- 7) *World Vision program implementation.* Information on the implementation of program activities and on the patterns of usage of program food commodities was collected to help design a delivery system for the BCC and to assess the possibility of using some of the donated foods in recipe trials.

## 4.2 Methods used

The methods used in this phase of formative research were based on the WHO Focused Ethnographic Study methodology (WHO 1994) and the Designing by Dialogue manual (Dickin, Griffiths, and Piwoz 1997). Specific data collection methods were selected depending on the themes being explored and the types of participants.

The research was undertaken in the Central Plateau region of Haiti, where the BCC program is to be implemented. Observations of World Vision program activities and interviews with program personnel and beneficiaries (for topic 7) were also undertaken on La Gonâve, an island 30 kilometers west of the capital of Port-au-Prince, where World Vision has been distributing food rations for 8 years. A map of the research areas is shown in Annex 1.

The research team included a senior nutritional anthropologist (Pelto, G.), two postdoctoral nutritionists (Menon, P. and Loechl, C.) a Haitian qualitative research consultant (Metellus, E.) and the principal investigator of the IFPRI-WV-Cornell evaluation (Ruel, M.T.). The study design and research tools were developed by Cornelia Loechl and Purnima Menon, with the advice and input of Gretel Pelto, Marie Ruel, and Elisabeth Metellus. Field-testing was done in May and data collection took place between May and July 2002.

Ethical approval for the study activities was obtained from the Cornell University Commission on Human Subjects. Informed consent was obtained from all study participants before any data collection was conducted.

Three different methodological approaches were used: 1) semi-structured interviews with individuals or groups; 2) semi-structured observations; and 3) group recipe trials. A brief description of the three methods used to explore the topics of interest is provided below.

#### ***4.2.1 Interview-based data collection techniques***

Data collection relied primarily on interview-based methods, with all interviews conducted in Haitian Creole, and translated into French. The interviews included both group and individual interviews. The group interviews<sup>2</sup> were done primarily to obtain information on normative perceptions and prescriptions while individual interviews were done to obtain information on actual practices of mothers of young infants. The interviews were based on a semi-structured interview guide with extensive probing to explore issues in detail and to improve the reliability of the information. Extensive field notes were taken and all interviews were transcribed the same day. The interview guides are presented in Annex 2 (in French).

Individual interviews were conducted with mothers of infants between 0 and 12 months of age, program personnel and program beneficiaries. Group interviews were conducted with groups of mothers, fathers, grandmothers, and some mixed groups. Details about the specific methods and number of interviews used to explore each theme are presented in Table 4.1.

In addition to these interview-based methods, a food-rating exercise was developed as a way to obtain detailed information on the perceptions related to foods that were appropriate for children at different ages. For this game, photographs were taken of specific foods consumed widely in the areas, and were numbered and laminated for use as “food cards.” These cards were then used in the group interviews as the basis for starting a discussion on the appropriateness of various foods for the health of young infants and children. Women chose or rejected different foods and then discussed the reasons for doing so. The food rating games were guided by specific questions and probes to explore ideas and perceptions in detail.

#### ***4.2.2 Observations of program activities and interviews with program staff and beneficiaries***

In order to assist World Vision in the development of the preventive BCC program, the research team needed a better understanding of how the existing (curative) program is currently being implemented. More specifically, the team needed to understand the specific activities and the staff time allocation at the different delivery points currently used by World Vision for the different components of its program. Towards this objective, the team observed program activities and interviewed program personnel and beneficiaries at the three main delivery points (the Rally Posts, the food distribution points and the mothers’ clubs).

In addition, interviews were conducted with program beneficiaries to obtain their perceptions about the current program and to obtain information on the use of the donated foods. Program personnel (health agents) were also interviewed to find out about their roles, responsibilities, and perceptions related to the modification of the current program to include other BCC activities.

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<sup>2</sup> Group interviews were conducted rather than focus group discussions because of the exploratory nature of the research. Focus group discussions are by definition intended specifically to *obtain feedback* on specific topics, rather than *explore perceptions* related to different topics. Group interviews are more suitable for this latter objective, and thus were used in the present study.

### ***4.2.3 Group recipe trials to develop new recipes for complementary foods***

Recipe trials are participatory cooking sessions conducted with small groups of mothers and their children with the aim of developing special complementary foods for infants and young children. Specifically, special recipes are proposed, prepared, tasted, and discussed to evaluate their acceptability, feasibility, and affordability for including them in the diets of young children (Dickin, Griffiths, and Piwoz 1997). This technique of developing enriched complementary foods that are based on locally known recipes as well as local ingredients has been used in a number of countries with adaptations to each context (Bentley et al. 1991; Kanashiro et al. 1991; Piwoz 1994).

In our study, the recipe trials began with a first recipe demonstration, conducted by the participants for the research team, to learn how infant foods were usually prepared. A group of mothers applied their usual preparation methods to demonstrate current recipes for various foods that had been previously identified as widely fed complementary foods: salt cracker gruel, bread soup, mashed plantain with fish sauce, and wheat flour gruel. This was followed by the three-step participatory process described below:

- 1) A first visit to prepare the trial with the group. Specific activities included: exploring potential improvements of currently fed complementary foods and discussion an array of suggested ingredients to enrich the complementary foods, creating new recipes, and preparing for the actual recipe trial.
- 2) The recipe trial itself, followed by a tasting session and feedback on the recipes, techniques, perceived feasibility, and affordability.
- 3) Follow-up visit for feedback on home-based preparation of the improved recipes and the experience of feeding the improved recipes to children and other family members.

The complete three-step process was carried out in three separate zones.<sup>3</sup> Specific question guides were developed to facilitate the collection and organization of information at each stage. These are presented in Annex 3.

The participants of the groups in Bassin Zim and Tierra Muscadi were identified by the research team whereas the Marmont group was organized by a community volunteer (*colvol*)<sup>4</sup> and the trials were carried out in her backyard. The other two trials were conducted in one of the participants' yard. Different approaches were applied for the provision of the ingredients for the recipe trials. The ingredients were either purchased by the participants in quantities they normally used, with cash assistance from the research team. Alternatively participants brought ingredients from home gardens or the research team bought food from local markets. This was

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<sup>2</sup>The three-step recipe trial process was conducted in the following zones: 1) Bassin Zim, with a group of 2 mothers and 3 grandmothers and their children or grandchildren (1-36 month old); 2) Tierra Muscadi, with a mixed group of 5 mothers and 3 fathers and their children (1.5-11 months old); 3) Marmont (Trois Bois Pin), with a group of 5 mothers and their children (8-11 months old).

<sup>4</sup> World Vision has a system of community volunteer assistants called *colvols* (*collaborateur volontaire*) who assist the health agents in their duties and who are paid a small incentive (approximately US\$25/month). The term *colvol* is used throughout this report.

done to ensure that women would use quantities that were feasible and normative for the recipe and to avoid a situation where a large quantity of a special ingredient would be used because it had been made available by the research team. This would have made the developed recipe impossible for women to replicate in their homes and would not have yielded accurate information on the feasibility and affordability of the modified recipes.

In addition to bringing ingredients for the recipe trials, other parts of the trial were also supported by the participants. For instance, some trials were hosted in the homes of participants. Fuel and cooking utensils were provided jointly by all participants in the group. Even the arrangements for these logistical issues were worked out by the participants themselves at Step 1 of the recipe trials in each zone. Thus, the entire process was highly participatory and was owned by the women themselves. The research team served mainly to facilitate the process of development and discussion and to ensure that all steps were documented.

At the end of each recipe trial session, participants and their children tasted the recipes that were prepared. Only children older than 6 months were included in the tasting sessions. Often, other neighbors and children assisted in the tasting sessions. Specific issues related to the acceptability of the recipe, feasibility of home-preparation under daily conditions, and affordability of the recipe were explored through feedback interviews conducted at the end of the tasting session.

The final step of the recipe trials included a set of follow-up interviews with each group of participants, usually about 2-3 weeks after the recipe trial session (Step 2). These interviews gathered data on which of the recipes had been prepared at home between the time of the recipe trial and the follow up visit. The interviews explored the feasibility and affordability as well as any problem that may have come up during the preparation or consumption of the recipes in the home setting of each participant. Further, the interviews were used to assess whether participants had adhered to the originally developed recipe or had made any further modifications to the recipes.

Finally, the data from all the recipe trials were combined for analysis of the feasibility, acceptability, and affordability of the various recipes developed by the group trials. The cost and nutrient content of each recipe was assessed and the information will be used to identify a list of promising recipes for promotion in the BCC program.

### **4.3 Study communities**

A total of 11 communities from the Central Plateau were included in the study. Six of them were lowland (administratively belonging to the Hinche Commune) and five of them were from mountain areas (two of them administratively belonging to the Thomonde Commune and three to the Lascahobas Commune). Table 4.2 lists the communities included and the zones they pertain to. The regions and communities were selected to represent the different areas included in the overall project. The town of Hinche is about 120 kilometers from the capital city of Port-au-Prince.

The lowland communities were generally accessible by road and all were within 6 kilometers from the main road. The main crops cultivated in these areas are staples such as corn, sorghum, beans, cassava, and sweet potatoes. The highland communities, on the other hand, were less

accessible by road, were more remote and less densely populated, and their access to water and health services was more limited. Vegetable production was more common in the mountain areas as was tobacco, which was not cultivated at all in the lowland communities included in the study.

**Table 4.2 Communities and zones included in the present study**

<b>Lowland Communities (zones)</b>	<b>Highland Communities (zones)</b>
Madame Brun (Madame Brun)	
Coloroche (Marmont)	Casse (Casse)
Trois Bois Pin (Marmont)	Fond Pierre (Pareidon I)
Doco (Cherival)	Savane Perdue (Pareidon II)
Pablocal (Pablocal)	Tierra Muscadi (Tierra I)
Bassin Zim (Bassin Zim)	Cachimán (Tierra I)

Five communities from La Gonâve Island were included in the study of World Vision's program implementation. Two communities were located on the coast (Trou Luigène and Anse à Galets), and three in the mountains (Mare Sucrin, Ti Palmiste, Palma). Lack of rainfall during the last few years has negatively affected the crop production on the island. In addition, the flat lands of the island suffer from problems of erosion. The main food crops and growing seasons are the same as in Central Plateau but the population of La Gonâve is less self-sufficient in food production. World Vision has been involved in food distribution on La Gonâve Island since 1994. Observations of program activities and interviews with program personnel were also carried out in some communities of Central Plateau where the program had started to distribute food (see Table 4.1 for specific communities). A map of the study areas can be found in Annex 1.

## 5. RESULTS

This section presents the findings of the first 4 research topics (see Table 4.1), which were addressed through individual or group interviews.

For infant and child feeding practices, the framework of analysis proposed by Pelto et al. (Pelto, Levitt, and Thairu, in press) is used. This framework is described in the following paragraphs.

The phrase “infant feeding practices” refers to a complex set of behaviors that include many social and biological components (see Figure 3.1). To facilitate the description, analysis, and understanding of the many different elements of feeding practices, it is useful to have a framework that can be used to organize data on these various elements. In the sections that follow, we have utilized the framework proposed by Pelto et al. (in press), in which the major dimensions are categorized under the headings of *what*, *who*, *when*, *where*, *how*, and *why*.

The dimension labeled “what” refers to the actual foods that are given to infants (i.e., breast milk, breast milk substitutes, and foods that complement breast milk) and is primarily concerned with the nutritional features and qualities of foods fed to infant at various stages. “How” is concerned with several aspects of feeding, particularly the way in which caregivers interact with children when they are being fed, which is sometimes referred to as “feeding style.” Other elements that are included under the heading of “how” include the utensils that are used to offer food, as well as food preparation and preservation activities. “When” refers primarily to the scheduling of feeding, including frequency and the relationship of frequency to infant appetite. “Where” is concerned with the feeding environment and includes issues of distraction, safety, comfort, and potential for interaction. “Who” directs attention to the relationship of the child to the individual who is feeding him or her, whether it is the mother or other adult with whom the infant has a primary attachment, another familiar adult, an older child, or a daycare worker or hired caregiver. “Why” is a large dimension that includes cultural beliefs (e.g., concerning what foods are good or bad for infants or how to feed sick children), economic determinants and constraints, social determinants (particularly maternal time allocation and workload), structural features that affect availability of foods for infants (transportation, markets, etc.), and health issues (e.g., maternal health, child health status).

### 5.1 Breastfeeding

With breastfeeding, the *what* and *who* dimensions of feeding are already well-defined, and the challenges to ensuring successful breastfeeding require an understanding of the other socio-behavioral dimensions. Thus, it is important to understand the following issues for designing an effective BCC intervention in the Central Plateau:

- 1) *Why* are most women unable to achieve the levels of exclusive breastfeeding that are recommended?
- 2) *Where* is breastfeeding done and where is culturally unacceptable to do?
- 3) *How* has the minority of women who exclusively breastfeed been able to achieve their success?

In order to obtain answers to these questions, our interviews with mothers included several women who were “positive deviant” mothers in the sense that they had managed to exclusively breastfeed in situations where most other women had not. Two of these “positive deviant” mothers in Bassin Zim were identified during a group interview with lactating women. Group interviews with mothers of young infants, grandmothers, and fathers also yielded rich information on perceptions related to practices that sustain and encourage exclusive breastfeeding.

### ***5.1.1 When?***

Overall, the breastfeeding women interviewed indicated that they usually breastfed on demand when they were at home. The only time when breastfeeding was not done on demand was related to the concept of *let cho* (literally, warm or hot milk) or *let si* (sour milk). This was considered to happen when women had returned from a long walk in the heat, and it was believed that children who were fed *let cho* or *let si* could develop an upset stomach. In such situations, women reported that the common practice was to express a small amount of the breast milk, discard it, and then resume normal breastfeeding.

Our interviews specifically investigated this concept, but using the terminology of *let gate* (spoiled milk). This had been revealed as a reason for discontinuing breastfeeding or for feeding other foods in the Grande Anse region of Haiti (Bette Gebrian, personal communication). Our interviews revealed that *let gate* was not as prominent in perceptions about the quality of breast milk among women in our study as in the Grande Anse region. It should be noted that the health communications materials developed by CARE and used by WV in this area address this issue specifically and attempt to reassure women that breast milk cannot spoil in the breast.

### ***5.1.2 Where?***

The dimension of *where* in the case of breastfeeding refers to the physical settings within which it is possible (or not possible) to breastfeed a child. One of the specific questions investigated here was what were the types of places where women felt they could take their breastfeeding infants while they were breastfeeding. Our interviews with the positive deviants and the groups of women revealed that it was acceptable to take breastfeeding infants to church and to the family farms where women often worked. However, it was not acceptable to take infants to the marketplaces where women went to sell their produce and buy other items. Since market activities appear to take women out of their homes for the longest time and thus pose the greatest deterrent to ensuring successful breastfeeding, we investigated further to identify reasons for the perception that taking infants to a marketplace was unacceptable.

Women reported that in most cases, the markets that they frequented were far from their homes, and entailed walking one to three hours in each direction. They felt that the routes were treacherous and that the sun was too hot for the young infants. Other reasons included poor hygiene at the markets as well as insecurity with respect to frequent fights in marketplaces. They also reported that they feared the presence of people with malevolent intentions at the markets (“*move je ka fè timoun lan mal*”) who could cast a spell on their babies (similar to the concept of “evil eye” in other developing countries).

### ***5.1.3 How?***

Our interviews with positive deviant women yielded useful information on how these women had been able to achieve successful exclusive breastfeeding at least for up to four months. The women interviewed frankly acknowledged the difficulty of trying to breastfeed exclusively, particularly in terms of the toll it took on their freedom to work outside their homes. At the same time, the better health of their children was a tangible benefit and appeared to motivate their perseverance at exclusively breastfeeding.

The interviews also revealed the presence of a number of supporting factors that allowed these women to breastfeed exclusively for as long as they did. Interestingly, these factors were fairly uniform across this sample of women, and included the following:

- having adequate resources to pay for someone to do their shopping and some housework (usually 15-25 Gourdes—equivalent to US\$0.53-\$0.89);
- physical support from their husbands;
- emotional support from peers and observation of positive role models, more specifically other women who had been breastfeeding exclusively and who had healthy infants;
- not having to go back to work as early as other women, who usually returned to work around 2 months after delivery.

### ***5.1.4 Why?***

This section addresses the questions of why women who did exclusively breastfeed did it, and explored local perceptions of why it may be difficult for women in this context to exclusively breastfeed.

The interviews with the positive deviant mothers who exclusively breastfed their infants for at least 4 months revealed that all but one of these women had done it for the health of their child. The other woman was mostly motivated to exclusively breastfeed because of its contraceptive benefits. Positive deviant women had received information on the benefits of exclusive breastfeeding from various sources—health agents, radio programs, and health center staff. In addition, all of the women had been exposed to women who had exclusively breastfed and had observed that their infants were particularly healthy. Interestingly, the women also spoke of the fact that when they first heard about exclusive breastfeeding, they did not believe it was possible to practice it. However, their experiences with practicing exclusive breastfeeding (in spite of some of the logistical constraints it posed) and the benefits that they saw with their own infants appeared to have strengthened their resolve to continue. Specifically, three of the four positive deviant mothers interviewed said that they had spent less money on hospital visits with their exclusively breastfed child compared to their other (non-exclusively breastfed children).

The constraints to exclusive breastfeeding that were expressed both by women who exclusively breastfed and those who did not were: a perception of weakness caused by frequent and exclusive breastfeeding; the need to work and go to the market and the difficulty of taking the child along; and child-related factors such as gas and colic, which are usually treated with a variety of teas. The positive deviants stressed that exclusive breastfeeding was demanding on



their time because they had to be “available to the child” at all times and could not leave their homes for extended periods of time. Factors that were reported as facilitating the process of exclusively breastfeeding will be addressed in the section on *how*.

Our results imply that in order to ensure that women can exclusively breastfeed their infant, the program will have to do more than inform women of the benefits of exclusive breastfeeding. Specifically, the program will have to address the economic constraints that force women to return to work soon after delivery, and the importance of social support to maintain successful exclusive breastfeeding. Additionally, the program should focus on the power of positive role models from the community and highlight the fact that some mothers are able to successfully breastfeed in spite of living in similar conditions and with the same daily constraints as other mothers from the same community.

### ***5.1.5 Expression of breast milk***

In our interviews with groups of mothers and grandmothers, as well as in interviews with individual women, we explored perceptions about the practice of expressing breast milk and leaving it behind to be fed to the infant. The rationale for doing this was that all the women reported that they always felt the need to leave some type of prepared food for the child when they left home for their market activities or other work. Usually this was a gruel (the salt cracker gruel in many cases) or a sweetened liquid. Recognizing that expressed breast milk is a much more desirable alternative to both gruels and sugary juices, we felt that it was important to identify how women felt about expressing breast milk and leaving it behind for an alternate caregiver to feed it to the infant later on.

Our interviews revealed a range of opinions on this topic. At one end, there was a group of women who reported having practiced this regularly, whereas at the other end, there were women who could not conceive that this was even possible. It was encouraging to note that most women, however, were positive about it; many had heard about the practice but in most cases they had not tried it themselves.

In general, we found that the practice of expressing breast milk and leaving it behind to be fed to the infant was more acceptable in zones where women had heard about expressing breast milk either from the health center, the radio, or from other women (Bassin Zim, Casse, Fond Pierre, etc.), and less acceptable where women had never heard about it or seen anyone doing it (Doco).

Unfortunately, the messages about using expressed breast milk had not gone to the next step of giving women explicit instructions and training on how to do it, which made it difficult for women to practice it. A number of women who had heard about it often were reluctant to try it on their own without getting more training first. They also expressed some doubts about how long the expressed milk could safely be stored. Program messages in Haiti have been informing women that it is feasible to store expressed breast milk for up to eight hours, but the women interviewed were not convinced. Previous research has demonstrated that breast milk can indeed be bacteriologically safe when stored in appropriate containers for up to eight hours at moderate temperatures (15 to 27 degrees C) and for four hours at high temperatures (30 to 38 degrees C) (Hamosh et al. 1996; Igumbor et al. 2000). Thus, it appears that programs in Haiti can safely

recommend storage in appropriate containers for a maximum of 4-6 hours because temperatures are usually between 24 and 38 degrees C, but do not exceed 38 degrees C.

## 5.2 Complementary feeding

In order to enhance our understanding of complementary feeding patterns, we conducted group and individual interviews with mothers of children 0-24 years old and with grandmothers. Specifically, we were interested in collecting additional information on the timing of introduction and use of different types of liquids and foods in children's diets, and the rationale for using these products at different ages. We were also interested in improving our understanding of young children's meal patterns and in identifying potential constraints to increasing meal frequency in infants and young children.

The results are presented below using the same dimensions described earlier, i.e., *what*, *who*, *when*, *how* and *why*. Since the choice of foods for young children is highly age-dependent, the dimensions of *when*, which relate to the child's age, are dealt with in the *what* subsection. The issue of meal patterns within a day (another component of *when*) is presented in a subsection dedicated to the *when*.

### 5.2.1 What?

Our previous qualitative research on the patterns of infant feeding was conducted only in the Hinche Commune. The present study extended the research to two other communes (Lascahobas and Thomonde) and found that the general pattern of introduction of foods was very similar to that of the Hinche commune—long duration of breastfeeding, early complementation with the same starchy gruels (salt cracker gruel or wheat flour gruel), and low consumption of animal foods.

Table 5.1 shows the types of liquids and complementary foods most commonly fed to young infants and the ages at which they are introduced in the diet. Specifically, these are: 1) water-based liquids with or without sugar (water, sugar water, sweet teas); 2) cereal gruels with some type of fat (salt cracker gruel and bread soup); 3) cereal gruels with sugar, but no fat (wheat flour gruel); 4) mashed plantain or manioc gruel with a fish sauce.

Note that liquids are generally offered to infants within their first few weeks of life and that even cereal-based gruels are introduced as early as in the first month. The gruels are mostly cereal-based and likely to be very poor in bioavailable micronutrients, although some of them may be of relatively high energy-density (especially the ones that contain oil, although this clearly depends on the amount of oil used). The specific nutrient composition of these gruels is discussed in the section describing recipe trials (Section 6).

Findings presented in Table 5.1 confirm the concerns that arose from results of the previous qualitative study concerning early infant feeding. Clearly, exclusive breastfeeding is rarely

**Table 5.1 Types of liquids and foods, by age of introduction**

<i>What is fed</i>	<i>What it is</i>	<i>When it is fed</i>
<b>1. Water-based liquids</b>		
Boiled water	Water	1-2 weeks after birth
Sugar water	Water with sugar	1-2 weeks after birth
Sweet tea	Water, tea, sugar	1-2 weeks after birth
<b>2. Cereal gruels/soups with source of fat</b>		
Salt cracker gruel ( <i>bouillie de bon bon sel</i> )	Water, salt crackers, butter, sugar, salt	1-3 weeks after birth
Bread soup ( <i>soupe de pain</i> )	Water, bread, oil, spices, vegetables, salt	1-2 months after birth
<b>3. Cereal gruels with sugar, no fat</b>		
Wheat flour gruel ( <i>bouillie de farine France</i> )	Water, wheat flour, sugar, flavorings (vanilla or cinnamon)	1-2 months after birth (earlier in some cases)
<b>4. Mashed plantain or manioc gruel with fish and fat</b> (Banane ecrasée, <i>Bouillie de manioc</i> )	Mashed plantain or manioc gruel with fish sauce (made with small amount of dried fish cooked in oil and water)	2-3 months after birth
<b>5. Family foods</b> like bean sauce, cornmeal, etc.		4 months onwards
<b>6. Family foods</b> like rice, beans, vegetables, etc.		12 months onwards

practiced and mothers tend to complement (and to some extent substitute) breast milk for nutrient-poor liquids and gruels from a very early age. These practices are likely to greatly increase the vulnerability of young infants to infectious diseases, poor growth, and delayed cognitive and motor development. In addition, mothers report introducing family foods to young infants as early as from four months of age, which is also a far from ideal practice. Young infants have particularly high energy and nutrient requirements, while at the same time having limited gastric capacity and motor skills. Thus, they require to be fed special foods of adequate nutrient density, consistency and texture, and they need to be fed with higher frequency than adults.

#### *Results of food rating exercise*

A food rating exercise was conducted as part of the group interviews to obtain information on perceptions related to the addition of animal foods and other micronutrient-rich foods to the diets of young children. Groups of women were shown photographs of local foods and asked to choose foods that they considered especially good and foods they considered inappropriate for infants between 6 and 12 month. The food rating exercise was conducted with three groups—two groups of mothers of young children and one group of grandmothers—using pictures of about 20 local foods.

The results presented here focus specifically on micronutrient-rich foods such as eggs, organ meats (like liver), and vegetables like pumpkin and sweet potatoes.

### *Animal foods*

The food rating exercises with all three groups revealed that there was no cultural barriers to feeding infants and young children animal foods, including eggs, organ meats, and other meats. The constraints most widely reported were those of resource availability, and in the case of organ meats, availability in the markets. In the case of eggs, the results showed that the yolk of the egg was considered most appropriate for infants between 6 and 12 months of age. Almost all mothers identified eggs as a food that was good for the health of infants and young children. However, their concern about the expense related to feeding eggs to children suggests that it is in fact not a common practice. Very few participants mentioned the beliefs articulated by some of the key informants in the previous study that giving eggs to young infants would spoil their teeth, or that eggs would cause convulsions.

The market cost of an egg is 2 Gourdes (equivalent to US\$0.07), which is approximately half the cost of a local measure (*gode*) of millet and one-third the cost of a local measure of maize. Thus, if the cost of one egg was measured in terms of the additional staple food that could be purchased with 2 Gourdes, it is substantial. Additionally, many of the women in both group and individual interviews had other young children, often not much older than the youngest child, and it is possible that it is difficult for them to conceive adding an egg only to the portion of the youngest child.

Liver was also identified as a “good” food for infants and young children, but as in the case of eggs, it was perceived to be expensive. In addition to cost, a major constraint to its use is its lack of availability in small portions in the markets. It was reported that liver is usually sold whole or in a set with all other organ meats and it was very expensive (50-60 Gourdes: US\$1.78-\$2.14) to buy a whole set. However, some women mentioned that they had been able to buy a piece of cooked liver from *griot* (fried pork) vendors in the market, so this could be an option to suggest to women. However, before this option is suggested, the safety of the prepared meat needs to be assessed.

### *Micronutrient-rich vegetables and fruits*

Locally grown and available micronutrient-rich vegetables include pumpkin, sweet potato, carrots, and green leafy vegetables like spinach. Of these three vegetables, only spinach and carrot were identified by the women as foods that were considered good for infants between 6 and 12 months. Carrot is widely given to infants, mostly in the form of carrot juice (considered especially beneficial when children have diarrhea). Spinach is used in cooking but is usually cooked in stews and soups and it is not clear from the interviews whether children are actually fed the vegetable or not.

Pumpkin and sweet potato were both considered inappropriate foods for young children because they were both reported to have a laxative effect. Thus, both of these vegetables were not usually fed to infants. However, some women mentioned that it was possible to give children a small piece of mashed pumpkin from a soup but never a large portion of it. The addition of a small portion of pumpkin to a mashed plantain dish commonly fed to young children was tested during the recipe trials and was found to be well accepted (see Section 6). Thus, it is possible that the perceived inappropriateness of pumpkin for infants relates more to quantity rather than to the food itself.

Mangoes are available from April through July in the study areas and are widely consumed by older children. However, it was not identified as a food that “helps young children be healthy.” Reasons included that mangoes were sweet, and if children ate these then they would not eat any salty food. Contrary to many other developing countries where mangoes are widely available, women in our sample did not express the belief that mangoes caused diarrhea in young children. This should facilitate the promotion of mangoes for young children because of its high content of pro-vitamin A.

In addition to the micronutrient-rich foods mentioned above, a number of staple foods were identified as good for the health of infants and young children. Among these were maize, spaghetti, vermicelli, plantain, and beans. All of these foods are considered to give infants strength (*fòs*) and help them grow (*byen grandi*).

#### **5.2.4 Who?**

The section on maternal work patterns and alternate caregivers presents details of how women organize childcare when they are not at home. Our results related to child feeding indicate that in general, the mother feeds the child when she is at home. However, when she is not at home, feeding the child is the duty of an alternate caregiver. In most cases, this seemed to be the child’s father or grandmother, and in some cases an older sibling. In all cases, the mother reported that she usually left some prepared food behind for the child to be fed in her absence, usually a gruel. In some cases, she also reported that the alternate caregivers would prepare something for the infant.

#### **5.2.3 When?**

The question of *when* children are fed relates to meal patterns, and results from individual and group interviews are combined.

The women interviewed were asked specifically about the types of foods they fed to children at different times of day. The selected times of day included opportunities for a morning meal, a late morning snack, the afternoon meal, a late afternoon snack and dinner.

The data revealed that infants under one year of age are usually fed a special meal that is prepared for them earlier in the morning than the family morning meal. This was usually reported to be done when the family morning meal was not ready early enough or when the infant was too young to eat what was prepared at the family morning meal. Thus, foods like gruels, bread dipped in coffee, and bananas are fed to young infants as a morning meal.

A number of women reported that they did give their 9-24-month-old children late morning snacks, but these were restricted to when the child cried or specifically asked for some food before the afternoon meal was ready. Typical snacks included pieces of bread, salt crackers, and mango (which was in season during the study).

The family afternoon meal was usually prepared to be ready any time between noon and 3 p.m., and women reported that they fed older infants (6 months onwards) the same foods that were cooked for the family afternoon meal. Very few women mentioned the need to give children a late afternoon snack; in fact, most women said that they usually fed the child a snack in the

morning, before the afternoon meal was ready. This could be because the family afternoon meal was usually prepared late in the afternoon, and the gap between the morning meal and the afternoon meal was longer than that between the afternoon meal and supper.

Our findings related to evening meals confirmed that infants are rarely fed any substantial foods in the evenings. Most of the women reported that infants were either breastfed in the evening, before going to bed, or were given light foods like lemonade and bread, or a light gruel. In some cases, the women reported that this was because there was not enough food or money to prepare an evening meal for the family. However, they also said that an evening meal for the child would be a light gruel or sugar water because a heavier meal would give children indigestion (*gonfleman*).

The group interviews with older women revealed their prescriptions related to the timing and preparation of special meals for young children. According to them, special foods need to be prepared for children only up to the age of one year. The special foods they were referring to were usually the gruels made of salt crackers or white flour. The older women felt that after the child was one year old, there was no need to prepare a special meal any more.

The interviews related to the influence of stage of development on feeding patterns indicated that the appearance of the teeth was a major stage in terms of its influence on feeding patterns. Essentially, the appearance of the teeth indicated that infants could now be fed other foods. The appearance of the canine teeth (between 18 and 24 months, for the children of the women interviewed) was seen as the most critical stage in the eruption of teeth, and was seen as a sign that breastfeeding could be stopped completely. The period of teething itself was seen as associated with symptoms like diarrhea, and in one group interview, the women indicated that the eruption of the canines was the most problematic stage of teething.

In summary, children are fed mostly according to the timing of family meals and are fed special foods only in situations where they cannot (or should not) partake of the foods that are prepared for the family. Specifically, special gruels are prepared for children who are too young to eat family foods, or in the evenings, when it is believed that children should not be fed heavy foods. Snacks are usually intended to keep the child's hunger satisfied until the next meal is ready and thus, are small portions of crackers, bread, or fruit. The data thus indicate that the feeding of infants and young children is designed to integrate their eating patterns into the family meal patterns as soon as possible. The family eating patterns, in turn, are structured around women's time and household food availability. The notion of special foods and feeding more frequently to provide extra nutrients to infants and children is largely absent and will need to be stressed in the BCC program.

### **5.2.5 How?**

Data on the *how* dimensions of child feeding (mode of feeding, mother-child interaction during feeding, etc.) would ideally have been collected using extensive observations of child feeding sessions, ensuring that data were gathered for children in each age group (6-8, 9-11, and 12-24). Within the time and financial constraints of this study, however, it was not possible to conduct an adequate number of structured observations of feeding sessions and the information reported here is mostly from the interview data.

Our interviews had revealed that infants and small children are fed from separate bowls and plates than the rest of the family. This is an encouraging practice because it ensures that caregivers can monitor the amount of food children are served and the amount that they consume. In situations where families eat from a common plate (e.g., in many African countries), it is extremely difficult to control how much young children are consuming.

Information on the mode of feeding of liquids (juices, expressed breast milk) and thin gruels is available from a number of interviews (group and individuals) and indicates that the use of baby bottles is fairly widespread. In fact, in two group interviews, one with mothers and another with grandmothers, participants indicated that the use of bottles for storing and feeding expressed breast milk was preferable to the use of a cup as they felt that a baby bottle would be less likely to get contaminated than a cup. In three individual interviews and one group interview, mothers indicated that they actually used baby bottles to leave behind juices, expressed breast milk, and other liquids for their infants when they had to go out. It was also alarming to note that in one case, the use of the baby bottle to store and feed expressed breast milk was on the advice of the health agent.

Our data do not provide an estimate of the extent of use of baby bottles in these communities and the quantitative baseline survey will provide more information on this aspect of infant feeding. However, data on the use of baby bottles in the Haiti Demographic and Health Survey (2000) showed that 25% of infants between 0 and 1 month of age had already been fed using a bottle and this increased to about 42% by 11 months of age for the entire country. This is clearly an issue of concern and the avoidance of baby bottles, and the use of clean cups and spoons as an alternative, will have to be promoted through the preventive BCC program.

### **5.2.2 Why?**

The food rating exercise and other interviews also provided some insights into the reasons for the pattern of introduction of foods reported above. Contrary to the findings from the previous qualitative study, gas was not identified as a reason for giving foods to very young infants. It was, however, identified as a potential reason for giving the child various *teas* (see Section 5.3).

A primary factor affecting the introduction of specific new foods to the child's diet relates to child's age. The gruel made of salt crackers, and liquids like sugar water, are introduced very early in infancy in part because there is a perceived need to provide lactating women with some respite from nursing, as well as to calm a crying infant. The process of lactation is believed to take a significant toll on a woman's health, and the early introduction of gruels and liquids is meant to reduce this burden.

The introduction of additional foods later on in infancy (3 months onwards) was associated with the need to provide foods for the infant when the mother returns to market activities. Buying and selling at local markets and markets that are far away necessitates long absences from home, and while women continue to breastfeed when they are at home, a number of preparations are used to feed infants when they are absent. These foods usually include gruels like the wheat flour gruel, bread soup, and sometimes even mashed rice and beans.

## 5.3 Feeding during illness

### 5.3.1 Diarrhea

Ensuring adequate fluid replacement and adequate nutrient intake during and after episodes of diarrhea are critical to prevent dehydration and to replace lost nutrients resulting from diarrhea and from increased requirements associated with fever. The group and individual interviews conducted with women who had children between the ages of 6 and 24 months were used to obtain information on feeding practices during episodes of diarrhea.

Three different types of diarrhea were identified in our interviews: 1) teething diarrhea; 2) diarrhea caused by “microbes” or bacteria (*mikrob*); and 3) diarrhea caused by indigestion and flatulence (*gonfleman*). In one of the interviews, there was no recognition of the diarrhea caused by microbes, but the participants indicated that children could also get diarrhea due to “hot milk” (*let cho*), which occurred when a nursing mother spent too much time in the sun and did not drink enough water before breastfeeding her child again.

The symptoms of each of these types of diarrhea appeared well-defined in terms of the types of stools they were associated with. Treatment for each type of diarrhea was also different and well-defined. For example, the “teething diarrhea” was said to be characterized by stools that contained mucus and were watery, while the diarrhea caused by “microbes” was said to be characterized by loose stools, but not as watery as with the diarrhea caused due to indigestion. Treatment for all three types of diarrhea involved fluid replacement, and usually a reduction in the amount of solid foods, but continued breastfeeding. Other health seeking behaviors, however, differed between the types of diarrhea. For example, mothers did not feel compelled to seek treatment for teething diarrhea because they were confident that the symptoms usually went away after the tooth had erupted. For other types of diarrhea, medical care (health agent, health clinic, doctor, etc.) was usually sought after two or three days of fluid replacement and continued breastfeeding if symptoms persisted.

Our results were encouraging in showing that the need for fluid replacement was well-recognized in this population for all three types of diarrhea, regardless of symptoms or perceived cause. However, the preventive program will need to stress that care-seeking patterns should also be the same for all types of diarrhea. Also, it is important to stress the need for encouraging adequate food intake for children with any type of diarrhea, and especially so during the convalescence period after an episode of diarrhea or any other illness.

### 5.3.2 Stomach ache

The concept of stomach pain (*doule vant*) emerged from interviews that were designed to elicit information on the perceptions related to colic (“gaz”) and its implications for infant feeding practices. The first phase of qualitative research on patterns of infant feeding had revealed that “gaz” was an important determinant of the early introduction of teas and some gruels to children.

The findings in the present study reinforced that teas are indeed a treatment for colic but that the early introduction of gruels is primarily related to the need for women to go back to their market activities as soon as possible after their child is born. At the same time, the concept of stomachache emerged from these interviews. Stomachache was reported in association with



either *gaz* or another ailment called *fredi*. Symptoms of *fredi* included stools of greenish color accompanied by stomach pains.<sup>5</sup>

The home treatments for *fredi* and stomachaches were similar in terms of the types of teas and extracts that were used to treat these ailments. These included teas made of cloves, garlic, and also some made of herbs. The other form of treatment included wrapping items like cloves, indigo, or garlic (separately or together) in a thin cloth or a leaf, heating this in coals, squeezing it to obtain an extract and then mixing the extract with some breast milk.

In the case of *fredi*, it was reported that if it did not get cured in two days with the local treatment, the child would be taken to the dispensary or health center. However, in the interviews where this concept emerged, women indicated that it was usually cured by the home treatments and that after two days of treatment, the stools returned to their normal color, a sign that the *fredi* was cured.

The concern about the use of teas to treat stomachaches associated either with *gaz* or *fredi* is the risk of contamination of the water or the container used to serve the tea, as well as the disruption of exclusive breastfeeding. As far as *fredi* is concerned, it does not seem to be associated with watery stools and therefore it probably does not require active fluid replacement.

The design of the behavior change communications program should take into account the role of teas and other liquids for treatment of various ailments as well as for fluid replacement during diarrhea. These practices appear to be strongly entrenched and may be a major constraint in efforts to promote exclusive breastfeeding.

#### **5.4 Maternal diet during lactation**

Two group interviews, each with five lactating mothers of infants 0-6 months of age in Bassin Zim and Savane Perdue, as well as one interview with a group of eight grandmothers in Bassin Zim, were used to assess food beliefs and proscriptions during lactation. The interviews revealed that the food beliefs around the time of lactation identified in the first study appeared to be normative and well adhered to, possibly because of the perceived vulnerability of the state of the mother at this time. The food restrictions are prescribed primarily for women during the first three months of lactation.

Some of the food proscriptions are related to the potential detrimental effects of particular foods on the infant, but most are related to their perceived effects on the lactating mother. The restrictions include starchy roots (yams, sweet potatoes), pulses (white beans), vegetables (tomatoes, onions, okra, carrots, pumpkin, eggplant, cabbage, white chayote, fruits—melon, citrus fruits, avocado), fish (except one type named “paroket”), and cow’s milk. Women often associate the white color of the food with the restriction.

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<sup>5</sup> *Fredi* was reported to be caused by leaving the child’s clothes wet without washing and drying them well, or by letting the infant sit naked on soil that was cool and humid.

In terms of the effects of some foods on the nursing infant, mothers and grandmothers agreed that foods like yams and pumpkin are clearly to be avoided because of their laxative effects on the infant. For the yams, one group also indicated that they were to be avoided because they gave “gaz” to the infant. Restrictions for sweet potatoes and okra with respect to the child were an issue only in one group, who referred to their laxative effects.

In general, foods are restricted for lactating mothers either because they are thought to cause stomach or abdominal pains or because they affect mothers’ vagina in some ways. All three groups insisted on avoidance of fish because it caused stomach pains and induced water production in the vagina. Crabs were also mentioned in one group as a food to be avoided because it caused abdominal pains.

Only grandmothers mentioned cow’s milk as a potential cause of white vaginal discharge, and only when it was consumed alone. None of them, however, knew of a lactating mother who had experienced this problem. It is likely that milk is not consumed very often in these communities.

White chayote, a specific type of mango (“baptiste”), avocados, onions, and okra are considered as cold foods that can cause stomach aches pains (“*li bay mal du mèr*”). In one group in Bassin Zim, the women were convinced that okra consumed as a sauce makes the vagina slippery. According to the mothers in Savane Perdue, white chayote, besides causing stomach pains, has the same effect as the fish, i.e., inducing the production of water by the vagina. Other foods that cause abdominal or stomach pains are eggplants, white beans, and yams. Lactating mothers, however, could consume okra and eggplants when mixed with other foods or fried in the case of okra. Mango “baptiste” could be eaten during lactation when the mother was not feeling hot.

The group in Savane Perdue mentioned also citrus fruits being too acid to be consumed during lactation as well as melon and tomatoes because they affected the vagina. Carrots and cabbage are to be avoided but they did not know the reasons for it.

In two groups the women talked also about the foods that lactating mothers should eat. These include papaya in order to increase the production of breast milk or leafy vegetables in general to increase the blood production and to protect the body; beans (black or congo) and liver because of their high content of vitamins and especially iron (mothers’ own words), cereals (corn, millet, rice), starchy roots (manioc) and plantain because they give strength; meat, cow’s milk, and eggs that are good for the development of the child. Recommended dishes are cooked plantain with meat, vegetable soup with meat and staples, and rice or corn with a bean sauce.

Our interviews confirmed the existence of a large number of cultural beliefs about dietary restrictions during lactation in this population. It is clear that the beliefs exist and that many mothers adhere at least to some of the dietary restrictions. It is impossible, however, to determine from the qualitative work whether these restrictions result in poorer dietary quality during lactation or whether mothers still manage to maintain adequate energy and nutrient intakes by consuming foods that are not subject to these restrictions. It is important to remember also that these restrictions are mainly for the first three months of lactation. Although this is a relatively short period, this is a period of great demand on the mothers’ nutrient reserves because they are recovering from the demands of pregnancy and labor, while at the same time having to maintain successful lactation. Additional research, possibly quantitative, will be needed to

explore the real implications of dietary restrictions during lactation on maternal diets, nutritional status, health, and levels of energy. It is important for the successful promotion of exclusive breastfeeding to ensure that mothers are meeting their daily energy and nutrient requirements and that they have the physical capacity to practice exclusive breastfeeding without depleting their nutrient reserves. These aspects need more investigation and will be addressed in the operations research next year.

## **5.5 Maternal work and alternate childcare use**

This section presents findings related to patterns of women's work in the communities studied and the implications of these patterns for child feeding.

### ***5.5.1 Maternal work patterns***

We used group and individual interviews to explore the patterns of women's work and to assess how women organized their childcare responsibilities. Overall, we found that the two main occupations for women in this region of Haiti were agriculture and market activities. The agricultural activities are primarily related to tending the family farms or home gardens, and in many cases this involves working alongside with husbands. Market activities are referred to as *petit commerce* in Haiti and this implies the buying of products in one market and selling them in another. In some cases, women also sell their own produce in these markets.

The market system in this area of Haiti is organized in terms of weekly (or biweekly) markets held in different towns in the region. The buying and selling at the weekly markets is done mainly by women who often travel long distances on foot or horseback to get from one market to another or from home to the markets and back.

The poor accessibility of the markets in terms of distance and mode of transportation implies that women have to stay away from home for long periods of time to carry out their market activities. In our interviews, this ranged from a minimum of 5 hours up to 24 hours in some rare cases. Women reported being away from home anywhere from 2 days a week to seven days a week, depending on which markets they frequented for their income-generating activities.

### ***5.5.2 Organizing childcare***

Most women in our sample were involved in market activities. For these women, childcare was a key constraint because they did not feel comfortable taking their child along when they went to work in the markets. The small number of women who worked on their family land, however, indicated that they usually took their children with them when they went to work in the fields and that they usually left them in a shady spot while they worked.

Our interviews suggested that market women delayed their return to work until their child was between 2 and 3 months of age, unless economical constraints forced them to return in order to earn money to purchase food for their family. Infants were usually left in the care of their fathers and/or their grandmothers. In some cases, women reported leaving their infant with an older sibling who could feed and take care of the infant. In most cases, women reported that they left some prepared food for the infant to be fed by the alternate caregiver. In a majority of cases, this

was a gruel, lemonade, or sugar water. Only one woman reported that she had expressed breast milk and left it behind for the child and she had done it only until the child was 3 months old, at which time she switched to gruels.

One of the aspects that was not investigated in our research is whether the fathers in turn left the infants with someone else when they had to leave to work or to attend to other household responsibilities. Our interviews with mothers on their work patterns did not yield information on this issue.

One disturbing finding related to the use of childcare alternatives was that in one group interview, women felt that a very young infant (2-3 months old) could easily be left with an alternate caregiver since, according to them, children at that age “cry for the breast and not for the mother”. Between 5 and 6 months, they said it was more difficult to leave a child with someone else, even though they often did so, because by that age, the child was “crying for the mother”. However, from when the child was about 10 months old, women indicated that it was again easy to leave the child with someone else because by then, the child could eat everything. These findings, taken with other information on feeding children, suggest that the pattern of early introduction of gruels and liquids is in fact designed to ensure that infants get used to consuming foods other than breast milk, which in turn makes it easier for women to return to work as early as when the infant is two months old.

The information related to the stages of child development revealed that the stage when children began to sit up on their own was perceived by mothers as an indication that the child could now be left with someone else. Also, group interviews with mothers revealed that this was perceived as a stage when the child did not have to be watched as much as before, which allowed mothers to do their work around the house. Women indicated that this happened when girls were 2.5 months old and boys were 3.5 months old.

Our findings highlight the acute trade-offs that mothers face in their dual roles as caregivers and income generators. In this population, maternal employment may truly be a key constraint for exclusive breastfeeding and to a lesser extent for adopting optimal complementary feeding practices from the time the infant is 6 months of age. As seen in many other cultures, mothers do attempt to protect their young infant by staying at home for as long as they can economically afford it, but among resource-constrained populations, this period is rarely longer than two or three months after birth. Thus, unless mothers extract and appropriately store breast milk for feeding the infant in their absence, exclusive breastfeeding is almost impossible. Finding appropriate ways of storing breast milk given the high ambient temperatures in Haiti is also critical since expressed breast milk can be stored for a maximum of 4-6 hours in temperatures between 25 and 38 degrees Centigrade. Although the situation may be less complex when the infant reaches 6 months of age and starts consuming complementary foods, absence of the mother for extended periods of time is still likely to interfere with the recommendation to continue on demand breastfeeding at least until the child reaches 24 months of age. Information from our *quantitative* baseline survey should shed light on the importance of market work among women in this population, and on how frequently and for how long mothers have to be separated from their young infant to carry out their income generating activities. Although the qualitative study indicated that most working mothers could rely on adult relatives to assist them with their childcare responsibilities, it is not clear what happens when the substitute child caregivers

themselves (such as the fathers, for example) have to work and leave the home. The quantitative baseline survey will also provide more information on these aspects.

### *5.5.3 The role of fathers as caregivers*

In order to understand the caregiving roles played by fathers, we conducted interviews with groups of fathers to see how they viewed their responsibilities towards their children. Two group interviews (Marmont and Casse) and one interview with a couple (Doco) provided the data for this topic.

The interviews revealed that fathers had a very broad view of their caregiving roles and did not think of themselves solely as providers of income and food. The provision of food and money, imparting moral and spiritual guidance to their children, taking their children to the health center when they were ill, and ensuring that their children were well-educated were among the responsibilities that they defined for themselves. They were also actively involved in the care and feeding of younger children, including bathing, cleaning, feeding and preparing food, and in a number of other activities. However, this occurred mainly when mothers were away from home, and mothers were, as in many other cultures, perceived as the primary caregivers of the children.

The groups of fathers interviewed all expressed a deep interest in learning more about caring for their children and even suggested that they felt neglected by program activities that were typically targeted only to women. They suggested that a weekly meeting forum for men would be an acceptable and feasible venue for them to attend in order to obtain information about how to improve their caregiving skills. One practical suggestion was to have separate mothers and fathers clubs held at different times of the day so that at least one parent could attend the club if the other was working or away at the time of the club meeting.

The fathers who were interviewed in our study were mostly involved in agricultural activities and tended their farms in the morning, usually returning home at noon for a break, and again later in the afternoon for their meal. Unfortunately, our interviews do not provide further information on the detailed schedules of the fathers and who they left the child with in case they also had to be at work. At the same time, agricultural work is more flexible in terms of timing than market activities and it is possible that parents can adjust their working patterns to accommodate their childcare responsibilities.

Overall, our results on the roles of fathers suggest that fathers play a greater role in childcare than has been acknowledged in the planning of program activities. Given the extent to which they participate in daily care activities for their children, it will be imperative to include fathers in the behavior change communications program.

## **6. RESULTS OF RECIPE TRIALS**

The use of recipe trials to develop enriched complementary foods using local ingredients is well-developed and has been used with success in a number of countries. Usually, recipe trials start with the identification of the commonly fed local complementary foods and use a participatory approach to enrich these recipes. This is accomplished through group discussions of the local recipes, feasible options to enrich them, and actual trials to test the acceptability of modified recipes (Dickin, Griffiths, and Piwoz 1997). In some countries (e.g., Nigeria), the recipe trials have been combined with an approach called Trials of Improved Practices (TIPS) (Dickin, Griffiths, and Piwoz 1997) where follow-up interviews also investigate the feasibility of preparing the enriched recipes in home settings as well as other behavioral modifications to usual patterns of complementary feeding.

In this setting, we conducted the recipe trials in three phases (described in the methods section) that included discussion of enrichment options, testing of actual recipes, and follow-up feasibility interviews. The results are presented with a preliminary description of currently fed complementary foods, followed by a description of the recipes developed and tested through the recipe trials process. For each modified complementary food, issues related to its acceptability, feasibility, and affordability are also discussed. The section concludes with a discussion of the nutritional qualities of the complementary foods.

### **6.1 Complementary foods currently fed to infants and young children**

As reported in Section 5, mothers in our survey usually prepared three main types of complementary foods: 1) cereal gruels with some type of fat (salt cracker gruel and bread soup); 2) cereal gruels with sugar, but no fat (wheat flour gruel); and 3) mashed plantains with a fish sauce. The main ingredients included in these gruels were presented earlier in this report (Table 5.1) and detailed recipes are available in Annex 4.

Two of the gruels were selected for modification through recipe trials: the wheat flour gruel and the mashed plantain with fish sauce. The reasons for choosing these two recipes are the following:

- 1) The salt cracker gruel is usually fed to very young infants and is used as a breast-milk replacement and to give some relief to breastfeeding mothers. This is made especially for the young infant and mothers stop using it after the infant is about 4 months old as he or she starts receiving other gruels or bread soup. It was decided that rather than attempting to enrich the salt cracker gruel, the education and behavior change program should actively try to discourage the use of this product for young infants as part of its promotion of exclusive breastfeeding in the first half of infancy. In particular, we felt that modifying this recipe could run the risk of providing justification for mothers to continue the practice of early complementation. In order to avoid this, the salt cracker gruel was not considered as a potential vehicle for improving complementary foods.

- 2) The bread soup was not considered for modification because it appeared to be of low nutrient density to start with.
- 3) The white flour gruel and the mashed plantain with fish sauce seemed to be better candidates, among other things, because they are given to infants from the ages of 3-6 months until the child consumes family foods. In many cases these dishes are considered family foods and are prepared for the entire household.
- 4) The wheat-soy-blend (WSB) food commodity distributed by World Vision is a type of flour similar to the flour currently used to prepare the white flour gruel. Thus, new and enriched gruels could be prepared using donated foods targeted to the child.

Note that there was no recipe identified, which was prepared *only* for the young infant, as a special complementary food in this population, with the exception of the salt cracker gruel. As mentioned earlier, this type of gruel had to be discouraged both because of its poor nutritional quality and because of its improper use with very young infants. Ideally we would have been able to identify a special food to enrich, which was consumed only by the infant, because it is much less costly to enrich a small amount of food to be fed to a young infant than to enrich a food consumed by an entire household. However, in the face of having only salt cracker gruel as the “special infant food,” we decided to work with other, more promising recipes, even if they were more widely consumed within the household.

The recipe trials also explored the options of adding special ingredients like a beaten egg or extracted breast milk to a portion of the gruel served to the under-two child.

## **6.2 Modified recipes developed during the recipe trials**

The following section presents the modified recipes that were developed using the recipe trials. For each recipe, a description of the recipe is presented along with post-trial findings related to the acceptability, perceived feasibility of preparation, and perceived cost of the recipe. Following this, a summary of the two- or three-week follow-up interviews conducted to assess whether mothers had prepared the recipe at home is presented. Details of each recipe are presented in Annex 5.

### ***6.2.1 Millet gruel with black beans and groundnuts – Bassin Zim***

#### *Description*

This gruel was made of millet flour and was enriched with pounded beans and groundnuts. The recipe was developed with the women’s group as a modification of the usually prepared wheat flour gruel. Millet is a staple cereal and is cultivated in the area of the study. Thus, women were familiar with making light millet gruels with water and sugar, although they did not usually add beans or groundnuts to the gruel. They were, however, interested in trying the modified recipe. The participants decided to use black beans, because this variety of beans is also cultivated in the area and is perceived to be richer in nutrients, especially iron, than other varieties of beans.

### *Post-trial tasting and feedback*

The feedback of the group after the trial was very positive in terms of the taste, texture, color and smell. One of them suggested that she would have cooked the gruel longer. The women thought that the gruel had a chocolaty taste and they preferred this to the gruel made with wheat flour. They all agreed that this recipe took longer to prepare, especially the pounding of beans, and that it is more expensive than the wheat flour gruel. However, they affirmed that these factors would not be a constraint to trying the recipe at home. They also informed us that prices of beans and groundnuts are lower during the harvest season, i.e., between July and October, and that it would be easier to buy these ingredients at that time.

The participants indicated that they could prepare the millet gruel one to three times a week for the whole family, depending on the resources available. According to the women, children can only eat this preparation from the age of 9 months on, because the millet is heavy and the groundnuts can “inflate their stomach”.

### *Follow-up feasibility interviews*

A first follow-up visit was conducted three weeks after the recipe trial. At this visit, it was revealed that none of the participants had tried the recipe at home. The major constraint for all of them was the lack of money to buy the beans and the peanuts. One woman also mentioned that the preparation was time- and energy- consuming. At this time, it was suggested to them that they prepare the recipe only for the youngest child if it was too expensive to prepare it in large amounts for the whole family.

A second follow-up visit was done three weeks after the first one. Each of the three women interviewed reported that they had prepared the gruel at home, but they indicated that this was in order to remember the recipe. Two of them prepared it twice and another woman only once. All the women had modified the proportions of millet, beans, and groundnuts that had been agreed upon during the recipe trial (5/8 versus 2/8 versus 1/8); two mothers had used the same quantities of beans and groundnuts and another made the gruel of 2/4 of millet and ¼ of beans and groundnuts, respectively. In addition, they had added cows milk at the end, which made the gruel thinner than the recipe developed earlier.

The women reported that the entire family, i.e., between six and ten persons, shared the gruel and both adults and children liked it very much. However, as with the first follow-up visit, the women pointed out the same constraints to preparing this gruel more often—the lack of money to buy beans and the time and energy-consuming preparation technique.

### *Summary*

Although this recipe was well accepted and appreciated in terms of taste, its low feasibility with respect to the time and energy necessary for preparation and the high costs of the ingredients (see Table 6.1) made it difficult for women to prepare it at home. In addition, the participants of this group felt that the enriched recipes should be prepared for the whole family because all family members were perceived as needy, making the overall cost of preparation higher. Note that the youngest child of the three women participating in the second follow-up interview was over two



years old; this may have made it difficult for mothers to understand why they should prepare the enriched recipe only for their youngest child.

### ***6.2.2 Wheat flour gruel with black beans and groundnuts – Bassin Zim***

#### *Description*

This recipe was developed to enrich the original wheat flour gruel with pounded black beans and groundnuts. The proportions of wheat, beans, and groundnuts decided upon during the recipe trial were different from those of the previous preparation: 4/6 versus 1/6 versus 1/6, i.e., less bean flour was used.

#### *Post-trial tasting and feedback*

Acceptance of this gruel was good on the whole in terms of taste, texture, color, and smell. The women liked the taste, but they still preferred the millet gruel. In terms of cost and feasibility of home-preparation, the women identified the same problems as with the millet gruel, that it was costly and time-consuming.

According to the women, the enriched gruel made of wheat flour could be given to children from the age of 5 months on. Wheat flour is less heavy than millet, which is why it could be introduced earlier. Also, the gruel had to be fed in the morning; otherwise the groundnuts can “inflate the child’s stomach.”

#### *Follow-up feasibility interviews*

In the two follow-up visits, it was revealed that none of the participants had tried the recipe at home. The constraints mentioned were the same as for the millet gruel: the lack of money to buy the beans and peanuts and, in addition, the time and energy consuming preparation technique.

#### *Summary*

Although this recipe is also well accepted and its feasibility is better, i.e., less preparation steps and cooking time needed than for the gruel made of millet, the time taken to pound the beans and groundnuts as well as the cost of buying them appeared to be too high (see Table 6.1) for the women to prepare this recipe at home.

**Table 6.1: Summary of recipes tested through recipe trials**

No.	Name of recipe and or behavior change	Place where developed/tried	COMMENTS ON RECIPE			
			From Discussion after Recipe Trial			From follow-up interviews
			Acceptability	Feasibility (No. of preparation steps + cooking time)	Cost <sup>a</sup> (Gourdes)	Whether actually tried, at home
1.	Millet gruel with black beans and groundnuts	Bassin Zim	Very good	10 steps + 45 minutes	11.5	Yes
2.	Wheat flour gruel with black beans and groundnuts		Very good	7 steps + 25 minutes	11	No
3.	Millet snack (“Cham-cham”)		Excellent	9 steps + 15 minutes	> 20	Yes
4.	Wheat flour gruel with black beans and dried fish	Marmont	Less liked than sweet version and mothers thought it was too thick for a 6 month old	4 steps + 35 minutes	9.25	Yes
5.	Wheat flour gruel with black beans and sugar		Good but mothers thought it was too thick for a 6 month old	4 steps + 35 minutes	8.25	Yes
6.	Mashed plantain with pumpkin and fish sauce		Good	2 steps + 35 minutes	13	Yes
7.	Wheat flour gruel with black beans, sugar and oil	Tierra Muscadi	Good, consistency fine too	4 steps + 35 minutes	11.25	Yes
8.	Mashed plantain with pumpkin and fish sauce		Excellent	2 step + 35 minutes	17.5	Yes
9.	Addition of an egg to the wheat flour gruel		Good	1 step + 35 minutes	6.25	Yes
10.	Addition of expressed breast milk to the gruel		No information	Depends on the gruel made	Cost of the gruel made	Yes

<sup>a</sup> Exchange rate: 28 Gourdes = US\$1.

### **6.2.3 Millet snack (*cham-cham*) – Bassin Zim**

#### *Description*

This *cham-cham* snack is a powder that is usually made of corn, groundnuts, and sugar and given to children to consume as a snack. Because millet, rather than corn, was available at the time of the recipe trials, the research team discussed with the participants the possibility of trying the recipe with millet. The suggestion was well accepted by the participants.

#### *Post trial tasting and feedback*

The millet snack was well appreciated by children and adults, though two of the women thought that the preparation with corn provided more energy. Women indicated that during the corn harvest season, they usually prepare the snack once or twice per day and if they don't have enough sugar, they add salt. The participants indicated that children could be fed the corn snack from the age of 8 months on, while the millet version could be fed only to children older than 12 months. Also, the women suggested that the millet snack should only be fed to children in the morning, as it could increase the risk of "inflating the child's stomach" if it was fed later in the day.

When asked if this powder could be preserved and mixed with water to prepare a thick gruel for younger infants, the women indicated that it was possible to store the millet snack for a year but that they didn't think it should be used to prepare a gruel. The reason for this was that the grain was not pounded very fine for the snack and they thought that corn or millet fiber particles could still be present in the powder and that this was not appropriate for young infants

#### *Follow-up feasibility interviews*

An initial follow-up visit showed that the millet snack had been prepared in three households a few times since the recipe trial. It had, however, been prepared by the older children in the household rather than the mother herself. Moreover, the recipe had been modified to accommodate the availability of ingredients in the homes where they were prepared. For example, in one case the snack contained only millet and sugar, whereas in another household it was made with millet and salt only because neither groundnuts nor sugar were available.

#### *Summary*

As with the previous recipes, the taste of this recipe was acceptable in the post-trial tasting sessions. However, it was perceived as being quite expensive (because of the groundnuts) and time-consuming in its preparation (because of the millet), especially for a snack (see Table 6.1). This could be one reason why the snack was usually prepared without groundnuts.

### **6.2.4 Wheat flour gruel with black beans and dried fish – Marmont**

#### *Description*

This recipe was planned as a modification of the gruel that was most frequently prepared for young children (the white wheat flour gruel). The women had never added beans, but they were

interested in trying it when it was proposed by the research team. The group preferred to add beans to a salty version of the gruel made of wheat flour and dried fish, and similar to the group in Bassim Zim, they insisted on using black beans for its perceived nutritional benefits over other types of beans.

During the recipe trial itself, the group decided to add one part of bean flour to two parts of wheat flour (proportion 1:2). This proportion was considered affordable and they said it would be feasible for them to try the recipe at home. They added a slightly bigger piece of dried fish (provided by the research team) than they would usually use for this amount of gruel. During the preparation, the research team also requested that mothers prepare a thicker gruel, using less water than usual.

#### *Post-trial tasting and feedback*

The women liked the taste of the gruel and the younger children ate it too. However, the older children (around the age of 5 years) did not like it at all, possibly because it was not a taste they were habituated to. One disappointing factor was that all the women thought that the gruel prepared with less water than usual was too thick for a 6-month-old infant but would be acceptable for an infant starting from the age of 8 months. The group felt that this gruel was easy to prepare at home and indicated that it would be possible for them to prepare this two times a week. They did not expect the pounding of the beans to be a constraint.

#### *Follow-up feasibility interviews*

In the group follow-up interviews three weeks after the recipe trials, all five women said that they had prepared the recipe quite frequently in their homes. Sensing that there might have been some peer pressure to report positive practices with this group, especially since the trials were conducted in the courtyard of a World Vision *colvol*'s home, the research team returned the next day to interview the women individually in their homes.

The individual interviews revealed that the women had indeed prepared the recipes in their homes. One woman had prepared it every other day, another 1-2 times per week, and a third woman 3 times per week. One other had made it twice and another one only once since the recipe trial.

All the women had roasted and pounded a large amount of beans at one time, which they then used a number of times to prepare the gruels. They used the same proportion of wheat flour to bean flour and one local measure of dried fish and had used the same preparation method as during the recipe trial. However, four women had made the gruel less thick than during the trial. One woman mentioned the time and energy-consuming preparation technique of the beans to be a constraint to preparing the gruel more frequently.

Two mothers had fed the gruel to the youngest child/children and another one had also served a small quantity to the older children. Two mothers with only one child each said that the child ate the gruel but that they had consumed the leftovers. Those mothers who had prepared this recipe just once or twice felt that their children rejected this salty version and therefore stopped preparing it. Two other women said that their children did not really like this preparation but ate it anyway. Only one mother believed that her child really liked the gruel.

### *Summary*

This recipe, for a savory wheat flour gruel, enriched with groundnuts and beans, was accepted by mothers and young children but less liked than the sweet version of the gruel (see 6.2.5). It was less time-consuming and less costly than the first two recipes (see Table 6.1) and it had been prepared by all the women at home at least once, if not a few times.

### **6.2.5 Wheat flour gruel with black beans and sugar – Marmont**

#### *Description*

The idea for this recipe emerged during the trial of the previous recipe, which was a salty version with beans and dried fish. When we discussed the possibility of preparing a sweet version, i.e., adding sugar instead of fish, the participants were eager to try this gruel as well.

The group decided to keep the same proportion of bean flour to wheat flour (1:2). This time we did not limit the use of water for the gruel.

#### *Post-trial tasting and feeding*

In spite of not having restricted the amount of water that the women could put into the gruel, the feedback after the tasting showed that the gruel was still too thick for three of the women. All the mothers preferred this sweet version to the salty version, but the younger children did not seem to have a preference.

#### *Follow-up feasibility interviews*

In the group follow-up visit three weeks later, all five women said that they had prepared the recipe at home frequently. As with the previous recipe, the group responses were followed-up and verified in individual interviews with the women in their homes the following day.

The individual interviews found that one woman had prepared the gruel every other day and another twice weekly. One mother had prepared it five times and yet another one twice since the recipe trial. Only one of the mothers had not cooked it at all, because she felt that her child had rejected this sweet gruel during the tasting session after the recipe trial. For the preparation, the women roasted and pounded a large amount of beans that they then used to prepare the gruels several times. They used the same proportion of wheat flour to bean flour and used the same preparation method as during the trial. Four of the women also added some vegetable oil or butter to increase the caloric density, as suggested by the research team. Two mothers also added cows milk.

All the women prepared the gruel to be less thick than during the recipe trial. Three mothers fed the gruel to the youngest child/children and one of them also served small quantities to the older children. One mother with only one child said that the child had eaten the gruel but that she had consumed the leftovers. All the mothers felt that their children liked this sweet gruel very much.

### *Summary*

This sweet wheat and bean flour gruel was highly appreciated for its taste. It was also slightly less expensive than the salty version of the gruel (see Table 6.1). The mothers and their children preferred this sweet gruel to the salty version that included fish. The repeated preparation of the gruel in the homes of the participants indicates that this might be a feasible gruel to promote.

### ***6.2.6 Mashed plantain with pumpkin and fish sauce – Marmont***

#### *Description*

This recipe was developed with the aim of increasing the micronutrient density of the complementary foods fed to young children. Thus, using the preparation of mashed plantain with dried fish sauce as a starting point, the addition of a small amount of mashed pumpkin was suggested to the participants. The women had never added pumpkin before to the mashed plantain, only to light soups and they were worried at first about the laxative effect of the pumpkin. However, they got interested when the research team explained the reason for adding the pumpkin (vitamin A) to the plantains. Pumpkins are easily available in this area, either grown in the garden or sold in marketplaces.

The research team also probed for other mashed variations, like using regular and sweet potatoes instead of the plantains. Potatoes, however, are not cultivated in this area and the use of sweet potatoes was strongly rejected because of their laxative effect. Four of the five women had not started giving sweet potatoes to their youngest child.

During the recipe trial itself, the group decided to use a slightly smaller amount of pumpkin than of plantains in order to maintain the taste of the plantains. For the sauce, they used two local measures of dried fish.

#### *Post-trial tasting and feedback*

The taste of the recipe made with mashed plantains, pumpkin, and fish sauce was liked by all the participants. Also, the women agreed that this preparation could be given to children from the age of 7 months on. They also said that this recipe is the easiest out of the three to practice at home (see Table 6.1). Plantains and pumpkin are available seasonally in the garden, so costs for this recipe are considerably reduced.

#### *Follow-up feasibility interviews*

In the follow-up visit three weeks later, all five women said that they had practiced the recipe at home. One woman prepared the mashed plantains once a week, another woman cooked it four times, one twice, and two only once since the recipe trial. They used the same proportion of plantains to pumpkin and added one local measure of dried fish to each preparation. They also described the same preparation method as the recipe trial. Two mothers cooked the recipe for the youngest child only and three said that they prepared plantains and pumpkin for the whole family, but mashed the part for the child.

One mother felt that her child did not accept this preparation at all. Two other women said that their child did not really like it, but ate it anyway and that the children preferred the gruels to this

recipe. One mother mentioned that their children did not have any problems eating it and only one had the impression that her children liked the mashed plantains with pumpkin.

### *Summary*

The mashed plantain with pumpkin and fish sauce appeared to be a feasible recipe to improve the vitamin A content of the foods consumed by infants and young children. While the feasibility trials were encouraging in that all the women had tried the recipe at least once, they did not prepare it very often. The main constraints were poor acceptance by the child and the end of the pumpkin-harvesting season. One woman appreciated the less time-consuming preparation technique compared to the tried gruels but was unable to afford the pumpkin more often in order to prepare the recipe.

### ***6.2.7 Wheat flour gruel with black beans, sugar, and oil – Tierra Muscadi***

#### *Description*

In Tierra Muscadi, the participants were willing to try a gruel with bean flour added to it. However, they showed a preference for trying a sweet recipe rather than a salty one since they said that they prepared a salty version of the wheat flour gruel only when they did not have enough sugar to make a sweet version. At the same time as adding beans to the wheat flour gruel, the research team pursued the possibility of adding some oil to this gruel to increase the caloric density. This suggestion was received positively and was included in the plans for the trial of this recipe. Also, at the recipe trial, in addition to making the traditional wheat flour gruel with the added bean flour and some additional oil, the women were asked to reduce the amount of water they traditionally used for this recipe.

#### *Post-trial tasting and feedback*

The final product was well appreciated in terms of its taste and color (in spite of the brown color due to the black bean flour). The participants said that they would prepare the gruel of the same consistency for children from the age of 4 months on.

All the participants indicated that they would like to prepare this gruel in their homes and suggested that the only constraints might be the lack of resources to be able to buy black beans, as well as the additional time it would take to prepare the flour from the beans. However, as with the participants in Marmont, they discussed the possibility of preparing a larger quantity of the bean flour and storing it for future use. The addition of oil to the gruel appeared to be acceptable.

#### *Follow-up feasibility interviews*

The two-week follow-up interviews indicated that only two participants had tried the new recipe for the gruel at home; one had prepared it for her infant a number of times while the other had prepared it so that she could test the recipe with her family. The participant who had prepared the new recipe for her infant a number of times had made the gruel *only* for the infant, not for the rest of the family. Also, her mother, who had been present at the recipe trials, said that she had also been making the gruel for the infant.

Of the remaining five, three suggested that they did not have enough money to buy the beans necessary to make a flour for the gruel. Two of the women said they had not had the time to try the recipe and it was too time-consuming to go through the numerous steps required to make the bean flour.

### *Summary*

Overall, it appears that the addition of bean flour to the gruel is more time-consuming and costly than the original recipe. One problem is that this gruel is seldom prepared only for a young infant and is made for the entire family, and adding bean flour to a recipe for the entire family increases the real and perceived costs substantially when compared to adding it for only a child. The only woman who had been able to make the enriched recipe for her child had only one child, while the others who did not try the recipe at home had more than four children each.

### ***6.2.8 Mashed plantain with pumpkin and fish sauce– Tierra Muscadi***

#### *Description*

A modified version of the mashed plantain with fish sauce recipe was tried in Tierra Muscadi as well, to explore the possibility of adding pumpkin to improve the vitamin A content of the recipe. Although pumpkin is considered to have a laxative effect for young children, the women were willing to try adding a small piece of pumpkin to the mashed plantain.

The recipe was prepared as with the recipe in Marmont, using the mashed plantain with added mashed pumpkin and serving it with a fish sauce. In this community, mothers added some tomato paste to the sauce, which further enriched the nutritional value of the recipe. The women, however, indicated that usually they did not have enough money to add tomato paste to the recipe.

#### *Post-trial tasting and feedback*

The post-trial tasting and discussion showed that this was the most appreciated recipe and it was liked by all the participants as well as their children. Furthermore, they found the recipe to be affordable because adding pumpkin did not increase the price of the gruel by more than 2 Gourdes (US\$0.07). Also, pumpkin was often available in home gardens and the women felt they could prepare this twice a week.

#### *Follow-up feasibility interview*

At the follow-up discussion, 3 out of 4 women had prepared the recipe at home for their families. In all cases, their families had liked the recipes. Two of the women had prepared the recipe without the pumpkin more often than with the added pumpkin and indicated that it was not easy to get the pumpkin as not everyone had it in their gardens. Also, it was not possible to buy pieces of pumpkin (rather than a whole pumpkin) during this season and a whole pumpkin cost 10-15 Gourdes. The one woman who had not tried the recipe stated that it was because she did not have pumpkin in her home garden.



### *Summary*

In general, the plantain recipe with added pumpkin and fish sauce was considered feasible and acceptable, even though previous discussions had suggested that infants are not to be fed pumpkin as it had a laxative effect. Although more women had tried this recipe compared to the others, issues of availability and affordability still emerged as concerns for the continued use of this recipe. Communications related to the possibility of using other vegetables in the same way as pumpkin was used in this recipe could use a local agricultural calendar to suggest different options for the different growing seasons.

### **6.2.9 Addition of an egg to the wheat flour gruel– *Tierra Muscadi***

#### *Description*

In an effort to include more animal foods in the diet of the youngest child in the household, the research team explored the possibility of adding an egg to a portion of the gruel for an infant/young child. Although the participants mentioned that they had never done this before, nor had they thought of it, they were willing to try it at the recipe trials. They were used to the idea of adding an egg to mashed plantains as well as to bread soup but had not considered adding it to gruels as well. Thus, at the recipe trial, a beaten egg was mixed into the portion of the wheat flour gruel with beans that was traditionally served to an infant (1/2 cup) and cooked briefly.

#### *Post-trial tasting and feedback*

During the discussion the women mentioned that, usually, only the egg yolk is given to young infants, since the white of the egg was considered “too hard” for an infant. However, they were pleased with the result of adding a beaten egg to the gruel as they could not discern the white from the yolk. Both the infants and the mothers who tasted the gruel with the egg liked it very much and the mothers indicated that it would be feasible for them to prepare the modified recipe in their homes at least two times a week.

#### *Follow-up feasibility interview*

The two-week follow-up interview revealed that two of the women had added an egg to their infant’s portion of the gruel. One of the women had tried it once and another had tried it thrice. Both women indicated that their infants had liked the gruel with the beaten egg very much.

### *Summary*

The recipe trials showed that the addition of egg (and potentially other foods) only to the portion destined for the infant was acceptable both culturally and from the point of view of taste. Follow-up interviews showed that this was feasible within the home setting as well, even for one participant who had six children in addition to the youngest child for whom she modified the gruel.

### ***6.2.10 Addition of expressed breast milk to the gruel – Tierra Muscadi***

#### *Description*

The possibility of adding expressed breast milk to the infant's portion of gruel was explored in Tierra Muscadi. Although the women had not heard of this before, they were willing to try adding expressed breast milk to the gruels they made for the infant at the recipe trials.

Two of the women who were lactating were interested in trying the addition of expressed milk to the salt cracker gruel that they were already feeding their infants. Thus, a salt cracker gruel was prepared at the recipe trial and some expressed breast milk was added to the portion that was served for an infant.

#### *Post-trial tasting and feedback*

The process of expressing breast milk itself posed no problems for the women and they had no problems doing the expression in front of the entire group. The infants who were fed the gruels appeared to like the taste of it and ate well. In general, both the men and the women present at the trial considered this a feasible option for enriching the gruel and improving its taste.

#### *Follow-up feasibility interviews*

The follow-up interviews indicated that one of the women who had tried this modification had done it thrice since the recipe trial. She did not face any problems and found that her infant liked the gruel very much. She did not, however, have the opportunity to leave plain expressed breast milk for someone else to feed her infant because she did not have to leave the infant with anyone during this period.

One issue related to the use of the salt cracker gruel for this demonstration is that although this was the recipe used for the trial, it was discussed at the trial that this could be done for any of the gruels. However, the woman who had tried it had done it only with the salt cracker gruel, and had never tried it with other gruels. They indicated that they had prepared it "just as it had been shown," suggesting that the example used at the recipe trials was perceived by them to be "instructions" rather than just an example. The women who had tried the recipe had very young infants (2 months and 1.5 months old) and the feeding of anything other than breast milk to women with infants as young as this should be actively discouraged.

#### *Summary*

In general, the trial revealed that the practice of expressing breast milk for addition to gruels is both acceptable and feasible for women to do. However, this should be promoted for the gruels fed to infants over 6 months old, and the use of the salt cracker gruel should be discouraged for all infants under 6 months. The feasibility of expressing larger quantities of breast milk to be left behind for a child is not yet known, even though it appears to be acceptable, at least for this group of women.

### ***6.2.11 Observations regarding the choice of recipe trial participants***

The results of the recipe trials with the three different groups reveal that women of the Marmont group practiced the modified recipes more often than the mothers of the two other groups in Bassin Zim and Tierra Muscadi.

In the Marmont group, compared to the two other groups, the presence of a number of supporting factors could have allowed these women to prepare the modified recipes more often at home. These include a higher level of training and knowledge of the women (two were daughters of a *colvol*, one had attended a cooking course, and another one a sewing training); and fewer children (three had only one child each). Additionally, they appeared to have a better understanding of the importance of cooking special recipes for young children only, were relatively young mothers, lived close to the marketplaces, and also, all had children who were in the 8 – 12-month age group (when gruels are most likely to be consumed). Also, the mother of one child who was often sick in the past appeared more open and receptive to enriched recipes. This mother reiterated in the follow-up interview that the child is doing better than before and the same woman had also explained the preparation technique to a neighbor.

The two other groups (Bassin Zim and Tierra Muscadi) we had worked with were quite heterogeneous with respect to the age of the youngest child, the age of the women themselves, and the number of children they had. It is recommended that future recipe trials should be conducted with as homogenous groups of women as possible, at least ensuring that women with children of the same age group are addressed at the same time.

## **6.3 Nutritional quality of the complementary foods**

Our analysis of the nutrient content of the currently fed complementary foods and the modified recipes is based on current WHO recommendations for complementary feeding (Dewey and Brown 2002). The ability of the complementary foods to meet the requirements for infants at different ages is assessed in terms of energy density as well as micronutrient density (particularly iron, zinc, and vitamin A). The analysis was done using a software program called Food Processor 7.1 (ESHA) and utilized USDA food composition values.<sup>6</sup>

### ***6.3.1 Energy density***

The current WHO recommendations suggest that breastfed infants between 6 and 8 months of age should receive at least 356 Kcal/day from complementary foods (Dewey and Brown 2002). For 9-11-month-old infants, energy from complementary foods should be 479 kcal/d and for 12-23 month-old children, 772 kcal/d. These guidelines are based on children receiving average amounts of breast milk at each age. If infants and young children consume more or less breast milk than average, their energy requirements from complementary foods will differ accordingly. These recommendations also assume good maternal nutritional status and adequate breast milk intake and composition of breast milk.

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<sup>6</sup> Calculations for the wheat flour gruels used nutrient composition values for non-fortified wheat flour since the levels of enrichment of wheat flour in Haiti are unknown.

The number of times infants and young children should be fed complementary foods depends on the average energy density of their diet (kcal/g of main complementary food) and the amount they consume at each feeding. The recently developed “Guiding Principles for Complementary Feeding of the Breastfed Child” (PAHO/WHO, in press) recommend a minimum energy density of 0.8 kcal/g. Children fed diets of lower energy density have to be fed more often than those who are fed diets of at least the minimum recommended energy density, and/or they have to be fed larger amounts at each feed. Given their limited gastric capacity, infants and young children may be unable to consume sufficiently large amounts of complementary foods at each feed to fulfill their energy requirements. Similarly, given the time constraints of caregivers in developing countries, it is unrealistic to think that infants and young children can be fed more than 4-5 times per day. Thus, low-energy diets are considered inappropriate for infants and young children in developing countries because they drastically increase the risk that these children will not meet their daily energy requirements. Increasing the number of meals per day is not only unpractical, but it may also displace breast milk intake, and therefore is not recommended.

Taking these factors into consideration, current recommendations are that infants 6-8 months of age should be fed complementary foods 2-3 times/d and 9-11 and 12-24 month-old children, 3-4 times/day. This recommendation, however, only applies to children whose diets provide at least 0.8 kcal/g (PAHO/WHO, in press).

Table 6.2 presents the energy and nutrient density (nutrient/100 kcals) of the currently fed complementary foods as well as the modified recipes developed during the recipe trials. The first four recipes listed represent the currently fed complementary foods, and the following nine recipes represent the modified recipes. Note that all recipes, including non-enriched one all meet the minimum requirement of 0.8 kcal/g. The salt cracker gruel has the highest energy density of all complementary foods (except the millet snack), while the bread soup, wheat flour gruel and the improved mashed plantain preparations have the lowest energy density. It is interesting to note that the original recipe of the mashed plantains with fish sauce is actually more energy-dense than the modified recipes. This was due to the larger amount of vegetable oil used to prepare the accompanying fish sauce in the original preparation in Bassin Zim. The two groups that prepared the modified recipes of the same dish in Marmont and Tierra Muscadi added less fat than the original recipe and therefore they have lower energy densities. It may be advisable to retain the amount of fat used in the original recipe to increase the energy density of the improved recipe. It is important to remember, however, that higher energy density resulting from additional oil results in lower density of protein and micronutrients, and therefore the approach should be used cautiously.

Table 6.3 presents the energy and nutrient contents of the different recipes used in the trials by average serving size used at different ages (6-8, 9-11 and 12-23 months). Average serving sizes were assessed for each age group during the discussions that followed each recipe trial. Mothers reported that on average 6 month-old infants usually consumed ½ cup of the gruels or mashed plantain preparations; 9 month-old infants, about ¾ cup; and 12 month-old children, 1 cup. Based on these serving sizes and the energy densities presented in Table 6.2, we computed the number of servings of each preparation that would need to be consumed by children of different ages in order to meet their daily energy requirements (Dewey and Brown, 2002).

**Table 6.2: Summary of energy and nutrient densities of currently fed complementary foods and of modified recipes**

	AVERAGE RECOMMENDED	NUTRIENT DENSITIES (PER 100 KCAL); ENERGY DENSITY IS IN KCALS/G												
		1	2	3	4	1	2	3	4	5	6	7	8	9
	Energy and nutrient densities for 6-8 months infants with average level of breast-milk intake	Salt cracker gruel	Bread soup	Wheat flour gruel	Mashed plantain with fish sauce	Millet gruel with black beans and ground-nuts	Wheat flour gruel with black beans and ground-nuts	Millet snack ( <i>Cham-cham</i> )	Wheat flour gruel with black beans and dried fish	Wheat flour gruel with black beans and sugar	Mashed plantain with pumpkin and fish sauce	Wheat flour gruel with black beans, sugar and oil	Mashed plantain with pumpkin and fish sauce	Addition of an egg to the wheat flour gruel
		Bassin Zim	Bassin Zim	Bassin Zim	Bassin Zim	Bassin Zim	Bassin Zim	Bassin Zim	Marmont	Marmont	Marmont	Tierra Muscadi	Tierra Muscadi	Tierra Muscadi
Energy density (kcal/g)	<b>&gt; 0.8<sup>a</sup></b>	2.44	0.87	0.90	2.1	0.96	0.97	4.17	1.55	1.28	0.80	1.11	0.87	1.36
Protein (g)	<b>1.0</b>	1.58	2.5	1.55	1.08	2.77	2.41	3.09	3.66	2.63	1.74	2.75	2.64	3.94
Vitamin A ( $\mu$ g RE)	<b>31</b>	0	13.02	0.03	0.66	0.12	0.12	0	0.19	0.17	46.2	0.21	40.55	42.55
Iron (mg)	<b>7.5<sup>b</sup></b>	0.93	0.72	0.41	0.16	1.35	0.50	1.08	0.61	0.68	0.49	0.73	0.49	0.86
Zinc (mg)	<b>1.6</b>	0.14	0.05	0.13	0.05	0.18	0.26	0.25	0.35	0.28	0.17	0.31	0.24	0.34

<sup>a</sup> Minimum energy density required for infants and children 6-23 months, according to the “Guiding Principles for Complementary Feeding of the Breastfed Child” (PAHO/WHO, in press)

<sup>b</sup> Assuming low bioavailability of iron (Brown, Dewey, and Allen 1998).

**Table 6.3: Summary of the nutritional qualities of currently fed complementary foods and of modified recipes**

No.	Name of recipe	Place	NUTRITIONAL QUALITIES PER SERVING SIZE/NUMBER OF SERVINGS NEEDED <sup>a</sup>									
			per ½ cup (serving size for 6-8 months old infant)						per ¾ cup (serving size for 9-11 months old infant)	per 1 cup (serving size for 12-23 months old child)		
			Kcal	Protein (g)	Fat (g)	Vitamin A (RE)	Iron (mg)	Zinc (mg)	Servings needed	Servings needed	Servings needed	
<b>Traditional recipes</b>												
1.	Salt cracker gruel	Bassin Zim	300	4.7	6.1	0	2.8	0.41	<b>1.2</b>	<b>1.1</b>	<b>1.3</b>	
2.	Bread soup		103	2.6	5.4	13.4	0.75	0.05	<b>3.4</b>	<b>3.1</b>	<b>3.7</b>	
3.	Wheat flour gruel		110	1.7	0.17	0.03	0.45	0.14	<b>3.2</b>	<b>2.9</b>	<b>3.5</b>	
4.	Mashed plantain with fish sauce		228	2.5	17.0	1.5	0.37	0.1	<b>1.6</b>	<b>1.4</b>	<b>1.7</b>	
<b>Improved recipes</b>												
1.	Mille gruel with black beans and groundnuts	Bassin Zim	130	3.6	2.6	0.16	1.75	0.47	<b>2.7</b>	<b>2.5</b>	<b>3.0</b>	
2.	Wheat flour gruel with black beans and groundnuts		125	3.0	2.4	0.16	0.63	0.32	<b>2.9</b>	<b>2.6</b>	<b>3.1</b>	
3.	Millet snack ( <i>Cham-cham</i> )		310	9.6	13.3	0	3.4	0.77	<b>1.1</b>	<b>1.0</b>	<b>1.2</b>	
4.	Wheat flour gruel with black beans and dried fish	Marmont	195	7.2	5.2	0.37	1.2	0.69	<b>1.8</b>	<b>1.6</b>	<b>2.0</b>	
5.	Wheat flour gruel with black beans and sugar		165	4.3	0.3	0.28	1.12	0.47	<b>2.2</b>	<b>1.9</b>	<b>2.3</b>	
6.	Mashed plantain with pumpkin and fish sauce		94	1.6	4.0	43.2	0.5	0.	<b>3.8</b>	<b>3.4</b>	<b>4.1</b>	
7.	Wheat flour gruel with black beans, sugar and oil	Tierra Muscadi	146	4.0	1.2	0.31	1.06	0.46	<b>2.4</b>	<b>2.2</b>	<b>2.7</b>	
8.	Mashed plantain with pumpkin and fish sauce		108	2.9	6.0	43.9	0.53	0.26	<b>3.3</b>	<b>2.9</b>	<b>3.6</b>	
9.	Addition of an egg to the wheat flour gruel		172	6.8	4.4	67.3	0.93	0.56	<b>2.1</b>	<b>2.3</b>	<b>2.7</b>	

<sup>a</sup> Servings needed per day for infants aged 6-8 months to attain the level of energy required from complementary foods, assuming an average intake of breast-milk energy. Total energy requirement is based on new U.S. longitudinal data averages plus 25% (2 SD) according to Dewey and Brown (2002).

Findings are presented in the last three columns of Table 6.3 for infants and children 6-8, 9-11 and 12-23 months old, respectively. Note that all calculations presented in this table are based on assumptions of average energy intake from breast milk. As expected, gruels of greater energy density would require a smaller number of feedings per day, while the lower-density preparations would require greater feeding frequency. The salt cracker gruel, for example, which has the highest energy density, would need to be fed only once (1.1-1.3 times depending on age), whereas while the bread soup, wheat flour gruel and the improved mashed plantain preparations, which are of lower energy density, would have to be fed more than 3 times/day. The results also show that even some of the modified recipes would require greater feeding frequency than the age-specific recommendation. For example, both improved mashed plantain recipes would have to be fed to infants 6-8 months more than 3 times/day in order to meet energy requirements, while current recommendations at this age are for a feeding frequency of 2-3 times/day. This means that the mashed plantain recipes, if prepared according to the recipe trials, would have to be fed in slightly larger amounts than the average ½ cup at this age. From 9 months of age, none of the preparations exceed the recommended feeding frequency of 3-4 times/day (except preparation No. 6, which is borderline among 12-23 month olds with a required feeding frequency of 3.8). So, in general the feeding frequencies required for children fed the current or improved preparations are not excessive, and thus, it appears that energy density of commonly fed complementary foods in this population is generally acceptable.

Relative to cost, the cheapest improved preparation is the wheat flour gruel with an added egg. This recipe is cheaper than adding black beans and dried fish, or black beans and sugar to the wheat flour gruel, and is clearly cheaper than all preparations that include a source of fish. In terms of acceptance and energy density, this is also a very promising preparation for children at all ages. Even if the fish preparations are more expensive, the unique nutrient composition of fish is worth the effort of trying to promote its use, at least once or twice a week if families can afford it. Further exploration of the availability of chicken or other small livers, which may be more affordable than larger livers, should be pursued.

### ***6.3.2 Protein, vitamin A, iron, and zinc density***

In addition to assessing energy density, it is also critical to evaluate the protein and micronutrient density of the complementary food recipes. In particular, vitamin A, iron, and zinc are critical micronutrients for the growth, development immunity, and health of infants and young children. The micronutrient density of complementary foods is usually expressed in terms of amount of the micronutrient per 100 kcals of the complementary foods. Table 6.2 provides the average densities of selected nutrients in the recipes, compared to the average recommended micronutrient densities of the recipes. This is done only for infants between 6-8 months of age, as an illustration.

The data presented in this table show that the protein density of all preparations more than met the recommended density for 6-8 months old infants. The modified recipes have a higher protein density than the recipes of the foods that are currently fed. The mashed plantain dishes have the lowest protein densities compared to the gruels, except in Tierra Muscadi, where the group had used more dried fish than in the other groups. The highest protein density was achieved by the addition of an egg to the wheat flour gruel. This gruel was also high in vitamin A because of the addition of the egg. The only other preparations that achieved the desired vitamin A density

were the ones that contained even small amounts of pumpkin to the mashed plantain. None of the other recipes included significant amounts of vitamin A. Again, the possibility of adding some type of liver to the diet would greatly help increase the vitamin A intake of these infants, as well as the promotion of intake of non-citrus orange-colored fruits when they are in season.

Iron and zinc densities—known to be “problem” nutrients in infants and young children in developing countries who are fed non-fortified foods—are tremendously inadequate in all our recipes, whether traditional or improved. Although adding an egg to the wheat flour gruel almost doubled the iron and zinc content of the usual recipe, and adding dried fish to the wheat flour and bean gruel increased its zinc density, iron and zinc densities of the modified recipes were still grossly inadequate. Note that the recommended iron densities used here were for diets low in bioavailable iron because Haitian infants have a low intake of bioavailable heme iron (from animal sources), an apparently low intake of promoters of absorption of non-heme iron such as ascorbic acid (because of their low intake of fresh fruits and vegetables), and a high intake of inhibitors of non-heme iron (e.g., phytates from plant-based foods).

Thus, it appears that it is extremely difficult, even from the modified enriched complementary foods, to supply enough iron and zinc to meet the iron and zinc requirements of Haitian infants and young children. Animal products such as liver and dried fish and other meats are possibly the best candidates to increase the concentration of bioavailable iron and zinc in the diet, but the amounts of these foods that infants usually consume are less than needed to supply adequate iron and zinc. The donated Wheat-Soy Blend (WSB) being distributed through World Vision’s program is fortified with iron and zinc and is likely to provide larger amounts of these nutrients than the foods currently used to prepare gruels. The potential of donated commodities to contribute to closing the iron and zinc gap for infants and young children in Haiti is discussed below.

One thing to be noted about the foods prepared for the infants and young children is that they all contained extremely high levels of sodium. The recommended intake of sodium for infants under one year of age is only 80 mg/day (Fomon 1993), while all the foods prepared contained between 690 and 2,050 mg of sodium per cup. The potential danger of excessive sodium in infants’ foods is related primarily to its role in increasing the susceptibility of infants to dehydration. However, the levels of sodium in the body also depend on other factors such as water intake and the implications of the seemingly excessive levels of sodium in these Haitian infant foods will have to be further evaluated.

#### **6.4 Possible nutritional contribution of WSB**

Our recipe trials were conducted in program areas where distribution of the donated foods for children (i.e., the WSB) had not begun yet. Therefore, we were not able to explicitly develop recipes using WSB. However, our interviews with program beneficiaries in La Gonâve suggested that the WSB was traditionally used to prepare gruels for the children that were similar to the wheat flour gruel. We have calculated the potential contribution of the WSB to improving the micronutrient content of the wheat flour gruel, based on the assumption that a similar quantity of WSB would be used to prepare the gruel.



Our calculations indicated that substituting the WSB for the wheat flour in the plain wheat flour gruel (original recipe demonstrated in Bassin Zim) would add substantial amounts of micronutrients to the diets of the infants and children. Specifically, substituting the WSB for wheat flour would increase the protein density to 3.26 grams/100 kcals, the vitamin A density to 106 RE/100 kcal, the iron density to 2.7 mg/100 kcals, and the zinc density to 0.78 mg/100 kcals. Although this will contribute to more than meeting the recommended protein and vitamin A densities, it will still not completely fulfill iron and zinc requirements. Thus, recipe trials with the WSB will be pursued, and possibilities of further increasing their iron and zinc densities with other ingredients will be explored.

Another aspect that makes WSB attractive for developing special complementary foods for infants and young children is the fact that the WSB gruel was not much appreciated by adults. This suggests that the WSB gruels could in fact be promoted successfully for infants and children under 2 years of age as a type of complementary food specially prepared for them using the donations targeted to them by the World Vision program to improve their growth and development. Further recipe trials to assess this will be conducted with the WSB once the distribution starts in the program areas.

### **6.5 Follow-up recipe trials using food aid commodities**

Further recipe trials were conducted in one community (Marmont) in the Central Plateau region to explore the use of donated food commodities to prepare complementary foods for infants. Trials of two gruels and one snack food were conducted using Corn-Soy-Blend (CSB) that had been distributed to program communities. Unfortunately, WSB was unavailable for distribution in the program communities at the time of the follow-up recipe trials and thus, recipes using WSB could not be carried out.

The three recipes prepared with CSB were the following:

- 1) CSB gruel with dried fish
- 2) CSB gruel with sugar and dried milk
- 3) CSB “*Acra*” (a fried snack food)

Detailed recipes of these preparations are available in Annex 6. The feasibility and acceptability of these recipes was evaluated through post-trial tasting and feedback interviews. The 2-3 week follow-up interviews conducted for the previous set of recipe trials was beyond the scope of this set of follow-up recipe trials. However, more detailed information on the use of the donated foods will be obtained during the operations research to be conducted in 2003 and this will provide information related to the adoption of recipes promoted through the BCC program.

### ***6.5.1 CSB gruel with dried fish – Marmont***

#### *Description*

The possibility of using the donated food aid to prepare complementary foods for infants was explored by assessing the feasibility and acceptability of using it to prepare a gruel similar to that prepared with wheat flour. In this case, the only available donated food aid commodity was CSB since this was being distributed in the communities at the time of the follow-up recipe trials. Since CSB is already protein-rich, the discussion with the participants did not focus on options to increase protein density. Rather, the preparation of the gruel with oil to increase energy density and dried fish to increase the micronutrient content was explored. The mode of preparation of this gruel was very similar to all the other gruels.

#### *Post-trial tasting and feedback*

The taste of this salty gruel with added oil and dried fish was appreciated by both the adults and the children in the tasting sessions. The participants reported that they were willing to try this preparation at home as well and that they would attempt to prepare with the same amount of fish as they used during the trials. However, they also indicated that this would depend on the amount of money available to buy dried fish, which would cost 6 Gourdes if used in amounts recommended for the recipe.

#### *Summary*

This recipe was well-liked and can be considered feasible for frequent preparation because of the availability of the donated CSB (or WSB) and oil in the program communities. The only constraint is the availability of household resources to buy dried fish to add to this gruel. There did not appear to be any indication that the CSB flour was perceived as different than the wheat flour traditionally used to prepare the gruel, and this indicates its utility for the preparation of gruel-type complementary foods.

### ***6.5.2 CSB gruel with sugar and milk powder – Marmont***

#### *Description*

CSB was used to test the preparation of a sweetened gruel with added milk powder. Whole milk powder was used, because it is the only type of milk powder generally available in Haiti. The mode of preparation of this gruel was very similar to all the other gruels, and the milk powder was added at the end to the prepared gruel.

#### *Post-trial tasting and feedback*

The taste of this gruel was also appreciated by both the adults and the children in the tasting sessions. The adults liked this gruel more than the salty version, but the children appeared to like both gruels equally. The participants reported that they were willing to try this preparation at home as well but they thought it needed to be cooked for a longer time than during the recipe trial. One of the participants also suggested the option of adding an egg to the portion intended for the youngest child.

### *Summary*

This recipe was well-liked and can be considered feasible for frequent preparation because of the availability of the donated CSB (or WSB) in the program communities. Although powdered milk is expensive in the market (5-6 Gourdes for the small quantity used here), it was not mentioned as a constraint to preparing it at home. The total cost of this recipe would be 7-8 Gourdes, 5-6 Gourdes for the milk powder and 2 Gourdes for the sugar. As with the salty gruel, there did not appear to be any indication that the CSB flour was less acceptable than the wheat flour traditionally used to prepare the gruel, and this indicates that recipes for gruels using CSB can be promoted.

### **6.5.3 CSB *acra* (a fried snack food) – Marmont**

#### *Description*

One of the aims of this recipe trial was to evaluate the utility of the donated CSB to prepare typical Haitian snack foods that could be fed to older infants. “*Acra*” is a popular Haitian snack, prepared by frying a paste made of flour, water and spices, sometimes with meat or fish added to the paste. We explored the preparation of *acra* using the CSB. The participants had not considered this as an option for using the CSB but were very open to trying it. They discussed and prepared a recipe for *acra* that used the CSB, dried fish and spices.

#### *Post-trial tasting and feedback*

The *acra* was well liked by both the adults and the children in the tasting sessions, even though it was the first time that they were preparing this recipe using CSB. They liked the taste of the dried fish in the *acra* and thought the quantity of dried fish was appropriate. Further, the participants considered this fried food a good snack for infants older than 12 months.

### *Summary*

This recipe was well-liked and can be considered feasible because of the availability of the donated CSB (or WSB) and oil (needed for frying) in the program communities. The availability of dried fish was not mentioned as a constraint to preparing the snack, but given previous discussions related to the use of dried fish, it is possible that the price will likely influence the quantity of fish used. At the same time, even if fish is not used, the recipe is nevertheless a tasty, highly energy-dense snack that can possibly be prepared ahead of time for older infants.

### **6.5.4 Other possible uses of donated commodities**

In addition to the follow-up recipe trials mentioned above, a number of other recipe options using donated foods like WSB and CSB were discussed with the recipe trial participants. Some of the suggestions that emerged from this discussion were:

- 1) Adding goats milk to a sweet gruel made of CSB or WSB: Goats are plentiful in the Central Plateau area and some of the group interviews done to explore the possibility of using goat milk in gruels indicated that there are no barriers to this practice as long as the goats yield enough milk.

- 2) Adding a beaten egg to a sweet gruel
- 3) Dumplings (“*boy*”; “*dobrey*”) and salty doughnuts (“*marinade ak hareng*”) made of WSB: The group discussed the possible use of the donated flour type commodities to prepare dumplings and doughnuts. These could be mashed and fed to infants and young children. The discussants indicated that CSB would not be suitable for preparing dumplings or doughnuts because they thought they would disintegrate when cooked in hot water or fried in oil (since the CSB was not a fine flour). However, some participants who had received WSB in the past indicated that it was feasible to prepare dumplings or doughnuts using WSB.
- 4) Providing information on the use of the donated commodities: The women in the discussion group reported that they prepared mostly gruels using CSB and WSB and that it would be good to get more information on different ways of using these commodities. Upon further discussion, the suggestion emerged that food aid recipients should receive instructions not to sieve the flour or remove the less fine particles from it.

#### **6.5.5 Nutritional qualities of recipes prepared using donated commodities**

Table 6.4 presents the energy density (in kcal/g) and nutrient density of key micronutrients (Vitamin A, iron and zinc, per 100 kcal) of the complementary foods prepared with CSB. All preparations met the recommended energy density of  $\geq 0.8$  kcal/g.. The protein and vitamin A densities are also more than met with the enriched CSB. However, the iron and zinc densities are still lower than the recommended densities for these nutrients (although they are slightly higher than with the simulated WSB recipes; see section 6.4). Thus, infants and children fed these foods 2-3 times/day would still fall short of their recommended intake of these key nutrients unless they receive substantial amounts of animal foods or dietary supplements. Data related to the use of animal foods for young children in this population indicate that, although there are no cultural barriers to feeding young children these foods, there are substantial access and availability barriers that will have to be overcome if their iron and zinc requirements are to be met.

Table 6.5 shows that, as expected with energy-dense foods, the number of feedings of CSB-based gruels required for children to meet their energy requirements is well within the recommended age-specific feeding frequencies. The results indicate that feeding the CSB gruels twice a day would meet the energy requirements of infants between 6 and 12 months of age, and 2 to 2.4 feedings (depending on the specific recipe) would be required for 12-23 month old children. It should be noted that infants in all age groups would have to be fed these gruels either more frequently or in larger amounts if they receive less than average amounts of energy from breast milk.

The *acra* is considered a snack food and since we did not have information on how much of the *acra* might be fed to children older than 12 months of age, it was not possible to calculate how much of their energy needs would be met by feeding this snack 1-2 times a day, as recommended. It was also not possible to calculate the true energy density of the *acra* since we did not have an estimate of how much fat was absorbed by the dough when it was fried. The

energy density, calculated based solely on the raw ingredients and not accounting for absorbed fat, is still high at 2 kcals/g. The absorbed fat will add substantially to this energy density and thus to the total energy from the *acra*. Thus, it is possible that if this is fed 2 times/day in adequate amounts, it will make a significant contribution to increasing the total energy intake of the young child. However, this should clearly not be a substitute for other more nutritious complementary foods.

**Table 6.4: Summary of nutrient densities of recipes prepared using food aid commodities**

	AVERAGE RECOMMENDED DENSITY	NUTRIENT DENSITIES (PER 100 KCALS); ENERGY DENSITY (KCAL/G)		
		13	14	15
	Energy and nutrient densities for 6-8 months infants with average level of breast-milk intake	CSB gruel with dried fish (salty)	CSB gruel with milk and sugar	CSB <i>acra</i>
		Marmont	Marmont	Marmont
Energy density (kcal/g)	<b>1.11<sup>a</sup></b>	1.25	1.44	2.00
Protein (g)	<b>1.0</b>	4.9	2.8	6.9
Vitamin A ( $\mu$ gRE)	<b>31</b>	140.5	111	184
Iron (mg)	<b>7.5<sup>b</sup></b>	3.2	2.5	4.1
Zinc (mg)	<b>1.6</b>	0.9	0.7	1.2

<sup>a</sup> Minimum energy density required for infants and children 6-23 months, according to the “Guiding Principles for Complementary Feeding of the Breastfed Child” (PAHO/WHO, in press)

<sup>b</sup> Assuming low bioavailability of iron (Brown, Dewey and Allen, 1998).

**Table 6.5 Nutrient content of recipes prepared using food aid commodities**

N o.	Name of recipe	Place	NUTRITIONAL QUALITIES PER SERVING SIZE/NUMBER OF SERVINGS NEEDED <sup>a</sup>								
			Per ½ cup (serving size for 6-8 months old infant)*							Per ¾ cup (serving size for 9- 11 months old infant)	Per 1 cup (serving size for 12-23 months old child)
			Kcal	Protein (g)	Fat (g)	Vitamin A (RE)	Iron (mg)	Zinc (mg)	Servings needed	Servings needed	Servings needed
	<b>Recipes prepared using food aid commodities</b>										
13	CSB gruel with dried fish (salty)	Marmont	165	8.2	6.8	232	5.2	1.5	<b>2.1</b>	<b>1.9</b>	<b>2.4</b>
14	CSB gruel with milk and sugar (sweet)		194	5.5	2.9	215	4.9	1.3	<b>1.8</b>	<b>1.7</b>	<b>2.0</b>
15	CSB “acra” (snack food; serving size= 30 g)		60	4.15	--	364	2.48	1.13	--	--	--

<sup>a</sup> Servings needed per day for infants aged 6-8 months to attain the level of energy required from complementary foods, assuming an average intake of breast-milk energy. Total energy requirement is based on new U.S. longitudinal data averages plus 25% (2 SD) according to Dewey and Brown (2002).

**6.5.6 Amount of CSB needed monthly to feed target children the average amount of porridge required to meet their daily energy requirements**

We calculated the amount of CSB that would be required for children under 24 months of age if fed the average age-specific amount of the gruel twice a day. For infants 6-8 months old who usually consume approximately ½ cup of the gruel per serving, 3 kg per month would be needed, whereas for 12-23 month old children who consume on average one cup per serving, 6 kg would be required. Thus, the current amount of 8 kg of CSB for the direct ration is sufficient to cover the energy requirements of the target child, assuming that families also invest in additional ingredients to complement the energy content of the gruels. Two liters of oil is also provided by the program, and only approximately 300 ml would be required to prepare the salty CSB gruel twice a day for 6-8 month old infants and 600 ml for the 12-23 month old group. Clearly, these calculations do not take into account the high levels of leakage of these products to other family members. However, they confirm that if such leakages could be controlled, the cost of special complementary foods for beneficiary children would be greatly minimized.

## **7. FOLLOW-UP RESEARCH CARRIED OUT AFTER PRESENTATION OF FINDINGS IN HAITI**

Following the formative research and recipe trials described in the previous pages, three workshops were held in Haiti to present the results of the formative research to various stakeholders. These are described below.

1. First, a workshop held in Port-au-Prince (October 9-10, 2002) presented results of the formative research to key program stakeholders. This workshop was held in two parts: first, the results of the research were presented to key decision-makers in World Vision Haiti, USAID and other USAID Cooperative Sponsors. This was followed by a day-long session of discussions related to the operational details of the preventive and recuperative models with World Vision Haiti, taking into account the results of the formative research that had been presented previously. The workshop also generated a number of issues for follow-up research which are reported in the following section.
2. Second, the results of the formative research were presented to all field supervisory staff in World Vision Haiti (from Central Plateau as well as La Gonâve) and the operational implications of the research were discussed.
3. Finally, the results were also presented at a workshop that included all World Vision field-based employees in Central Plateau (MCH staff, field supervisors, health agents and *colvols*). The operational implications of the formative research were also discussed with the field staff.

The operational aspects of the program implementation will not be presented here as the details of this are still under discussion with World Vision. Further, the exact BCC strategy will be modified as the program development and training evolve. Operational details of the two models as well as the newly developed learning sessions and training guides will be presented in a subsequent report to FANTA.

Details of the follow-up research activities are presented in this section of the report. First, a summary of the topics explored through the follow-up research is presented, followed by a summary of methods used and key findings.

### **7.1 Topics investigated in the follow-up research:**

The following topics were explored in the follow-up research conducted after the first workshop in Port-au-Prince. The rationale for investigating each of these topics is presented along with the results related to each topic, in the next section.

1. Availability and cost of iodized salt in local markets
2. Availability, cost and use of commercial baby foods

3. Perceptions about use of goats milk in complementary food preparations
4. Local methods to keep expressed breast milk cool
5. Availability and use of red meat and liver for infants and young children
6. Perceptions about soaking dried fish in water to desalinate it prior to use
7. Perceptions of the special needs of infants between 12 and 24 months

## **7.2 Methods of follow-up research**

The follow-up research was conducted using group interview methods and recipe trials. The time frame within which the follow-up data needed to be collected did not allow more extensive and in-depth data collection. However, the previously seen concurrence between the data from group interviews and individual interviews in the formative research study reassured us that the group interviews would yield valuable data. Table 7.1 shows the different communities where the follow-up research was conducted, with some details of the composition of the groups as well as the topics that were explored through the follow-up research. In addition to these interviews, information on one of the research topics (special feeding attention for 12-24 month old children) was also obtained recently as a part of the pretesting of messages for the BCC program.



**Table 7.1 Follow up research topics and participants**

<b>No.</b>	<b>Topic</b>	<b>Methods used</b>	<b>Communities where data were collected</b>
1.	<b>Availability and cost of iodized salt</b>	➤ Visits to local markets and interactions with local vendors	<i>Hinche</i> : Madame Brun (Ti-Casse) ; Pablocal (Merehil) ; <i>Hinche Thomonde</i> : Thomonde
2.	<b>Availability and cost of commercial baby foods</b>	➤ Visits to local markets and interactions with local vendors	<i>Hinche</i> : Madame Brun (Ti-Casse) ; Pablocal (Merehil) ; <i>Hinche Thomonde</i> : Thomonde
3.	<b>Use of goat milk in complementary foods preparations</b>	➤ 4 Group interviews with mothers	<i>Hinche</i> : Moruque/Rode, <i>Thomonde</i> : Tierra Muscadi
4.	<b>Local methods of keeping expressed breast milk cool</b> ➤ Identification of local methods used to maintain liquids at cool temperatures	➤ 4 Group interviews with mothers	<i>Hinche</i> : Bassin Zim Moruque/Rode, Marmont <i>Thomonde</i> : Tierra Muscadi
5.	<b>Use of animal foods</b> ➤ Types of meat based preparations for infants ➤ Consumption of liver by infants ➤ Access to and availability of animal foods	➤ 4 Group interviews with mothers	<i>Hinche</i> : Moruque/Rode, <i>Thomonde</i> : Tierra Muscadi  Market visits in <i>Hinche</i> , Merehil, Ti-Casse, <i>Thomonde</i>
6.	<b>Desalination of dried fish prior to use</b>	➤ 4 Group interviews with mothers	<i>Hinche</i> : Bassin Zim. Moruque/Rode, Marmont <i>Thomonde</i> : Tierra Muscadi
7.	<b>Special needs of children 12-24 months old</b> ➤ Possible motivating factors that can be used to ensure that infants 12-24 receive adequate attention and care	➤ 2 Group interviews with mothers ➤ 2 individual interviews	<i>Hinche</i> : Bassin Zim. Moruque/Rode, Marmont <i>Thomonde</i> : Tierra Muscadi

## 7.3 Results

### *7.3.1 Availability of iodized salt in the markets*

Iodized salt was not available in any of the local markets. The local salt available in the markets came from Port au Prince and from Cap Haitien. Iodized salt was found only at the local supermarket in Hinche, which is used primarily by wealthier families in the town of Hinche. The iodized salt available there was imported from the United States and was sold at a price about 20 times higher than that of the non-iodized salt available in the local market. Thus, iodized salt was largely unavailable, and when available, it was unaffordable for a large segment of the population.

### *7.3.2 Availability, perception of, and use of commercial baby foods*

The exploration of the availability and use of commercial infant foods like Gerber or Nourisoy was based on information from HHF (Bette Gebrian, personal communication) that commercial baby foods were often considered ideal foods and were widely used in the Jérémie area. It was suggested that information about the perceived qualities of commercial baby foods could be used to develop motivational messages to promote the use of the enriched local foods.

*Availability:* The only jarred baby foods available in Hinche were Heinz foods at the local supermarket in Hinche and some other small shops. These foods were not available at the local daily or weekly markets. The foods were primarily fruit purées and the vendors reported that these were the most popular baby foods. The cost of these foods is prohibitive for most rural families, but it is likely that these foods are viewed favorably because of their cost and other associated qualities.

*Perception & use:* We explored perceptions about commercial baby foods like Gerber in all four communities where follow-up interviews were done. Gerber was well-known in all communities, but few women had used it for their infants. This was mainly due to the cost, since the jarred baby foods cost between 13 and 16 Gourdes per 4 oz jar (approximately \$0.50). Further it was not available widely and could be found only in the expensive supermarkets or shops in either Hinche or Thomonde.

The interviews related to perceptions of the value of Gerber (or other commercial) infant foods provided a number of ideas that can be used to promote local enriched foods that could be compared to the commercial foods. For instance, the Gerber foods were considered to be especially good for the infants (“bon bagay pou timoun”), to promote growth of the infants (“li gwosi timoun nan”), to protect the infants from illnesses (“li pwoteje timoun nan”). In addition, the foods were valued for their ease of preparation and hygienic qualities (“pa gen mikwob”). In those groups that were familiar with the recipe trial process, the women were enthusiastic about comparing the enriched gruels as well as the mashed vegetable preparations to the commercial baby foods in order to promote them. The groups that were not familiar with the recipe trial process misinterpreted this discussion as the promotion of commercial baby foods. This suggests that in fact, the promotion of enriched recipes, by comparing them to commercially prepared valued foods, should be done with great care.

### ***7.3.3 Use of goat milk***

World Vision has been distributing goats to its beneficiaries in some parts of the Central Plateau over the last few years. Based on this, we explored perceptions about the use of goat milk for infants. In all sites, goat milk was perceived as being a “rich” food and good for infants. In fact, in Bassin Zim, the interviewees reported that they would dilute a cup of goat milk with half a cup of water since it was so much thicker than cow milk. All of the interviewees thought it would be appropriate to add goat milk to gruels and other preparations for young infants and also to feed infants goat milk itself. In fact some of them were already doing this.

The problems related to the use of goat milk were, firstly, that it was not available for sale in the markets and, secondly, that it was not used when there were problems with the goats themselves (for instance, if the goats were sick or were not producing enough milk). In two interview sites, the participants reported that the goats themselves were not getting enough to eat because of the lack of greenery in the areas.

Our results indicate that contrary to our expectations goat milk was in fact perceived as a rich food that was good for infants and children. The restrictions to its use were related more to the availability of goats and their health rather than to cultural barriers to the use of the milk, either on its own or mixed into gruels or other preparations. The BCC program can thus safely promote the use of goats milk for children in both the preventive and recuperative program.

### ***7.3.4 Local methods of keeping liquids cool in the absence of refrigeration facilities***

The literature on the optimal duration of storage of expressed breast milk (Hamosh *et al*, 1996; Igumbor *et al*, 2000) suggests that in the tropical temperatures commonly seen in rural Haiti, breast milk should be stored at room temperatures for a maximum of 4-6 hours, rather than 8 hours. These results were met with apprehension by the program stakeholders in Haiti as current programs promote the storage of expressed breast milk for up to 8 hours and use this as an incentive to promote the practice of using expressed breast milk. It was felt that dropping the ideal storage time to 4-6 hours would create confusion since Haitian women are often away from the home for more than four hours. An alternative was to investigate local methods of keeping things cool in situations where there was no refrigeration available. This would allow programs to continue to promote the storage of expressed breast milk for up to 8 hours, with a conditional statement about the ambient temperature and ensuring that the breast milk was kept as cool as possible.

We conducted interviews in all four sites to find out about methods that were used by the communities to keep things cool when the ambient temperature was too warm. The results showed that the communities had indeed devised innovative methods of keeping liquids cool. In homes where the floor was made of earth, a small trough was dug that was then dampened with water. The liquid to be kept cool was then put into a earthenware container called a “canari” and this was then placed in the cool, damp trough. In homes with a cement floor, it was reported that a small trough was made in the kitchen at the time of construction and that this was dampened as needed to keep the canari cool.

Some other alternatives reported were to put the container with the liquid into another one filled with water, or to put it into a Thermos flask that contained cool water. However, it appeared that

the use of the canari was the preferred option to keep things cool. The participants in one of the sites, however, also reported that it was increasingly difficult to find good earthenware canaris in the market as most people used plastic containers. Those that were available were too expensive (about 100 Gourdes) and of poor quality, according to the interviewees.

### *7.3.5 Use of animal foods*

Following previous findings that there were no real cultural barriers to feeding young children meats or organ meats, we further investigated the different ways in which meat and liver were fed to infants and young children. Our previous work had investigated perceptions related to feeding organ meats, under the presumption that organ meats are usually cheaper and more accessible for poor families. However, the interviews revealed that in fact, the use of organ meats was limited by low availability and poor access. Thus, we decided to explore in this follow-up research other types of meat, in addition to organ meats. More specifically, the aim was to investigate the availability in local markets of meat and organ meats sold in small amounts and at more affordable prices than entire animals or organs for example.

#### *Perceptions and use of meat for infants*

Interviews on the types of meat fed to young children were conducted in Moruque and Tierra Muscadi. The data from both sites show that chicken and goat were considered most appropriate for young children. In one place (Moruque) beef was considered too expensive and it was also reported that it could cause illnesses, and therefore was not consumed much. Pork was not considered appropriate for children because the participants felt that it did not contain any vitamins.

The types of preparations that contained meat and were felt appropriate for young children included soup (*bouyon*), meat sauce (*sòs vyann*) and mixed vegetables cooked with meat (*toufe legim*). The soups included vegetables and starches and were often mashed and passed through a strainer and only the strained portion was fed to the infants using a baby bottle, from about 7 or 8 months onwards. We investigated whether what remained in the strainer could also be offered to the infant and did not encounter any strong resistance to this, although some participants felt that all that was “good” had passed through the strainer into the soup liquid. They felt that it would be good to mix in some of the strained broth with what was left in the strainer to feed it to the child.

Meat sauce was prepared using spices and tomato paste and sometimes potatoes or other starchy vegetables. The meat itself is well cooked and mashed into the sauce which is then served with mashed plantains or cooked cornmeal. Another preparation using meat included mashed vegetables cooked with meat (*toufe legim*). With this recipe as well, the meat is well cooked and mashed into the preparation.

With all the meat preparations, it appeared that these could be fed to children beginning at about 7 or 8 months of age. The preparations where meat was mashed well were sometimes made specially for the child, but these could also be consumed by the entire family. Once the infant reached the age of 12 months or had teeth, the participants reported that they could sometimes give the child a small piece of meat from the family meal. For those recipes where the meat was prepared specially for the infant, it was reported that the quantity used increased with child age --

from a piece that cost about 5 or 10 Gourdes for a 7-8 month old child to a piece for about 15-20 Gourdes for a 12 month old child. The quantities of meat available for this amount of money were investigated in different local markets (reported below).

Overall, it appears that there are a variety of meat-containing preparations that can be prepared specifically for the young child, even though all of these may also be prepared and consumed by other family members. A challenge for the BCC program will be to encourage both the preparation of these foods and the consumption of the meat in the preparations by the child, rather than only the broth from the soup or the sauce/mashed vegetables without the meat.

#### *Affordability and use of liver*

Information on the use of liver was also obtained from the interviews in Moruque and Tierra Muscadi. The findings from Moruque showed that children could be fed either chicken or goat liver. In Tierra, goat, beef or chicken liver were fed to children. Chicken liver was not sold in the markets in either site and was only fed when an entire chicken was used in the home. The participants also reported that a number of organ meats were called “liver” and organs like the lungs and heart were often sold using the term “foie” (meaning “liver”). Liver itself was called “foie dur”.

The preparations using liver included a sauce made of mashed liver or a soup. The sauce was fed along with mashed plantains and was made specially for the child as it was too expensive to buy liver for the whole family. However, the adults and other members often taste the liver preparation made for the child. Also, in both places, this was prepared very infrequently, even though women reported that they could possibly prepare a piece of beef liver that costs 5 Gourdes 2-3 times a month. In Tierra Muscadi, goat liver was not available for purchase by the piece and the whole liver was expensive (75 Gourdes). In Moruque, pieces of goat liver costing 5 Gourdes were available.

In summary, this set of interviews about the affordability and use of liver for children revealed very similar findings as the previously reported results. Although liver is acceptable and considered good for infants and young children, its use is severely limited by its high cost and lack of availability in small, affordable amounts.

#### *Availability of meat and liver in local markets*

Visits to local markets in Hinche, Thomonde, Merehil and Ti-Casse were conducted to evaluate how much meat and liver could in fact be purchased for the amounts of money that women had indicated they would be willing to spend. Table 7.2 shows the results of the market studies and indicates that there was a large variability in the amounts that could be bought for either 5 or 10 Gourdes. For beef, the quantities available for 5 Gourdes varied from 50g in Hinche to 190 g in Merehil. Similar variability was seen in the prices of goat meat and beef liver between Merehil and Hinche. The market studies also showed that pieces of chicken were not available for sale, and liver was unavailable in one of the local markets. One of the reasons for the large discrepancy in amounts could be related to the location of the markets where they are sold. For example, Hinche and Thomonde are large markets with easier access from the main road and cover a larger population pool. Therefore vendors can sell less meat for the same amount of

money. Merehil, on the other hand, is a large market but is not easily accessible due to poor roads. Ti-Casse is a smaller local market where meat and liver are not sold at all.

**Table 7.2. Amounts of meat and liver available for a set price in local markets in Central Plateau**

Market	Smallest piece of beef		Smallest piece of goat meat		Smallest piece of beef liver		Smallest piece of goat liver	
	Price	Quantity	Price	Quantity	Price	Quantity	Price	Quantity
Hinche	5 Gds	50 g	5 Gds	40 g	10 Gds	70 g	5 Gds	35 g
Thomonde	Not sold	Not sold	5 Gds	57g	Beef and goat liver are not sold in pieces ; whole beef liver costs about 150 Gourdes, goat liver about 50-60 Gourdes			
Merehil	5 Gds	190 g	10 Gds	195 g	5 Gds	240 g	Not sold on day of visit	
Ti-Casse	Not sold		Not sold		Not sold		Not sold	

*What would be the cost of using meat or liver to fill the iron and zinc gaps?*

Analyses of the nutrient content of improved recipes (section 6.5.5) revealed that none of the recipes developed during the recipe trials would have sufficiently high iron and zinc densities to allow infants and young children to meet their iron and zinc requirements, if consumed in the average age-specific amounts and recommended frequencies. Even recipes developed using fortified donated food commodities such as CSB had approximately only one half of the iron and zinc densities currently recommended for complementary foods.

In order to determine whether it would be feasible to promote increased intake of meat or liver to fill this gap, we calculated the amounts of these products that would be required to allow young infants to meet their daily requirements of iron and zinc. We selected 6-8 month old infants for illustrative purposes, and assumed that they were consuming the selected gruels twice a day, which is the minimum feeding frequency for this age group. We used the WHO recommended daily intakes for infants consuming average energy from breast milk (WHO 2002). For iron, the recommended intakes are 20.8 g/day, assuming low bioavailability, and for zinc they are 4.1 g/day (no correction for bioavailability is available). The findings presented in Table 7.3 show that iron is clearly the most limiting of the two nutrients, and would require feeding a young infant between 300 and 500 grams of beef (or 150-275 grams of liver) a day in addition to two servings of gruel (1/2 cup each), in order to meet his/her iron requirements. These amounts are very large indeed for such young infants, and are likely to represent an excessively high cost for poor Haitian families from the Central Plateau (30-50 Gourdes). Meeting zinc requirements seems more feasible, both in terms of amounts required and cost (amounts between 19-55 grams and cost between 2 and 5.5 Gourdes). These costs, however, are still significant for poor families and thus, alternative or complementary solutions to enhance the iron and zinc content of young children's diets will have to be identified.

Overall, the results related to the use and consumption of meat products suggest that the main restrictions on feeding meat or liver to young children appear to be price and availability. This is particularly true for liver, which is often not available for sale in small quantities. Our

**Table 7.3. Amounts of meat and liver that would need to be consumed by children 6-8 months old to complement selected gruels fed twice a day<sup>a</sup>**

<b>IRON (mg)<sup>a</sup></b>					
<b>Type of gruel</b>	<b>Amount provided by gruel (if ½ cup is fed twice/day)</b>	<b>Beef</b>		<b>Beef liver</b>	
		<b>Amount needed (g)</b>	<b>Price (using prices for Hinche) (Gourdes)</b>	<b>Amount needed (g)</b>	<b>Price (using prices for Hinche) (Gourdes)</b>
CSB gruel with dried fish (salty)	10.4	312	31	153	22
CSB gruel with sugar and milk (sweet)	9.8	330	33	162	23
Wheat flour gruel with beans and dried fish	2.4	552	55	272	39
Wheat flour gruel with beans and sugar	2.24	557	56	274	39
<b>ZINC (mg)<sup>b</sup></b>					
<b>Type of gruel</b>	<b>Amount provided by gruel (if ½ cup is fed twice/day)</b>	<b>Beef</b>		<b>Beef liver</b>	
		<b>Amount needed (g)</b>	<b>Price (using prices for Hinche)<sup>c</sup> (Gourdes)</b>	<b>Amount needed (g)</b>	<b>Price (using prices for Hinche)<sup>d</sup> (Gourdes)</b>
CSB gruel with dried fish (salty)	3.0	19	2	18	3
CSB gruel with sugar and milk (sweet)	2.6	26	2.5	25	3.5
Wheat flour gruel with beans and dried fish	1.36	47	5	45	6.5
Wheat flour gruel with beans and sugar	0.94	55	5.5	52	7.5

<sup>a</sup> Recommended daily intake of iron: 20.8 mg from complementary foods, assuming low bioavailability of iron and an average intake of breast-milk (Brown, Dewey, and Allen 1998)

<sup>b</sup> Recommended daily intake of zinc: 4.1 mg from complementary foods, assuming an average intake of breast-milk (WHO 2002)

<sup>c</sup> Smallest piece of beef available for 5 Gourdes

<sup>d</sup> Smallest piece of beef liver available for 10 Gourdes

calculations of the amounts of animal foods required to help fill the iron and zinc gaps and their cost suggest that neither meat nor liver are likely to be fed in sufficient quantities or frequencies to meet children's requirements. Dietary supplements and dispersible tablets, spreads or sprinkles might provide a more cost-effective solution to meeting the needs for these micronutrients. The feasibility of using some of these options in the study communities will be explored.

### ***7.3.6 Desalinating dried salted fish prior to use***

Our analysis of the recipes prepared during the recipe trials revealed that many of the recipes contained excessively high amounts of sodium per serving. In addition to the salt added during the cooking, dried fish, which is salted heavily, is also likely to be a contributor to the sodium content of the food. Furthermore, since it is desirable to promote the use of a larger quantity of dried fish in the gruel recipes, it was considered important to evaluate whether it would be feasible to promote the practice of soaking the fish in water to desalinate it before use. This was explored through the group interviews in all four sites.

Our results show that in three of the four sites, the participants already desalinated salted fish by soaking it in water before using it. In the fourth site, the participants indicated that it would not be a problem to desalinate the fish before use, and that this was a good thing to promote through the program. Thus, it appears that the practice of soaking dried fish in water to desalinate is feasible and acceptable to promote through the BCC program.

### ***7.3.7 Perceptions of the special needs of infants between 12 and 23 months***

We conducted a number of interviews to identify factors that could be used to motivate parents to pay special attention to the needs of children in this age group. Data on this topic are available from one group interview in Bassin Zim and a set of interviews conducted during the pretesting of key messages to be promoted through the BCC program.

The interview data from Bassin Zim indicate that the real problem, as perceived by the participants, to giving more care and attention to a child between 12 and 23 months is a lack of resources, rather than a lack of knowledge. The same group also offered some suggestions as to how mothers might be motivated to pay more attention to children 12-24 months old. These included cooking together in groups (where each woman would bring one ingredient) or promoting the need for more attention to children 12-24 months by focusing on the development of the brain at this age.

The data from the pretest interviews showed that the mothers thought that children *should* get more attention and special meals until 2 or even 3 years of age. However, here too, they reported that in reality this was not easily achievable, mainly due to financial constraints. Thus, between 12 and 15 months, the child is likely to be fed the same food as the family and with the same frequency with extra meals/snacks being provided for the child only if it is felt that there are enough resources to do so.

Overall, it appears that the BCC program will have to focus energy on ensuring that children between 12 and 23 months receive enough care and attention. The notion that children do not receive special attention unless there are adequate household resources indicates (a) that families



in this area face severe resource constraints and (b) that there is possibly a lack of understanding that the resources needed to prepare special foods more frequently for young children may in fact be less overwhelming than generally perceived.

Previous research in Bangladesh, also an extremely impoverished setting, has indicated that increasing the dietary intake of infants between 6 and 24 months of age to the required level requires an additional expense of 8% of the household budget, compared to 21% to increase the dietary intake of a lactating woman to desirable levels (Brown, et al., 1993). It is possible that the promotion of simple and cheap, but enriched recipes for complementary foods and snacks for infants and young children can convince parents about the feasibility of preparing special foods for infants. However, in addition to this, the program will have to focus special attention on addressing resource allocation issues in terms that are well understood by the program participants.

## **8. WORLD VISION PROGRAM IMPLEMENTATION**

The purpose of obtaining information on the implementation of the program activities conducted by World Vision in Central Plateau and in La Gonâve was to familiarize ourselves with the operational aspects of the program, with a special emphasis on the educational and behavior change activities currently included in the program. All program activities that included a BCC component or that could contribute useful information to assist in the design of the behavior change communications program were studied. The overall aim was to identify potential delivery points and vehicles for the implementation of the new BCC program being designed by our team in collaboration with World Vision. The three following types of activities were carried out:

- 1) Observations at three delivery points: Rally Posts, food distribution points and mothers' clubs,
- 5) Interviews with program implementers at the local level (health agents and *colvols*),
- 6) Interviews with program users (beneficiaries).

### **8.1 Observations at different delivery points**

#### ***8.1.1 Rally Posts***

The operations of two Rally Posts in Central Plateau were observed towards the end of July 2002. The program activities at both Rally Posts included an education activity at the beginning of the session, as well as immunization and growth monitoring activities. The education component and the growth monitoring activities will be discussed here.

#### ***Education sessions at the Rally Posts***

According to the World Vision implementation plan for the program, the Rally Posts are a primary point of contact for education activities with program participants, and the education sessions are activities to be carried out at the beginning of the Rally Post. Our observations showed that this was indeed the way the Rally Post program was implemented, but because women tended to arrive at different times throughout the morning, the education sessions were in fact conducted with very few women. In the two Rally Posts observed, the education sessions included only 5 and 6 women, respectively, out of a total of 38 and more than 50 women who came to the two Rally Posts observed. Thus, a large proportion of women had no opportunity to participate in the education session.

The two education sessions observed discussed the topic of vaccinations and diarrhea, respectively. However, the topic for the month according to the World Vision calendar was nutrition (three groups of foods). The health agent in charge indicated that because some mothers attended various education sessions, including those at the Rally Posts, the Mother's

Clubs and the community meetings,<sup>7</sup> she preferred to alternate topics between the different delivery points.

The health agent who led the education sessions in the two Rally Posts observed was very animated and tried a number of techniques to open up the dialogue with mothers and to encourage them to participate in the discussions. The nutrition content of the education was accurate, but no visual aids were available to guide the discussion and to emphasize the messages. In order to capitalize on the motivation of the Health Agent to ensure that the communication is really effective, revisiting the organization of the education sessions and counseling at the Rally Posts is essential.

### *Growth monitoring*

The growth monitoring activities appeared to be the most time-consuming of all the activities at the Rally Post. For each child who was weighed, their weight and grade of malnutrition was noted in a World Vision register as well as on their health card. The health agents calculated the child's nutritional status based on the old health card that used the Gomez classification. The new cards have Z-scores, which the health agents reportedly felt less comfortable with than the Gomez classification. A number of children did not have health cards.

After the weighing was done, the health agents informed mothers about their child's nutritional status and/or weight only in some cases. In most cases the mother was not given any information or advice at all, irrespective of whether her child was well-nourished or malnourished. In some cases mothers were told that the child was malnourished, but they did not receive any advice or counseling about what to do to improve the situation. In other cases where the child was clinically malnourished and was detected by the health agent, mothers were advised to take the child to the dispensary. Overall, there was very little individual counseling of mothers based on the nutritional status of the child, which clearly defeats the main purpose of the growth monitoring activities.

It should be pointed out that the atmosphere at the time of the growth monitoring was not very conducive to effective counseling or communication. With a large number of women and children in the area, and children crying as they were being weighed, the ambience was possibly too distracting for the health agent to be able to focus clearly on one case at a time.

### **8.1.2 Food distribution points**

The purpose of observing the food distribution activities was to evaluate the potential for using this venue as well for behavior change communications. Two food distribution points were observed, one in La Gonâve and the other in Central Plateau. The basic protocol for distributing food to program beneficiaries was the same in both settings and appeared to be functioning efficiently. The various controls at different points ensure that the system is not misused. Beneficiaries are first called to the starting point, where their name and beneficiary status is

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<sup>7</sup> Community Meetings are general community meetings held by health agents and/or *colvols* and that are open to all community members (beneficiaries as well as non-beneficiaries of the World Vision Program). Topics discussed include health, nutrition, and the environment.

verified and they are required to sign for the food they will receive. They then move from one commodity distribution point to another to receive each commodity. At the end of the line, a food monitor checks the amounts that they have received and signs their beneficiary card.

In La Gonâve, the food distribution was done per *localité* (zone) and only enough food for 25 pregnant or lactating women and 54 infants was brought to the distribution point. In Central Plateau, the distribution appeared to be more centralized, and food for 179 women and 484 infants was available. At La Gonâve, it is mandatory for the beneficiary or the child's mother to be present for the food to be received, while at Central Plateau this did not seem to be the case. Anyone could come to receive the food as long as they had the beneficiary card with them.

The food distribution point observed in Central Plateau was very crowded compared to the distribution point in La Gonâve and beneficiaries had often been waiting the whole morning for their turn to be called. Also, since it is more centralized than La Gonâve, it is likely that people had traveled over a longer distance to receive their food. From the point of view of controlling and managing the food commodities, the setting in Central Plateau appeared more efficient but from the point of view of program participants, it implied longer travel distances and longer waiting times for the food.

Given the generally distracting and crowded atmosphere, attempting to hold an educational session or counseling with individuals or groups at the food distribution points would probably not be an efficient way of ensuring effective communication. However, the structured progression of beneficiaries through the food distribution system could make it possible to distribute brochures or handouts to beneficiaries based on their child's current age and health status.

### ***8.1.3 Mothers' Clubs***

The World Vision program uses Mothers' Clubs (*clubs de mères*) as a way of bringing women together in a group setting to discuss issues related to health, hygiene, nutrition, or the environment. These clubs are held at least once a month and are currently implemented primarily under World Vision's Area Development Program (ADP) in La Gonâve and parts of Central Plateau. Since it is planned that the same type of forum will be used in the areas where our evaluation will be conducted, it was felt that the structure and function of the mothers' clubs was important to understand from the point of view of their actual (and potential) role in behavior change communications. Thus, the IFPRI-Cornell research team did observations of six mothers' clubs, four on La Gonâve and two in Central Plateau.

The mothers' clubs were held in a variety of locations, including the WV health center and a participant's home, and they were facilitated by the health agents. They lasted about 30 minutes, with a range between 20 and 45 minutes. The attendance at the clubs ranged from between 11 to 30 women, sometimes accompanied by their children and, in rare situations, by their husbands. Each discussion session started with a prayer and ended with a thematic song based on the discussion topic for the day. The time in between was spent explaining the topic of discussion for the day and discussing with mothers to ensure their understanding. The topic discussed was the "topic of the month," as defined by the World Vision calendar.

In all cases, the set up of the discussion group, which used classroom-like arrangements, was mostly inappropriate for effective BCC and, in addition, all sessions were based on a lecture-type approach to teaching. The health agents, however, did their best to animate the group and to get mothers involved in the discussion. For instance, they repeated the issues that were discussed a number of times, and asked questions to the group and to individual women to motivate them to participate. Some health agents also used models and examples to explain concepts like the concept of a balanced diet as taught in Haiti (i.e., the three groups of foods, which are compared to the three stones needed to cook over a fire). The design and format of the sessions, however, with their focus on instruction rather than discussion, limit the opportunities to engage the women fully.

Most of the health agents used their own notes or the CARE Riches guide as a reference manual either before or during the discussion. In two of the discussion groups on La Gonâve, the health agents used flannel cards with pictures of foods on them to discuss the three food groups. In most cases, however, the health agents did not have any materials to assist the process of communication. They indicated that they would appreciate having such materials made available to them in the future.

In summary, as with the Rally Posts, the health agents who chaired the mothers' clubs were seen to be motivated and knowledgeable about the theoretical aspects of the topics they discussed with mothers. They were, however, insufficiently trained in the use of contextual and local examples that would help to engage women in the discussion and would bring the topics of discussion into the context of the women's daily lives. Also, having an education session designed in the format of a lecture in a classroom-type of setting is possibly not highly conducive to adult learning. Also, the duration of the mothers' clubs may also be too short to really engage women in a discussion and to work out behavioral solutions to health and nutrition issues faced by the communities.

## **8.2 Utilization of program services by beneficiaries**

Interviews were conducted with 10 program beneficiaries, 6 in Central Plateau and 4 on La Gonâve. These interviews were conducted to obtain information on the utilization of program food commodities and educational services by the beneficiaries.

### ***8.2.1 Food rations***

Our interviews were focused specifically on the use of the food rations and the time that the food rations lasted. The food commodities distributed through the World Vision program include the following:

- Soy-fortified bulgur (SFB) for pregnant and lactating women,
- Wheat-soy blend (WSB) flour for infants and children,
- Lentils,
- Oil.

The distribution in Central Plateau has been primarily for pregnant and lactating women, whereas in La Gonâve, households have been receiving rations for malnourished children between the ages of 24 and 59 months and for all children between 6 and 23 months of age.

We found that in general, most women prepared the same dishes using the food rations. SFB was usually cooked with the lentils or other beans in the same fashion as the Haitian dish of rice and beans. Other uses included cooking it separately and serving it with a sauce made of the lentils or to use it for porridge. The WSB was used primarily to make a gruel similar to the wheat gruel described in the recipe trials (Section 6). One woman had used it to make dumplings that were added to soups and another had used it to make a fried snack (“*marinad*”). One woman added sugar to the WSB and the children consumed this powder as a snack, like the *cham-cham*.

Interviews in La Gonâve raised some concern about the use of SFB because three of the four women interviewed mentioned that they usually washed the SFB in bowls and threw away the yellowish particles (the soy portion) that floated at the top. This was not common in Central Plateau, where only one of the six women interviewed indicated that they threw away the soy portion. In this area women mentioned that they had learnt (from their health agent or at the school canteens) that it was important not to throw away the yellow particles in the SFB.

We also asked program beneficiaries if they had ever sold any of the food they received in their monthly ration. Only two women confirmed that they had sold some of their food ration and the reason they gave was that they needed the money to purchase other items such as sugar, milk, and other items needed for cooking the foods received in the rations.

In general, the foods were highly appreciated by the beneficiaries with regard to their quality, taste, and cooking time. The lentils were particularly appreciated because they took less time to cook than local beans. Beneficiaries reported that the WSB did not taste like the white flour normally used for the gruels, and some of the adults reported that they did not like the taste of the WSB gruel. However, overall, it was reported that children did consume it. Only mothers in Central Plateau, where the distribution of WSB had started only this year, insisted that most of children did not really enjoy the taste of the gruel made with WSB but they indicated that children did eat it anyway. Interestingly, the mere fact that adults do not particularly like WSB and that children do tolerate it makes it an attractive donated food because it is more likely to reach its targeted beneficiaries (infants and young children) than a more popular food like oil or lentils, which ends up being shared among all family members.

The SFB was in most cases consumed in two weeks, along with the lentils and the vegetable oil. Three of the five households that had received WSB for a child reported having used it all within two weeks, whereas the ration lasted for one month in two other families. In two households, the gruel made of WSB was fed to the children only, whereas in the others the WSB was prepared for the whole family. One of the two households where the ration lasted for one month had received a double ration because they had two under-five malnourished children.

### **8.2.2 Program health and education services**

The 10 women interviewed were regular attendees at Rally Posts. This was to be expected because some of the interviews were conducted at the food distribution points, and program beneficiaries cannot receive food benefits without having attended at a Rally Post. In fact, two women mentioned specifically that the food is an incentive for them to attend the Rally Post. Most of the beneficiaries interviewed were also regular attendees at Mothers' Clubs. Reasons reported by a few mothers for not attending the Mothers' Clubs were that they were held too far away from their home, or that they did not have substitute childcare. All the mothers who attended the Mothers Clubs meetings mentioned (without being probed for it) that the club meetings were held close to their homes, suggesting that distance and location of the club meetings is an important determinant of regular attendance.

Without exception, the women indicated that they were interested in knowing more about health in general, as well as about child health and how to care better for their children. When asked about potential venues for disseminating more information to them, they mentioned the Mothers' Clubs or other women's groups close to their homes, or home visits from health staff. Additionally, all the women cited members of the formal medical establishments (including program health agents and nurses) as their primary sources of information on health and nutrition, suggesting that these are highly valued and respected sources of information. This is certainly encouraging for the program, but at the same time, it puts the onus of responsibility on the program planning and training process to ensure that health agents and program nurses are trained well enough to be able to address people's questions and to negotiate workable solutions with them. Further research related to these aspects of program utilization will be conducted as part of the program operations research that is planned for Years 2 and 3 of the larger IFPRI-WV-Cornell evaluation project.

### **8.3 Roles and responsibilities of health agents and *colvols***

In most behavior change communications programs, the contact between the program and community is established through program frontline workers. In the case of World Vision, these are health agents (called *agents de santé*), "*colvols*" (program volunteers), and mother assistants. Health agents are part of World Vision staff and receive a monthly salary. *Colvols* are community volunteers, whose primary responsibility is to assist the health agents in their duties, and they receive only a small monthly incentive from World Vision. Mother assistants are also community volunteers but they are not remunerated at all by the program. Their duties are also to assist the health agents as well as the *colvols*.

Interviews with program staff were carried out to obtain information on the roles of different program staff members and to understand their responsibilities and time allocation. Five individual and one group interview were conducted with a number of health agents and *colvols*, both in Central Plateau and La Gonâve. The interviews sought information about their main responsibilities, activities, and time allocation. They were also asked to provide their opinions and perceptions regarding World Vision's plan to strengthen and increase the educational and behavior change component of the program.

### **8.3.1 Main activities**

The health agents and *colvols* facilitate a number of program activities in the communities they serve and the interviews suggest that their activities are fairly uniform across zones. The types of activities include organizing and running Rally Posts, Mothers' Clubs, community meetings, and home visits. In addition, the health agents and *colvols* working in areas covered by World Vision's Area Development Program also conduct activities like meetings with parents of sponsored children and weighing of sponsored children in schools.<sup>8</sup>

The three health agents interviewed indicated that they covered a large program area and that they each conducted between 3 and 5 Rally Posts per month. Each Rally Post session attends between 30 and 50 women. As described in Section 7.1.1, activities at the Rally Posts include a group nutrition education session, growth monitoring, and immunization of children under five years of age. The *colvols* reported having very similar responsibilities as the health agents.

Health agents are also responsible for facilitating the Mothers' Clubs, which can amount to 3 or 4 per week and up to 12 per month. The health agents and *colvols* interviewed also reported conducting home visits to women, particularly those who were registered at the Rally Posts but had not attended during a particular month. One day a month was reserved for home visits, but two of the health agents indicated that they did home visits more frequently, up to three or four times a month.

Finally, health agents are also responsible for organizing and holding community meetings to discuss topics related to health and nutrition. These meetings are general community meetings dedicated to health, nutrition, and the environment, and they can be attended by anyone in the communities, including nonprogram beneficiaries. Although they are scheduled to be held every month, the health agents indicated that the meetings were not always held monthly because they did not have the time or because the communities were not interested.

Thus, both the health agents and the *colvols* have numerous contacts with the communities they work with, and for any one community, they have at least one contact via a Rally Post, one to two via the Mothers' Club, one via food distribution, and one more via the community meeting, for a total of four to five. In addition to this, the home visits that they do on one or more days per month add even more contact points with the communities where they work.

### **8.3.2 Training**

Health agents and *colvols* are supposed to receive an initial training when they begin their employment or work as volunteers with World Vision. This training, however, is only provided to health agents and *colvols* when they are recruited from the community. Most health agents, however, have been trained for three months at a special school (Ecole Normale des Agents de Santé), or are unemployed auxiliaries (nurse assistants with two years of training) who accept an assignment as health agents. In addition to this formal training, health agents and *colvols* receive a monthly training/refresher course in the specific topic that they are expected to address in their

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<sup>8</sup> Privately-funded child sponsorship donations are used to fund Area Development Programs, which are child-focused and multisectoral, and include activities in maternal and child health, agriculture, education, and community grass-root development.



education sessions each month. These refresher courses are facilitated by World Vision's regional coordinators for Maternal and Child Health. The *colvols* indicated that they also received day-to-day training from the health agents they were working with.

All health agents interviewed indicated that they would like to receive more extensive training to improve their skills and ability to help the communities they are working with.

### **8.3.3 Motivation**

The data revealed that the health agents and *colvols* interviewed in this study were highly motivated and committed to fulfill their responsibilities. In spite of not receiving a salary from the program, the *colvols* displayed immense motivation. They alluded to the fact that they were working without a salary but that they still enjoyed their work and the opportunities to help their communities.

When asked for reactions to the possibility of increased contact time with the communities, they all felt this was a good idea but the *colvols* indicated that they would like additional compensation if their contact time and responsibilities were to be increased.

The health agents and *colvols* were asked to speak about issues that they thought should be addressed to improve the BCC program. Three main concerns emerged:

- 1) All workers indicated that they would benefit from having access to more communications materials to use for their education sessions.
- 2) Two of the health agents, one in Central Plateau and another in La Gonâve, suggested that transportation facilities for them (mules, for instance) would help them reach a larger number of people as they worked in communities where the households were very dispersed.
- 3) Finally, all health agents and *colvols* indicated that they would like to receive additional training.

In conclusion, it appears that the World Vision program implementation staff is highly motivated and enjoys the work with communities. At the same time, it is clear that their effectiveness as behavior change agents could be improved significantly by providing them with additional training and education and communication material.

## **9. OPTIONS AND OPPORTUNITIES FOR THE DEVELOPMENT OF A SUCCESSFUL BEHAVIOR CHANGE COMMUNICATIONS PROGRAM IN CENTRAL PLATEAU, HAITI**

This final section reviews the main findings of the study as they relate to the development of a successful behavior change program for the prevention of malnutrition in Central Plateau. Three key aspects of program development are addressed:

- 1) *Specific behaviors to be targeted by the BCC program:* This includes prioritization of a set of behaviors from those identified in our research as being non-optimal and potentially detrimental for the child, and encouraging those behaviors found to be optimal. This process also requires taking into account the factors highlighted in the formative research as potential “facilitators” of behavior change, as well as the factors that may negatively affect the capacity for behavior change. It should be noted that many of these behaviors will be equally important to target in the preventive as well as the recuperative program.
- 2) *Programmatic aspects* that need to be taken into account in designing and planning the implementation of the BCC program. This includes the identification of program delivery points for the BCC and the design and production of specific communications approaches and materials for these different venues, taking into account the existing program structure and activities.
- 3) *Supporting program activities* that are not directly related to BCC but that can make the BCC program more effective by ensuring the availability of household and community resources.

These programmatic options were further discussed at the workshops held in Haiti, in October 2002 and are currently being revisited by the research team in collaboration with the World Vision staff.

### **9.1 Key behaviors to be targeted in the BCC program**

This section provides a summary of feeding practices that were identified in our research as requiring improvement because they depart from current international infant and child feeding recommendations. In addition to this, those practices that were identified as positive practices are also addressed for continued promotion through the BCC program. Table 9.1 summarizes our findings related to child feeding practices in Haiti and contrasts these practices with current recommendations, highlighting both the positive and the non-optimal practices observed in this population. In addition, the table summarizes the factors that may facilitate behavior change for some practices, as well as those that may negatively affect the ability to achieve the expected behavior change.

**Table 9.1 Infant and child feeding practices in Haiti compared to best practices, and constraints and opportunities for behavior change in Central Plateau**

Goals	Practices to promote	Practices in Haiti	Facilitating conditions for behavior change	Issues that may affect capacity for behavior change
<b>A. Infant feeding from 0 to 6 months of age</b>				
<b>Exclusive Breastfeeding (BF)</b>				
<ul style="list-style-type: none"> <li>➤ <b>Ensure exclusive BF</b></li> <li>➤ <b>Prevent bacterial contamination</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ Early initiation of exclusive BF (EBF)</li> <li>➤ Feeding of colostrum</li> <li>➤ BF on demand</li> <li>➤ Avoidance of pre- and post-lacteal feeds</li> <li>➤ Using expressed breast milk if needed</li> <li>➤ Avoidance of baby-bottles</li> </ul>	<p><i>Positive:</i></p> <ul style="list-style-type: none"> <li>➤ BF widely practiced</li> <li>➤ Reported to be mostly on demand</li> </ul> <p><i>Non optimal:</i></p> <ul style="list-style-type: none"> <li>➤ Pre-lacteals and post-lacteal liquids and gruels widely used</li> <li>➤ Complementary liquids and foods introduced at a <u>very young age</u></li> <li>➤ Widespread use of baby bottles</li> </ul> <p><i>Not enough information:</i></p> <ul style="list-style-type: none"> <li>➤ Timing of initiation of BF<sup>a</sup></li> <li>➤ Colostrum use<sup>a</sup></li> </ul>	<ul style="list-style-type: none"> <li>❖ Experienced, successful positive deviant mothers (who EBF) exist in communities</li> <li>❖ Positive deviant mothers had received information from health agents, media, health center staff</li> <li>❖ EBF moms report it is cheaper to EBF and child is healthier</li> <li>❖ No objection to use of expressed breast milk – some mothers do it; but training needed</li> </ul>	<ul style="list-style-type: none"> <li>➤ Water-based liquids and teas given to treat colic (<i>gaz</i>)</li> <li>➤ Gruels given because mothers need to leave home for work or other activities</li> <li>➤ Mothers' time and employment constraints</li> <li>➤ Mothers are concerned about feeling too weak and depleted if they EBF</li> <li>➤ Concept of <i>let cho</i> (prevents mothers from breastfeeding, but seems to be only in the short term)</li> <li>➤ Use of expressed breast milk is rare, milk expression unknown in some areas</li> </ul>
<b>B. Feeding practices for infants and young children 6-24 months of age</b>				
<b>Breastfeeding</b>				
<ul style="list-style-type: none"> <li>➤ <b>Ensure sustained, frequent, on demand BF up to 24 months of age and beyond</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ Continue to BF frequently and on demand</li> <li>➤ Using expressed breast milk if needed</li> <li>➤ Avoidance of baby-bottles</li> </ul>	<p><i>Positive:</i></p> <ul style="list-style-type: none"> <li>➤ Mothers traditionally continue to BF up to 24 months of age</li> </ul> <p><i>Non-optimal:</i></p> <ul style="list-style-type: none"> <li>➤ Widespread use of baby bottles</li> </ul> <p><i>Not enough information:</i></p> <ul style="list-style-type: none"> <li>➤ Mothers may not always BF on demand because of need to leave home for work or other tasks</li> <li>➤ Children whose mothers are frequently absent may not receive sufficient nutrients from breast milk</li> </ul>	<ul style="list-style-type: none"> <li>❖ No objection to expression of breast milk, but training needed</li> </ul>	<p>No need for behavior change, but continue promotion of continued BF up 24 months and beyond</p> <p><i>Potential constraints to frequent, on demand BF:</i></p> <ul style="list-style-type: none"> <li>➤ Mothers do need to leave home to work and/or go to markets</li> <li>➤ Milk expression rarely practiced, unknown in some areas</li> </ul>

<sup>a</sup> Information on this was not available in the formative research study but was gathered through the baseline survey. Data from the baseline survey are currently being analyzed.

(Table 9.1, continued)

Goals	Practices to promote	Practices in Haiti	Facilitating conditions for behavior change	Issues that may affect capacity for behavior change
<b>Complementary Feeding</b>				
<ul style="list-style-type: none"> <li>➤ <b>Provide foods to complement breast milk and to allow adequate intake of energy and micronutrients</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ Feed child special energy- and nutrient-dense foods of appropriate texture and consistency for age</li> <li>➤ From 6 months on, gradually increase amounts and quantity of foods as child gets older</li> <li>➤ Increase number of times child is fed CF as he/she gets older (at least 2-3 times/d for 6-8 mo old; 3-4 times/d for 9-24 mo old)</li> <li>➤ Feed a variety of foods (gradually increase variety with age); animal foods should be eaten daily, or as often as possible</li> <li>➤ Practice responsive feeding, applying the principles of psychosocial care (assisted feeding, interactive feeding style, encouragement to eat, etc.)</li> <li>➤ Continue to BF and feed CF to child during diarrhea; ensure fluid replacement</li> </ul>	<p><i>Positive:</i></p> <ul style="list-style-type: none"> <li>➤ Mothers continue to BF and give liquids when child has diarrhea</li> </ul> <p><i>Non optimal:</i></p> <ul style="list-style-type: none"> <li>➤ Complementary foods (CF) of low energy and very low nutrient-density</li> <li>➤ Variety of foods seems low; animal foods consumed infrequently and in small amounts; low intake of vitamin A fruits and vegetables</li> <li>➤ Frequency of feeding is low (2-3 times/d) and does not seem to increase with age</li> <li>➤ Evening meal not fed to young children</li> <li>➤ No “special” complementary food for child; gruels are consumed by all family members</li> <li>➤ Mothers reduce feeding of CF during diarrhea</li> </ul> <p><i>Insufficient information at this point on:</i></p> <ul style="list-style-type: none"> <li>➤ Psychosocial care (needs to be assessed through observations, which was beyond the scope of the present study)</li> </ul>	<ul style="list-style-type: none"> <li>❖ No cultural barriers to feeding young children animal foods</li> <li>❖ Mothers know that eggs, liver are good for child</li> <li>❖ Mothers usually feed child when they are present</li> <li>❖ Mothers leave prepared food for child when they have to leave</li> <li>❖ Fathers seem involved in childcare and feeding</li> <li>❖ Good recognition of importance of fluid replacement during diarrhea</li> </ul>	<ul style="list-style-type: none"> <li>➤ Lack of availability and access to food, especially animal foods and micronutrient-rich fruits and vegetables</li> <li>➤ Overall poverty, lack of economic resources</li> <li>➤ Poor access to water, sanitation, health services</li> <li>➤ Time constraints of caregivers to prepare “special foods”</li> <li>➤ Belief that evening meal causes indigestion</li> <li>➤ Lack of recognition of importance of high feeding frequency for young children</li> <li>➤ Belief that children are ready for family foods and family meal patterns by 12 months of age</li> <li>➤ Some cultural barriers to feeding young children specific fruits/vegetables</li> </ul>

### ***9.1.1 Exclusive breastfeeding for 0-6 month-old infants***

Breastfeeding is widely practiced in this population and appears to be on demand, at least when mothers are physically with their infant. However, the widespread use of complementary liquids and starchy gruels often fed with a baby bottle to very young infants raises serious concerns about the potential displacement of breast milk, the resulting nutrient inadequacy of the diet, and the excessive risk of contamination. The fact that positive deviant mothers—i.e., mothers who exclusively breastfed—were identified in the communities where the study took place is encouraging. These mothers can be used as “role models” who have successfully practiced exclusive breastfeeding, while sharing similar living conditions as other mothers from the same communities. Interviews with these positive deviant mothers also helped to identify some potentially powerful arguments as to why exclusive breastfeeding is a positive and beneficial practice. Among other things positive deviant mothers reported were that exclusive breastfeeding improved their infant’s health and reduced their health care costs. These ideas can be used to design powerful and locally relevant messages to promote exclusive breastfeeding.

Some aspects that will need to be considered, however, are the specific reasons for which mothers feel the need to feed their young infant various teas and gruels. The BCC strategy will have to address, for instance, the concerns that mothers have regarding colic (*gas*) and the need to use teas to relieve them. Also the fact that mothers and infants have to be separated to allow mothers to pursue their income-generating and other types of activities away from home has to be addressed carefully because it was one of the main reasons reported by mothers to give gruels to their very young infant. It will be important to try and promote the practice of expressing breast milk, with adequate training on how to do it, in order to attempt to overcome this constraint. Finally another aspect that will need to be carefully addressed is the felt lack of energy and the weakness reported by mothers when they “breastfeed all the time,” and their use of liquids and foods to complement breast milk to provide them some relief. It is possible that the quality of maternal diet during lactation is poor, especially because of the cultural dietary restrictions imposed to mothers during the first few months postpartum, and that exclusive breastfeeding truly results in poor maternal nutritional status, fatigue, and low resistance to infections. These aspects will need to be considered very carefully in the design of the BCC program and solutions or alternate strategies to address these potential constraints to behavior change will have to be addressed.

### ***9.1.2 Optimal complementary feeding practices from 6-24 months and continued breastfeeding***

Mothers in our sample report breastfeeding until the child is two years of age or more, as recommended. They also seem to recognize the importance of continued breastfeeding and fluid replacement when the child has diarrhea. Complementary foods, however, are generally low in energy- and nutrient-density, and they include few micronutrient-rich foods such as animal products, fruits, and vegetables. The frequency of feeding also appears lower than recommended throughout the 6-24 months period, probably due in part to the belief that evening meals cause indigestion in young children as well as true economic constraints. There also seems to be no recognition of the need to increase the number of feedings of complementary foods as infants age, and as the expected contribution of complementary foods to their nutrient requirements increases.

Although there appears to be no cultural barriers to feeding infants and young children animal source foods such as eggs, fish, or meat, lack of availability and access to these foods appears to be a major constraint. This was confirmed through the interviews as well as the market studies in the follow-up research. Also because the need for “special foods” for the young child is not well recognized in this population, it is difficult for caregivers to conceive using these expensive products only for the youngest child when all members of the family eat the same meal. Many factors seem responsible for the lack of “special” complementary foods in this population. These include an apparent lack of knowledge of the specially high energy and nutrient needs of infants and young children, the belief that children are ready to consume family foods as early as by 12 months of age, the time constraints of caregivers to prepare these special foods and the lack of overall resources to purchase, prepare, and store these special foods. The BCC program will have to find ways to overcome some of these factors because they are likely to affect the ability of families to adopt the proposed behaviors. The program will also have to address the issue of the frequency and timing of feeding infants and young children. The program will need to provide more information to families about the need to feed infants and young children small, but frequent and nutrient-dense meals and snacks, and will have to identify alternative approaches to increase feeding frequency while taking into account the time constraints of caregivers and other family members.

### ***9.1.3 Promotion of a set of enriched complementary foods identified in recipe trials***

The recipe trials documented the potential of various recipes to increase the energy- and nutrient-density of commonly fed complementary foods. Specifically, the nutrient analysis of the modified recipes showed that both the salty and the sweet versions of the wheat flour gruel with beans had great potential to help infants and young children meet their energy requirements. If these preparations were fed between 2 and 3 times a day (depending on the age of the child and the specific recipe used), in appropriate amounts (between ½ cup to 1 cup depending on age), infants and young children could meet their daily energy recommended intakes. Mashed plantain preparations with fish, prepared with extra oil (as in Bassin Zim), would also be appropriate to meet energy requirements if fed the recommended number of times at each age.

The improved recipes all fell short of meeting children’s iron and zinc daily requirements, however. Because of the small amounts of fish used in the recipes that included fish, even these more expensive preparations did not allow young children to meet their high requirements for these micronutrients. For vitamin A, the addition of an egg to the wheat flour or other gruel significantly improved its content of vitamin A and was not overly expensive. In spite of the fact that recipes including fish were more expensive than other preparations and still did not fill the gap in terms of iron and zinc intake, the unique micronutrient and fatty acid composition of fish still makes it worth promoting, even if mothers can afford it only once or twice a week.

Recipe trials using CSB also showed that in spite of the fortification of the flour, iron and zinc contents were still too low to allow young children to meet their daily requirements, even if consumed with the age-appropriate frequency. Further ways to enrich the diet with bioavailable iron and zinc, such as promoting intake of some minimal amounts of meat products on a regular basis will need to be explored further. Our current assessment, however, is that although there are no cultural barriers to their use in young children’s diets, there are severe availability and access constraints. The amounts of red meat or liver the young infant would have to consume to

meet his/her iron and zinc requirements are also unfeasible (from a gastric capacity point of view) and thus, complementary approaches need to be explored. The feasibility of using dietary supplements such as dispersible tablets, spreads or sprinkles will be assessed.

#### ***9.1.4 Addressing the different models of diarrhea***

Our findings showed that household management of diarrhea (including whether or not families seek care, and which type of care they seek) is influenced by the type of diarrhea the child is thought to have. Thus, the BCC program will have to emphasize the fact that all types of diarrhea need to be taken seriously because they may be dangerous if they continue for more than a few days. Families seem to be familiar with the concept of fluid replacement, and its importance should continue to be emphasized in the BCC program for all types of diarrhea.

#### ***9.1.5 General perceptions about child health and growth***

In addition to the foregoing specific issues for the BCC program, there are also larger issues related to perceptions about child health and growth that the program can address. The research results suggest that families are very concerned about the vulnerability of babies and are actively trying to protect them during the first year of life. However, after the first year mothers and other adults interviewed did not seem to perceive that the young child is still at serious risk of nutritional deficiency. Integrating young children into family meal patterns is a priority for rural Haitian families, possibly due to household resource and time constraints. The communication program will have to place a special emphasis on the need for continued attention to feeding frequency, types of food, and related caregiving behaviors for children between 12 and 24 months of age. The follow-up research revealed that promoting the link between better care at this age and brain development could possibly motivate parents to provide extra care to children in this age group.

#### ***9.1.6 Interactive feeding and psychosocial care***

The present study did not gather detailed information on some of the aspects of the *how* children are fed—i.e., the psychosocial aspects of feeding including feeding style, encouragement to eat, and the quality of mother/child interactions during feeding. Gathering information on these aspects of child feeding requires extensive observations in the homes during feeding episodes, which was beyond the scope of the present research. It is important to note, however, that these aspects will be addressed in the development of the BCC intervention. Box 1 summarizes some best practice feeding behaviors of importance from a psychosocial perspective (Pelto, Levitt, and Thairu [in press]) that could be promoted through the BCC program.

## **Box 1**

### **Some best practice feeding behaviors—from a psychosocial perspective**

(Pelto, Levitt, and Thairu [in press])

1. Feeding with a balance between giving assistance and encouraging self feeding, as appropriate to the child's level of development
2. Feeding with positive verbal encouragement, without verbal or physical coercion.
3. Feeding with age-appropriate, as well as culturally appropriate, eating utensils
4. Feeding in a protected and comfortable environment
5. Feeding in response to early hunger cues
6. Feeding by an individual with whom the child has a positive emotional relationships and who is aware of and sensitive to the child's individual characteristics, including his or her changing physical and emotional states.

### ***9.1.7 Targeting substitute caregivers***

Our study highlighted the importance of alternative caregivers, especially for mothers who work outside the home on a regular basis. Substitute caregivers include fathers, grandmothers, and older siblings, who are often given the responsibility to feed the child when the mother is absent. Thus, it is crucial that the BCC program be directed to all family members and to other adults who may have responsibilities for child feeding and caregiving.

## **9.2 Program implementation issues**

This section addresses each aspect of the World Vision program as currently implemented, and suggests possible modifications to the behavior change communication strategy currently in place at different delivery points. Many of the programmatic suggestions provided below are initial suggestions that will be discussed with World Vision at the workshop to be held in Port-au-Prince in October. These will then be prioritized and feasible program modifications will be incorporated into the preventive BCC model.

### ***9.2.1 Program delivery points***

#### ***9.2.1.1 Rally posts***

A number of program implementation issues were identified that, if modified somewhat, could contribute significantly to augmenting the effectiveness of communication at the Rally Posts. These are:

- 1) Reaching all participants by changing the timing of the BCC session.



In order to ensure that the coverage of the BCC program is high, and that BCC topics are discussed with all program participants, it will be important to ensure that the education/communication part of the program is held at a convenient time for participants. Currently the education sessions are held at the beginning of the Rally Post, when most of the participants have not yet arrived due to their long journey. It might be useful to consider moving the timing of the education session to a later time during the morning, and to consider the possibility of holding more than one education session as required to reach a larger number of participants.

2) Selection of monthly topics and design of discussion sessions.

We found that the health agents addressed different topics at their Rally Posts, although there is usually a theme topic for the month. They reported doing this because some of the participants had already been exposed to the theme of the month at other program venues. However, the sequence of materials to be discussed for one topic could be organized in such a way that messages presented at one distribution point reinforce with different communication techniques the messages on the same theme presented at other program venues. For example, the first education session of the month can be used to introduce a topic, whereas the other sessions can focus on concrete experience and/or problems encountered by participants in relation to the topic, and to identify and discuss feasible solutions. Health agents should be trained on the use of multiple communication techniques to approach the same topic and recognize the potential of this approach to foster behaviour change.

Health agents should also have the autonomy and the necessary technical training to be able to address other topics in situations where a specific issue—say a sudden increase in diarrheal rates during a particular season—has to be discussed without prior preparation. Health agents should also have the necessary background to be able to accurately answer questions from participants about a range of nutrition and health topics.

3) Ensuring that individual counselling occurs along with growth monitoring.

The use of growth monitoring as an educational tool appears to be problematic in the context of the current program model. Our observations show that program workers are too busy weighing, charting, and noting the weight in two different places (a register and the mothers' health card) to be able to pay attention to individual children and to counsel their mother. In situations like this, growth monitoring becomes little more than a record-keeping process, and does not fulfil its role as an education and communication tool to help mothers visualize their child's progress and to develop solutions to tackle growth faltering when it occurs. This problem is common in programs that incorporate growth monitoring in this type of setting and has been widely documented in a number of developing country programs.

Our current plan for the preventive BCC program to be implemented in the Central Plateau is that age-based individual counselling in Rally Posts will completely replace growth-monitoring sessions (IFPRI 2001). Thus, the time that health agents and *colvols* currently spend on weighing, plotting, and recording the progress of a child will be used to counsel mothers on feeding and care practices, based on the child's age and current health status. Although we feel that this alternative is feasible and is likely to increase the effectiveness of the

education/communication activities taking place at Rally Posts, interviews with program beneficiaries suggest that mothers are particularly interested in finding out the weight of their child and his/her progress. Thus, it may be that simple weighing and recording of the child's weight on the health card could still be done (possibly by a volunteer mother or a *colvol*), but that health agents would dedicate a larger portion of their time to the education/communication components of the program and to the age-specific individual counselling of mothers.

#### *9.2.1.2 Food distribution*

Observations at the food distribution points suggest that it is probably not efficient to hold group educational sessions or individual counselling of mothers in this setting, given the distracting and crowded physical environment. However, the structured progression of beneficiaries through the food distribution system could facilitate the incorporation of a system to distribute brochures, counselling cards, or handouts to beneficiaries based on their child's current age and health status. Also, this venue is ideal for informing program beneficiaries about the proper use of the donated foods like the WSB. Participatory recipe trials could be conducted in the program communities using the donated commodities and mothers could be informed about the potential uses of the product for preparing enriched complementary foods for their young child while they are waiting in line to receive their commodities.

#### *9.2.1.3 Mother's Clubs*

The Mothers' Clubs are an excellent setting for group communication and discussions. However, observations of these clubs suggests that there are a number of implementation factors that should be addressed to maximise their potential as vehicles for behavior change communication.

Some suggestions for making the communications strategy more effective at the mothers' club meetings include the following:

- 1) Modify the current teaching and communication approach to ensure effective learning and behavior change communication. Specific suggestions include the following:
  - a. Train health agents and *colvols* in the principles of adult learning so that they can better understand the learning process of adults and be better-equipped with effective communication skills for this type of audience;
  - b. Provide visual communication material for use as an anchor to increase the comprehension and knowledge retention of the topics being discussed;
  - c. Train health agents in providing the group with local and contextual examples to accompany the theoretical aspects of the topics discussed;
  - d. Move from a physical classroom-like setting to a setting that can facilitate an environment of discussion rather than a lecture. Along with this, encourage women to talk about their personal views and experiences at the beginning of each session to facilitate discussion.
- 2) Use innovative, non-classroom-like activities such as participatory recipe trials as an educational activity. Facilitating a recipe trial requires more time on the part of the health agent, but it should be noted that the recipe trial venue can be used for introducing a

variety of educational topics within a context that is very familiar to these women. Also, women who participate in the recipe trials can be encouraged to disseminate information in their communities (this was done successfully by some of the participants in our trials).

- 3) Use the venue creatively to set in place mechanisms that can *support* behavior change. For example, the Mothers' Clubs can be used to set up peer groups to encourage and support exclusive breastfeeding by bringing together women with children of the same age. The use of peer counsellors and mother support groups has proven to be very successful in promoting exclusive breastfeeding in countries such as Bangladesh, Mexico, Honduras, and Guatemala.

### ***9.2.2 Communication materials***

Successful behavior change communication requires the use of visual and audio material to support the behavior change communications initiated by the program staff. The development of successful BCC materials in turn requires the involvement of professional behavior change communications specialists who design and develop materials and messages based on formative research, test them among target communities for their understanding and comprehension, and then produce them in different formats for different audiences.

Suggestions for types of materials that can provide added orientation to the BCC topics being discussed by program staff include the following:

- Counseling cards based on the age and health status of the child that should be used in conjunction with individual counseling sessions.
- Visual materials like posters, charts, and billboards that can be displayed in communities, health centers, and other venues to orient program beneficiaries and community members to various topics that are discussed at BCC program venues.
- Take-home handouts that remind caregivers of the needs of children in different age groups, based on their health status.
- Radio spots that discuss the topics addressed at BCC program venues.

In addition to the BCC materials used for communication between program staff and program participants, there is also a need for developing training materials that can guide and orient program staff to the topics they will discuss. These training materials should provide sufficient technical detail with local contextual examples that enhance the technical understanding of program staff and, at the same time, provide them with the background necessary to communicate well with their audiences and to address problems encountered by the families they interact with.

The IFPRI-Cornell team has gathered BCC materials and training manuals currently in use by various programs in Haiti. These have been examined and ranked for their technical content and their design and communication qualities. Materials designed and produced by Freedom From Hunger for the Haitian context are being adapted to the World Vision program using the results of this formative study. In collaboration with an adult education firm in Haiti trained by Freedom from Hunger as their local service provider, a training plan for using these materials

and improving communication skills of the nutrition educators (supervisors, health agents and *colvols*), is currently underway. Although a number of the communications modules will be the same for the preventive and recuperative program models, the communications strategy, training schedule and the order of discussion of various modules will be different for the two models. The full development of both program models is currently under discussion with World Vision Haiti.

### **9.3 Supporting program activities**

The research on the impact of behavior change programs and on the mechanisms by which maternal education affects child outcomes suggests that knowledge is often not sufficient to ensure adequate impacts on nutrition, health, and development. Specifically, it is the interaction of knowledge with resources that leads to the largest positive effects on child health (Ruel et al. 1992). Thus, in order to maximize potential impact on child health and nutrition outcomes, integrated programs should be implemented, which address behavior change in conjunction with programs that increase household and caregiver access to resources like food, money, and time. All three of these resources are critical to ensure that caregivers and families are equipped to utilize the enhanced knowledge that can come about from a successful behavior change communications program.

The provision of resources to support translation of knowledge into behaviors and child outcomes can be achieved by a variety of supporting program activities. Some examples of supporting program activities include:

- Initiation and support of community childcare initiatives to assist working parents with their childcare responsibilities. This type of initiative may also become a source of income for those mothers who would run the day care centers. Other initiatives could include identifying a safe spot in markets where other adults could take care of young infants when mothers are attending to their markets. This would facilitate exclusive breastfeeding among market women with young infants.
- Provide micro-credit programs to increase resource availability within households and communities.
- Promote food-based interventions to increase the production and intake of micronutrient-rich animal foods and fresh fruits and vegetables; explore the possibility of using some preservation techniques such as solar drying to extend the life of micronutrient-rich fruits and vegetables beyond their season of high availability.
- Promote overall poverty reduction programs and activities to increase access to water, sanitation and health services.

## REFERENCE LIST

- ACC/SCN. *What Works? A Review of the Efficacy and Effectiveness of Nutrition Interventions.* by Allen, L.H. and S.R. Gillespie, SR. ACC/SCN, Geneva, in collaboration with the Asian Development Bank, Manila, 2001.
- Bentley, M.E., K.L. Dickin, S. Mebrahtu, B. Kayode, G.A. Oni, C.C. Verzosa, K.H. Brown. J.R. Idowu. "Development of a nutritionally adequate and culturally appropriate weaning food in Kwara State, Nigeria: An interdisciplinary approach." *Social Science and Medicine* (1991) **33**; 10: 1103-11.
- Brown, K.H., K. Dewey, L. H. Allen. *Complementary feeding of young children in developing countries: A review of current scientific knowledge.* Geneva: World Health Organization, 1998.
- Brown, LV., B.L. Rogers, M.F. Zeitlin, S.N. Gershoff, N. Huq, K.E. Peterson. "Comparison of the costs of compliance with nutrition education messages to improve the diets of Bangladeshi breastfeeding mothers and weaning-age children." *Ecology of Food and Nutrition.* (1993). **30**; 2:99-126.
- Caulfield, L.E., S.L. Huffman, E.G. Piwoz. "Interventions to improve the intake of complementary foods by infants 6-12 months of age in developing countries: Impact on growth and prevalence of malnutrition and potential contribution to child survival." *Food and Nutrition Bulletin* (1999) 20; 2: 183-200.
- Dewey, K.G., K.H. Brown (2002). *Update on technical issues concerning complementary feeding of young children in developing countries and implications for intervention programs.* Geneva: World Health Organization.
- Dickin, K., M. Griffiths, E. Piwoz. *Designing by Dialogue. A program planners' guide to consultative research for improving young child feeding.* Washington, DC: Manoff Group & The Academy for Educational Development, 1997.
- Engle, P., P. Menon, L. Haddad. Care and nutrition: Concepts and measurement. *World Development* (1999).**27**; 8: 1309-1337.
- ESHA. *Food Processor, 7.1.* ESHA Research. Salem, Oregon.
- Fomon, SJ. *Nutrition of normal infants.* St. Louis, Missouri: Mosby, 1993.
- Hamosh, M., L.A. Ellis, D.R. Pollock, T.R. Henderson, P. Hamosh, P. "Breastfeeding and the working mother: Effect of time and temperature of short-term storage on proteolysis, lipolysis, and bacterial growth in milk." *Pediatrics* (1996) **97**; 4: 492-8.
- IFPRI (International Food Policy Research Institute). *Prevention or cure? A comparison of the effectiveness of targeting food supplements to malnourished children compared to universal targeting of children under two in Haiti.* Proposal submitted to the FANTA Project, November 29, 2001.

- Igumbor, E.O., R.D. Mukura, B. Makandiramba, V. Chihota. "Storage of breast milk: Effect of temperature and storage duration on microbial growth." *Central African Journal of Medicine* (2000) **46**; 9: 247-51.
- Kanashiro, H.C., M. Fukomoto, M.E. Bentley, E. Jacoby, C. Verzosa, K.H. Brown. "Use of recipe trials and anthropological techniques for the development of a home-prepared weaning food in the Central Highlands of Peru." *Journal of Nutrition Education* (1991) **23**(1).
- Menon, P., M. Ruel, G. Pelto, J.-P. Habicht. *Review of health and nutrition education messages and delivery system currently used in Haiti, and recommendations for further research*. Report submitted to the USAID Food and Nutritional Technical Assistance Project. Washington, D.C., International Food Policy Research Institute, 2001.
- Menon P., M. Ruel, G. Pelto, Y.-F. Pierre, E. Metellus, A. Ferrus. *A qualitative study of the patterns of infant feeding and care in the Hinche area of Plateau Central, Haiti*. Report submitted to The Food and Nutrition Technical Assistance (FANTA) Project. Washington, D.C., International Food Policy Research Institute, 2002.
- PAHO/WHO (Pan American Health Organization/World Health Organization) . (In press). *Guiding principles for complementary feeding of the breastfed child*. Pan American Health Organization/World Health Organization, Washington, D.C.
- Pelto, G., E. Levitt, L. Thairu. "Improving feeding practices: Current patterns, common constraints and the design of interventions". *Food and Nutrition Bulletin*, in press.
- Piwoz, E. (1994). *Improving feeding practices during childhood illness and convalescence: Lessons learned in Africa*. AED, SARA Project, Washington, DC.
- Ruel, M.T., P. Menon. "Child feeding practices are associated with child nutritional status in Latin America: Innovative uses of the Demographic and Health Surveys." *Journal of Nutrition* (2002) **132**(6): 1180-7.
- Ruel, M.T., J.-P. Habicht, P. Pinstруп-Andersen, Y.T. Gröhn. "The mediating effect of maternal nutrition knowledge on the association between maternal schooling and child nutritional status in Lesotho." *American Journal of Epidemiology* (1992) **135**; 8: 904-14.
- WHO (World Health Organization) (1994). *Focused Ethnographic Study of Diarrhoeal Disease Manual* . Division for the control of diarrhoeal and respiratory diseases. World Health Organization, Geneva.
- WHO (World Health Organization) (2002). *Joint FAO/WHO Expert Consultation: Vitamin and Mineral Requirements in Human Nutrition*. World Health Organization, Geneva.

## ANNEXES

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# 1. Map of Haiti, showing study area





## **2. Interview guides**

### **2.1 Group interviews**

#### ***2.1.1 Lactating mothers of infants 0-6 months***

##### ***General***

Dans la culture haïtienne, quelles sont les étapes que l'on considère comme importantes dans le développement de l'enfant (dans le but de trouver la corrélation entre les groupes d'âge et les critères que les mères utilisent Ex. Enfant commence à manger seule, enfant commence à marcher, à parler, enfant a des dents, enfant peut tenir sa cuillère seule, ect)

Quelle est l'étape la plus importante pour vous dans la croissance de l'enfant de 0-6 mois?

##### ***Colic/gas***

Explorer les perceptions au sujet des gaz et du traitement des gaz chez les bébés

Que font-ils dans ces cas ?

Comment savez- vous que l'enfant a des gaz?

(Si l'on mentionne que le bébé pleure), quelles sont les autres raisons qui peuvent le faire pleurer ? Y a t-il autre chose que vous faites (selon la raison qui le porte à pleurer)?

Qu'est-ce qui peut causer des gaz chez l'enfant?

##### ***Breastfeeding***

*Initiation of breastfeeding:*

Qu'est-ce que vous penser au sujet du colostrum?

Devrait-il être donné ou non aux nouveau-nés?

Pourquoi?

*Exclusive breastfeeding*

Qu'est-ce que vous pensez au sujet de la recommandation: "Let manman sel manje pou tibebe jiska 6 mwa" ?

Investiguer sur comment ils se sentent à ce sujet?

Quels sont les problèmes de pratiquer cette recommandation?

Pourquoi?

Que font les mères si elles pensent que l'enfant a soif ? (concerne la partie : let manman sel manje)

Selon vous, quelles sont les conditions nécessaires pour pouvoir allaiter bien ? (au niveau de la mère : sein, appui psychologique, personnes contactées au cas de besoin de conseil etc.)

Chaque combien de temps donne-t-on au bébé le sein dans la période de 0 à 6 mois?

De quoi cela dépend-il?

Quelles sont les raisons pour lesquelles les mères donnent de la nourriture et des liquides aux enfants de 0 à 6 mois (à différents stades)?

(Ordonner selon l'ordre des réponses)

### *Taking the child along to work*

Dans certains pays, on voit beaucoup de bébés avec leurs mères au marché. Nous ne remarquons pas cela ici. Pourquoi pensez-vous que les mères ne le font pas?

Qu'est-ce que vous pensez qui pourrait arriver si vous emmeniez avec vous votre enfant au marché?

### *Use of expressed breast milk*

Dans certains endroits, les mères pressent le lait maternel dans un gobelet et le laissent pour l'enfant quand elles doivent sortir. Qu'est-ce que vous pensez de cela?

### ***Food prescriptions for lactating women***

(Nous voulons investiguer ici sur les tabous alimentaires pour les femmes allaitantes, force / persistance des traditions, raisons )

Jeu. Présenter quelques cartes d'aliments et demander aux femmes de créer un repas pour une femme allaitante en choisissant parmi les aliments présentés. (Ne pas oublier d'introduire dans la liste des aliments tabous)

Investiguer sur les aliments considérés comme tabous ou comme meilleurs pour la femme allaitante.

Y a-t-il certains aliments ou liquides que vous ne consommez pas parce que vous allaitez un bébé? Pourquoi? (Chercher la raison pour chaque aliment mentionné)

Y a-t-il des aliments ou des liquides que vous pensez que vous devriez consommer (ou consommer davantage) lorsque vous allaitez un bébé? Pourquoi? (Chercher la raison pour chaque aliment mentionné)

Buvez-vous davantage d'eau lorsque vous allaitez un enfant ?

### **2.1.2 Mothers of infants 6-12 months**

#### ***Food rating exercise.***

Présenter quelques cartes d'aliments (15 aliments différents, incluant les oeufs et les abats des animaux) et demander aux femmes de les classer selon qu'elles les considèrent comme bon ou pas bon pour les enfants de 6-12 mois.

Demander aux mères de dire pourquoi les aliments considérés comme bon au # 1, le sont pour les enfants de 6-12 mois. (Ceci permettra de classer les aliments selon la perception et la terminologie des mères Ex. Aliments constructeurs).

Demander aux mères de dire pourquoi les aliments considérés comme pas bon au # 1, le sont pour les enfants de 6-12 mois

Remarques :

Attention spéciale aux oeufs et aux abats

Possibilités de transformer les aliments difficiles à mastiquer (comme la viande)

#### ***General***

Dans la culture haïtienne, quelles sont les étapes que l'on considère comme importantes dans le développement de l'enfant (dans le but de trouver la corrélation entre les groupes d'âge et les critères que les mères utilisent Ex. Enfant commence à manger seule, enfant commence à marcher, à parler, enfant a des dents, enfant peut tenir sa cuillère seule, ect) ?

Quelle est l'étape la plus importante pour vous dans la croissance de l'enfant pendant sa première année (0-12 mois)?

#### ***Child health, illness and diet during illness***

Qu'est-ce qui vous fait dire qu'un enfant est en santé?

Connaissez-vous des enfants qui ne sont pas comme cela?

Qu'est-ce qui vous fait dire qu'un enfant n'est pas en santé? Qu'est-ce que vous pensez qu'il est nécessaire de faire, pour permettre à un enfant de grandir en santé?

Quelles sont les raisons pour lesquelles certains enfants ne sont pas en bonne santé?

Y a-t-il des aliments qui sont particulièrement bon pour permettre à des enfants qui ne sont pas en santé de redevenir en santé?

De quels types de problèmes de santé les enfants de 0 à 12 mois souffrent-ils le plus dans la communauté?

## ***Childcare schedule and scheduling of meals***

### *General*

D'après vous, de quels types de soins un enfant a-t-il besoin au cours de sa première année (0-12 mois) ?

Selon vous, combien de temps dans une journée, une mère devrait-elle passer avec l'enfant dans sa première année? Jusqu'à combien de temps dans une journée peut-elle le laisser avec quelqu'un d'autre (comme des soeurs/frères plus grands ou d'autres personnes) – *ne demandez pas en fonction des heures ! A partir de quel stade/age avec quelle personne, combien de temps, pourquoi*

### *For older infants:*

Comment décidez-vous qu'il est temps de donner à manger à votre enfant ?

J'ai entendu parler qu'on donne généralement à manger aux enfants qui ont 6-12 mois seulement quand les repas pour la famille sont servis. Que pensez-vous de ça ? De quoi pensez-vous cela dépend ? (Contraintes matérielles, structurels ou psychologiques ?)

Est-ce que vous donnez quelque chose aux enfants entre les repas ? Si oui, qu'est-ce qu'on donne (différencier selon les différents stades de développement de l'enfant) ? Comment décidez-vous quand donner une collation ou un goûter à l'enfant ? De quoi cela dépend ?

### *Evening/night meal:*

“J'ai vu dans quelques endroits qu'on donne à manger aux enfants le soir (à la tombé du soleil). Je n'ai pas vu cela ici. Qu'est que vous pensez de cela ?”. (creuser pour avoir les raisons de ne pas le faire)

### ***Animal foods for young children:***

Présenter au groupe le cas suivant: Madame Paul habite avec son mari, son (à compléter)  
Essayer avec différents ages de l'enfant le plus jeune (<1 an, 1 an, 2 ans) et s'il n'y a pas de belle-mère dans le ménage

Quelles sont les possibilités de donner aux enfants des oeufs?

Disponibilité (à la maison, sur le marché ect. )

Accès (prix, possibilité d'achat / fréquence ect)

A quelle fréquence?

Quelles sont les possibilités de donner aux enfants des abats?

Disponibilité (à la maison, sur le marché ect. )

Accès (prix, possibilité d'achat / fréquence ect)

A quelle fréquence?

### ***Breastfeeding***

#### *Exclusive breastfeeding*

Qu'est-ce que vous pensez au sujet de la recommandation: "Let manman sel manje pou tibebe jiska 6 mwa" ?

Investiguer sur comment ils se sentent à ce sujet?

Quels sont les problèmes de pratiquer cette recommandation?

Pourquoi?

Que font les mères si elles pensent que l'enfant a soif ? (concerne la partie : let manman sel manje)

Selon vous, quelles sont les conditions nécessaires pour pouvoir allaiter bien ? (au niveau de la mère : sein, appui psychologique, personnes contactées au cas de besoin de conseil etc.)

#### *Colic/gas*

Explorer les perceptions au sujet des gaz et du traitement des gaz chez les bébés

Que font-ils dans ces cas ? (relation avec introduction des liquides etc.)

Comment savez- vous que l'enfant a des gaz?

(Si l'on mentionne que le bébé pleure), quelles sont les autres raisons qui peuvent le faire pleurer ? Y a-t-il autre chose que vous faites (selon la raison qui le porte à pleurer)?

Qu'est-ce qui peut causer des gaz chez l'enfant?

Chaque combien de temps donne-t-on au bébé le sein dans la période de 6 à 12 mois?

De quoi cela depend-il?

Quelle est leur perception du lait maternel? (Le considèrent-ils comme une nourriture, un repas pour le bébé, une source d'énergie, ou encore, le sein est seulement considéré comme un calmant

#### *Use of expressed breast milk*

- a. Dans certains endroits, les mères pressent le lait maternel pour l'ajouter à la bouillie pour l'enfant. Qu'est-ce que vous pensez de cela?

### ***2.1.3 Mothers of children 12-24 months***

Jeu pour la classification des aliments. Présenter quelques cartes d'aliments (15 aliments différents, incluant les oeufs et les abats des animaux) et demander aux femmes de les classer selon qu'elles les considèrent comme bon ou pas bon pour les enfants de 12-24 mois.

Demander aux mères de dire pourquoi les aliments considérés comme bon au # 1, le sont pour les enfants de 12-24 mois. (Ceci permettra de classer les aliments selon la perception et la terminologie des mères Ex. Aliments constructeurs).

Demander aux mères de dire pourquoi les aliments considérés comme pas bon au # 1, le sont pour les enfants de 12-24 mois

Remarques :

- i. Attention spéciale aux oeufs et aux abats
- ii. Possibilités de transformer les aliments difficiles à mastiquer (comme la viande)

### ***Childcare schedule and scheduling of meals***

*For older infants:*

Comment décidez-vous qu'il est temps de donner à manger à votre enfant ?

J'ai entendu parler qu'on donne généralement à manger aux enfants qui ont 12-24 mois seulement quand les repas pour la famille sont servis. Que pensez-vous de ça ? De quoi pensez-vous cela dépend ? (Contraintes matérielles, structurels ou psychologiques ?)

Est-ce que vous donnez quelque chose aux enfants entre les repas ? Si oui, qu'est-ce qu'on donne (différencier selon les différents stades de développement de l'enfant) ? Comment décidez-vous quand donner une collation ou un goûter à l'enfant ? De quoi cela dépend ?

*Evening/night meal:*

"J'ai vu dans quelques endroits qu'on donne à manger aux enfants le soir (à la tombé du soleil). Je n'ai pas vu cela ici. Qu'est que vous pensez de cela ?". (creuser pour avoir les raisons de ne pas le faire)

### ***Animal foods for young children:***

Présenter au groupe le cas suivant: Madame Paul habite avec son mari, son (à compléter)

Essayer avec différents ages de l'enfant le plus jeune (<1 an, 1 an, 2 ans) et s'il n'y a pas de belle-mère dans le ménage

Quelles sont les possibilités de donner aux enfants des **oeufs**?

Disponibilité (à la maison, sur le marché ect. )  
Accès (prix, possibilité d'achat / fréquence ect)

A quelle fréquence?

Quelles sont les possibilités de donner aux enfants des **abats**?

Disponibilité (à la maison, sur le marché ect. )  
Accès (prix, possibilité d'achat / fréquence ect)  
A quelle fréquence?

#### **2.1.4 Grandmothers**

Présenter le cas ou la belle-fille/fille vient avec son enfant de 3 mois pour demander de conseil parce que l'enfant crie tout le temps.

Qu'allez vous lui dire?

Que pensez-vous de la façon dont certains mères s'occupent de leurs enfants maintenant ?  
Qu'est-ce que vous estimez bon/pas bon ? Pourquoi ?

Lorsque vos belles-filles/filles vous donnent à garder les bébés, vous en occupez-vous d'après ce que leurs mères vous disent de faire ou d'après vos principes ?

#### ***Use of expressed breast milk***

Dans certains endroits, les mères pressent le lait maternel dans un gobelet et le laissent pour l'enfant quand elles doivent sortir. Qu'est-ce que vous pensez de cela?

#### ***Food prescriptions for lactating women***

(Nous voulons investiguer ici sur les tabous alimentaires pour les femmes allaitantes, force / persistance des traditions, raisons)

Investiguer sur les aliments considérés comme tabous ou comme meilleurs pour la femme allaitante.- concentrer sur les aliments comme giraumont, avocat, poisson, gombo, aubergine (aliments blancs comme lait?)

Demander s'il y avait dans le temps des repas et des collations/goûter spécifiquement préparés pour les enfants?

Si oui, demander les recettes

Est-ce qu'il avait des repas spéciaux préparés pour les fêtes?

#### **2.1.5 Fathers**

##### ***Child health, illness and diet during illness***

Qu'est-ce qui vous fait dire qu'un enfant est en santé?

Connaissez-vous des enfants qui ne sont pas comme cela?

Qu'est-ce qui vous fait dire qu'un enfant n'est pas en santé?

Qu'est-ce que vous pensez qu'il est nécessaire de faire, pour permettre à un enfant de grandir en santé?

Quelles sont les raisons pour lesquelles certains enfants ne sont pas en bonne santé?

Y a-t-il des aliments qui sont particulièrement bon pour permettre à des enfants qui ne sont pas en santé de redevenir en santé?

Selon vous, quel est le rôle des pères dans le développement des enfants ?

Quelles sont vos responsabilités au niveau de ménage par rapport aux enfants ?

Que pensez-vous de la façon dont les mères s'occupent des enfants? Qu'est-ce que vous estimez bon/pas bon?

### ***Values related to child rearing and child feeding***

Les objectifs des pères pour leurs enfants et philosophie (motivation) relative à l'alimentation des enfants et l'"elevasiyon timoun yo"

Quels sont vos buts/vos souhaits/vos aspirations pour vos enfants? (kisa ou ta renmen pou pitit ou?) Qu'aimeriez-vous qu'il devienne quand il sera grand?

Les aspirations sont-elles différentes selon le sexe de l'enfant et l'ordre de naissance?

Comment envisagez/planifiez-vous d'atteindre ces objectifs?

Intéresser à recevoir des informations sur la nutrition et la santé pour les enfants?

Si oui, comment imaginent-ils leur participation?

## **2.2 Individual Interviews**

### **2.2.1 Mother Of Infants 6-12 Months**

#### ***Child health, illness and diet during illness***

Qu'est-ce qui vous fait dire qu'un enfant est en santé?

Connaissez-vous des enfants qui ne sont pas comme cela?

Qu'est-ce qui vous fait dire qu'un enfant n'est pas en santé? Qu'est-ce que vous pensez qu'il est nécessaire de faire, pour permettre à un enfant de grandir en santé?



Quelles sont les raisons pour lesquelles certains enfants ne sont pas en bonne santé?

Y a-t-il des aliments qui sont particulièrement bon pour permettre à des enfants qui ne sont pas en santé de redevenir en santé?

***Feeding during and after an episode of diarrhea :***

Est-ce que vous avez remarqué une différence dans l'appétit ou la soif de votre enfant quand il a eu la diarrhée ?

Quel types d'aliments ou des liquides ont été donnés à l'enfant qui souffrait de la diarrhée ?

Quelque chose de spécial ? Si oui, pourquoi ?

Est-ce qu'il y avait des aliments habituellement servis à l'enfant que vous ne donniez plus quand il avait la diarrhée ? Quel genre d'aliments ? Pourquoi ?

Quels autres changements aviez-vous apporté à l'alimentation de l'enfant quand il a été malade ? Notez pour chaque changement les raisons évoquées.

Si un enfant malade refuse de manger, que pensez-vous qu'il faudrait faire ?

Quel types d'aliments sont donnés à un enfant qui récupère d'un épisode de diarrhée pour le rendre en bonne santé ?

***Childcare schedule and scheduling of meals***

*Child care calendar:*

Utiliser une charte avec les heures pour une journée et demander à la mère:

Qui reste avec l'enfant au cours de la journée ?

Qui prépare pour l'enfant et qui lui donne à manger au cours de la journée ?

	Qui prépare ou achète ?	Qui donne ?
Déjeuner		
Collation 1		
Collation 2		
Dîner		
Goûter 1		
Goûter 2		
Souper		
Autre collation		

Comment vous décider qui s'occupe de votre enfant (6-12 mois)/avec qui vous laissez votre enfant ? Quelles sont vos préférences pour la garde de votre enfant ?

### *Scheduling of meals :*

Comment vous savez que votre enfant a faim/un enfant a faim ? Quelles sont les différentes signales pour voir si l'enfant a faim?

Si pleurer est considéré comme un signal pour la faim : quelles autres raisons peut-il avoir pour lesquelles l'enfant pleure? Y a t-il autre chose que vous faites (selon la raison qui le porte à pleurer)?

### *For older infants:*

Comment vous décidez qu'il est temps de donner à manger à votre enfant ?

J'ai entendu parlé qu'on donne généralement à manger aux enfants qui ont 6-12 mois seulement quand les repas pour la famille sont servis. Que pensez-vous de ça ? De quoi pensez-vous cela dépend ? (Contraintes matérielles, structurels ou psychologiques ?)

Est-ce que vous donnez quelque chose aux enfants entre les repas ? Si oui, qu'est-ce qu'on donne ? Comment décidez-vous quand donner une collation ou un goûter à l'enfant ? De quoi cela dépend ?

### *Evening/night meal:*

"J'ai vu dans quelques endroits qu'on donne à manger aux enfants le soir (à la tombe du soleil). Je n'ai pas vu ici. Que faites-vous même?". (creuser pour avoir les raisons de ne pas le faire)

### ***Animal foods for young children:***

Présenter le cas suivant: Madame Paul habite avec son mari, son (à compléter)

Essayer avec différents ages de l'enfant le plus jeune (<1 an, 1 an, 2 ans) et s'il n'y a pas de belle-mère dans le ménage

Quelles sont les possibilités de donner aux enfants des oeufs?

Disponibilité (à la maison, sur le marché ect. )

Accès (prix, possibilité d'achat / fréquence ect)

A quelle fréquence?

Quelles sont les possibilités de donner aux enfants des abats?

Disponibilité (à la maison, sur le marché ect. )

Accès (prix, possibilité d'achat / fréquence ect)

A quelle fréquence?

### ***Values related to child rearing and child feeding***

Les objectifs des mères pour leurs enfants et philosophie (motivation) relative à l'alimentation des enfants et l'"elevasiyon timoun yo"

Quels sont vos buts/vos souhaits/vos aspirations pour vos enfants? (kisa ou ta renmen pou petit ou?) Qu'aimeriez-vous qu'il devienne quand il sera grand?

Les aspirations sont-elles différentes selon le sexe de l'enfant et l'ordre de naissance?

Comment envisagez/planifiez-vous d'atteindre ces objectifs?

### **2.2.2 Mother of child 12-24 months**

#### ***Child health, illness and diet during illness***

Qu'est-ce qui vous fait dire qu'un enfant est en santé?

Connaissez-vous des enfants qui ne sont pas comme cela?

Qu'est-ce qui vous fait dire qu'un enfant n'est pas en santé? \

Qu'est-ce que vous pensez qu'il est nécessaire de faire, pour permettre à un enfant de grandir en santé?

Quelles sont les raisons pour lesquelles certains enfants ne sont pas en bonne santé?

Y a-t-il des aliments qui sont particulièrement bon pour permettre à des enfants qui ne sont pas en santé de redevenir en santé?

#### ***Feeding during and after an episode of diarrhea :***

Est-ce que vous avez remarqué une différence dans l'appétit ou la soif de votre enfant quand il a eu la diarrhée ?

Quel types d'aliments ou des liquides ont été donnés à l'enfant qui souffrait de la diarrhée ?

Quelque chose de spécial ? Si oui, pourquoi ?

Est-ce qu'il y avait des aliments habituellement servis à l'enfant que vous ne donniez plus quand il avait la diarrhée ? Quel genre d'aliments ? Pourquoi ?

Quels autres changements aviez-vous apporté à l'alimentation de l'enfant quand il a été malade ? Notez pour chaque changement les raisons évoquées.

Si un enfant malade refuse de manger, que pensez-vous qu'il faudrait faire ?

Quel types d'aliments sont donnés à un enfant qui récupère d'un épisode de diarrhée pour le rendre en bonne santé ?

### *Childcare schedule and scheduling of meals*

*Child care calendar:*

Utiliser une charte avec les heures pour une journée et demander à la mère:

Qui reste avec l'enfant au cours de la journée ?

Qui prépare pour l'enfant et qui lui donne à manger au cours de la journée ?

	Qui prépare ou achète ?	Qui donne ?
Déjeuner		
Collation 1		
Collation 2		
Dîner		
Goûter 1		
Goûter 2		
Souper		
Autre collation		

Comment vous décider qui s'occupe de votre enfant (12-24 mois)/avec qui vous laissez votre enfant ? Quelles sont vos préférences pour la garde de votre enfant ?

*Scheduling of meals :*

Comment vous savez que votre enfant a faim/un enfant a faim ? Quelles sont les différentes signales pour voir si l'enfant a faim?

Si pleurer est considéré comme un signal pour la faim : quelles autres raisons peut-il avoir pour lesquelles l'enfant pleure? Y a t-il autre chose que vous faites (selon la raison qui le porte à pleurer)?

*For older infants:*

Comment vous décidez qu'il est temps de donner à manger à votre enfant ?

J'ai entendu parlé qu'on donne généralement à manger aux enfants qui ont 12-24 mois seulement quand les repas pour la famille sont servis. Que pensez-vous de ça ? De quoi pensez-vous cela dépend ? (Contraintes matérielles, structurels ou psychologiques ?)

Est-ce que vous donnez quelque chose aux enfants entre les repas ? Si oui, qu'est-ce qu'on donne ? Comment décidez-vous quand donner une collation ou un goûter à l'enfant ? De quoi cela dépend ?

*Evening/night meal:*

“J’ai vu dans quelques endroits qu’on donne à manger aux enfants le soir (à la tombe du soleil). Je n’ai pas vu ici. Que faites-vous même?”. (creuser pour avoir les raisons de ne pas le faire)

### ***Animal foods for young children:***

Présenter le cas suivant: Madame Paul habite avec son mari, son (à compléter). Essayer avec différents âges de l’enfant le plus jeune (<1 an, 1 an, 2 ans) et s’il n’y a pas de belle-mère dans le ménage

Quelles sont les possibilités de donner aux enfants des oeufs?

Disponibilité (à la maison, sur le marché ect. )

Accès (prix, possibilité d’achat / fréquence ect)

A quelle fréquence?

Quelles sont les possibilités de donner aux enfants des abats?

Disponibilité (à la maison, sur le marché ect. )

Accès (prix, possibilité d’achat / fréquence ect)

A quelle fréquence?

### ***Values related to child rearing and child feeding***

Les objectifs des mères pour leurs enfants et philosophie (motivation) relative à l’alimentation des enfants et l’”elevasiyon timoun yo”

Quels sont vos buts/vos souhaits/vos aspirations pour vos enfants? (kisa ou ta renmen pou petit ou?) Qu’aimeriez-vous qu’il devienne quand il sera grand?

Les aspirations sont-elles différentes selon le sexe de l’enfant et l’ordre de naissance?

Comment envisagez/planifiez-vous d’atteindre ces objectifs?

### ***2.2.3 Verbal positive deviant mothers***

*Bassin Zim et Casse*

### ***Exclusive breastfeeding and the use of expressed breast milk***

Où avez-vous entendu parler de ça?

Quel effet a-t-il eu ce message? (effet de l’entendre)

Que pensez-vous de ce message?

Pourquoi pensez-vous ce message a été donné?

Est-ce que vous avez strictement suivi ce conseil ?

Si oui,

Comment avez-vous fait ? Acceptation autours de vous – mari, belle-mère ?

Qu'avez-vous faites avec l'enfant quand vous devez sortir ?

Qu'avez-vous faites quand l'enfant a de gaz/colic ?

Avez-vous eu de problèmes que l'enfant n'a pas aimé la nourriture familiale plus tard ?

Si non,

Pourquoi pas ?

« Let gaté »?

#### ***2.2.4 Program beneficiaries***

##### ***Use of the food aid commodities within the households***

How do they cook the food (detailed descriptions)?

Who is usually served this food?

Are the youngest children fed this?

Is it cooked in a special way for them (or is the food cooked for the family modified in any way for the youngest child?)

What is the acceptability?

Who else outside the household is the food (raw or cooked) shared with?

Is any sold? (confidentiality should be stressed again here).

##### ***Use of program services:***

What motivates you to come to the Rally Post?

What are some of the constraints to going to the Rally Posts at all (or attending regularly)?

How long does it take them to get there?

What would they be doing if they were not coming to the Rally Posts?

Would you be interested in having more frequent discussions related to children's health and your health?

What would they be interested in knowing about

Where would they like to have these?

How often would they be able to attend?

Do they approach the colvols or health agents in their communities outside of program contact times?

How do they feel about this?

### ***2.2.5 Colvols and health agents***

What are their current responsibilities with the program?

How do they feel about their roles as colvols? What motivates them to work with WV?

How do they feel about more frequent contacts with the communities?

What incentives would they be looking for?

### 3. RECIPE TRIAL INTERVIEW GUIDES

#### 3.1 Step 1 – Preparation Visit

##### Bassin Zim

Commencer avec le jeu d'aliments : présenter les cartes d'aliments et demander la disponibilité et accessibilité en fonction de la saison (objectif : rappeler aux femmes les différents aliments existants)

Introduction du sujet : développement des nouvelles recettes des repas spéciaux ou amélioration de recettes existantes (Bouillie Farine France par exemple) pour les enfants dans le groupe d'âge de 10-18 mois (« enfants qui commencent à marcher jusqu'à l'apparition des canines »)

Demander d'abord de façon ouverte et laisser les mères développer des idées

Investiguer sur acceptabilité, disponibilité et accessibilité :

- Farine de petit mil
- Cœur de maïs
- Farine de pois (grillé)
- Pistaches grillées, Mamba
- Cuillère d'huile
- Fois séchées
- Extraction du lait maternel
- Ajout de jus de citron, fruits écrasé etc. à une bouillie
- Riz avec pois écrasé de la sauce pois
- Patates jaunes écrasé

Investiguer sur des possibilités d'un goûter/collation spéciale pour les enfants de ce groupe d'âge :

- légumes/fruits écrasés (avocats, mangues etc.)

Organisation de la coté pratique de l'essai pour la semaine prochaine

- Qui amène quoi ?
- Dégustation après



- Visite et essai avec deux mères à Cachimon

### **Tierra Muscadi, Marmont**

Introduction du sujet : développement des nouvelles recettes des repas spéciaux ou amélioration de recettes existantes (Bouillie Farine France et Banane écrasée) pour les enfants dans le groupe d'âge de 6-8 mois («enfant qui rale, fait des dents, se met debout »)

Demander d'abord de façon ouverte et laisser les mères développer des idées

Investiguer sur acceptabilité, disponibilité et accessibilité (à partir de quel âge, pourquoi ajout possible, pourquoi pas, quantités à ajouter) :

#### **Bouillie Farine France :**

- ajout de farine de pois grillé et huile à une version sucrée (quantités à ajouter)
- ajout de farine de pois grillé et hareng sel/sol (version salée) (quantités à ajouter)
- ajout d'un œuf (une fois par semaine...)
- ajout de lait maternel extrait (pour enfants plus petites)
- possibilité de préparer une bouillie plus consistant

#### **Banane écrasée :**

Explorer l'ajout des aliments suivants (ajouter les aliments écrasés, pas sous forme de sauce) :

- œuf
- hareng pilé
- pois écrasé de la sauce pois
- giraumont (problème d'âge ?)
- abats (foie) – purée de foie ?
- lait maternel extrait
- pomme de terre à la place de banane
- patate douce à la place de banane (problème d'âge ?)

Demander ce qu'elles veulent essayer, pourquoi / pourquoi pas

Organisation de la coté pratique de l'essai pour demain

- Qui amène quoi ?
- Lieu ?
- Dégustation après

### **3.2 Step 2 – Recipe Trial, Tasting and Feedback Session**

#### **Recipes for older infants**

##### **Bassin Zim**

- Essayer les différentes recettes et noter mode de préparation/quantités utilisées/temps nécessaire pour la préparation :
- Poser les questions approfondies pourquoi/pourquoi pas pour les quantités utilisées, les méthodes
  - Bouillie Farine France en ajoutant de pois et des pistaches
  - Bouillie Petit Mil en ajoutant de pois et des pistaches
  - Cham Cham (goûter) : petit mil, pistaches, sucre
  - voir possibilité d'ajouter une cuillère d'huile aux bouillies
  - voir possibilité d'ajouter le jus de citron à la fin aux bouillies
  - investiguer sur possibilité d'utiliser le maïs pour la bouillie (coût etc.)
  - investiguer sur la perception du cœur de maïs
  - Dégustation : Jugement des mères et enfants sur goût, consistance, couleur, odeur etc.
  - Est-il facile de donner à manger la bouillie/cham cham à l'enfant ? (réponse de l'enfant)
  - Quelle quantité de cette bouillie votre enfant pourrait-il manger pour un repas ?
  - Combien de repas prend-il par jour ?
- Evaluation du prix par portion, la disponibilité des ingrédients
  - Temps nécessaire pour la préparation/Facilité de la préparation

- Evaluation de la faisabilité de préparer régulièrement ces repas pour les enfants, fréquence de préparation (l'acceptation de préparer les recettes à la maison et de donner à manger et pourquoi/pourquoi pas ?)
- Changeriez-vous la recette ? Comment ? Pourquoi ?
- Démonstration extraction du lait maternel

## **Recipes for infants between 6 and 8 months**

### **Tierra Muscadi, Marmont**

- Essayer les différentes recettes et noter mode de préparation/quantités utilisées/temps nécessaire pour la préparation :
  - Poser les questions approfondies pourquoi/pourquoi pas pour les quantités utilisées, les méthodes
- Dégustation : Jugement des mères et enfants sur goût, consistance, couleur, odeur etc.
  - Est-il facile de donner à manger ça à l'enfant ? (réponse de l'enfant)
  - Quelle quantité votre enfant pourrait-il manger pour un repas ?
  - Combien de repas prend-il par jour ?
- Evaluation du prix par portion :
  - Combien de Gourdes plus cher qu'une préparation « simple » ?
  - En se basant sur le prix plus élevé, combien de fois par semaine peuvent-elles préparer ces recettes améliorées ?
  - Possibilité/acceptabilité d'ajouter les ingrédients plus cher uniquement à la portion pour l'enfant de moins de 2 ans ?
  - La disponibilité des ingrédients
  - Temps nécessaire pour la préparation/Facilité de la préparation
- Evaluation de la faisabilité de préparer régulièrement ces repas pour les enfants, fréquence de préparation (l'acceptation de préparer les recettes à la maison et de donner à manger et pourquoi/pourquoi pas ?)
  - Changeriez-vous la recette ? Comment ? Pourquoi ?

Leur dire que nous retournons dans deux à trois semaines – leur demander de essayer ces recettes et aussi d'essayer des variations entre-temps.

### 3.3 Step 3 – Follow-up visit to assess feasibility of home trial of improved recipes

#### Bassin Zim

- Est-ce qu'elles sont essayées de préparer la bouillie petit mil etc. à la maison depuis notre dernier rencontre ? :
  - Qui ?
  - Quelle recette ? Variation ? Préparé pour l'enfant seulement ou pour toute la famille ?
  - Réaction des enfants ?
  - Si non, pourquoi pas ?
  - Extraction du lait maternel ?

Quelques questions supplémentaires concernant la Bouillie Farine France pour les enfants de 6-8 mois («enfant qui rale, fait des dents, se met debout») – Investiguer sur acceptabilité, disponibilité et accessibilité d'ajouter les aliments suivants (à partir de quel age, pourquoi ajout possible, pourquoi pas, quantités à ajouter) :

- **Bouillie Farine France :**
  - préparer une version salée – ajout de farine de pois grillé et hareng sel/sol (quantités à ajouter)
  - ajout d'un œuf (une fois par semaine...)
  - ajout de lait maternel extrait (pour enfants plus petites)
  - possibilité de préparer une bouillie plus consistant
  - demander d'essayer les variations et nous raconter les expériences la prochaine fois
- Quelques questions supplémentaires concernant le *Cham-cham* à base de petit mil:
  - A partir de quel age peut-on donner le cham-cham à base de petit mil ?
  - Pour combien de jours peut-on conserver le cham-cham ?
  - Est-ce qu'elles peuvent imaginer de préparer une bouillie à base de cham-cham en ajoutant de l'eau bouillie pour les enfants qui ne peuvent pas encore manger le cham-cham tel qu'il ?
  - Comment pourraient-on nommer une telle bouillie (Bouillie cham cham) ?
  - Demander d'essayer ça et nous raconter les expériences la prochaine fois

- Quelques questions supplémentaires sur le *prix de bouillies* :
  - Prix de la bouillie petit mil et farine France améliorée par rapport à la bouillie farine France simple (premier essai de recettes) – combien de Gourdes plus cher que la recette originale ?
  - En se basant sur le prix plus cher, combien de fois par semaine une telle bouillie améliorée peut être préparée ?
  - En général – Possibilité/Acceptabilité d'ajouter ingrédients plus cher uniquement à la portion pour l'enfant de moins de 2 ans (huile, hareng, œuf, etc.)?

Perceptions sur les préparations proposées par les femmes à Tierra Muscadi (réactions spontanées ?)

### **Tierra Muscadi**

- Est-ce qu'elles sont essayées de préparer les recettes à la maison depuis notre dernier rencontre ? :
  - Qui ?
  - Quelle recette ? Variation ? Préparé pour l'enfant seulement ou pour toute la famille ?
  - Réaction des enfants ?
  - Si non, pourquoi pas ?
  - Extraction du lait maternel (Tierra) ? Si oui, ajout à la bouillie ou donné tel qu'il ?
  - Demander si elles se rappellent pourquoi l'ajout de pois et de giraumont est bon?
- Quelques points spécifiques:
  - Variation de l'épaisseur de la bouillie ?,
  - Relation farine France : farine de pois ?,
  - Ajout d'une cuillère d'huile a la bouillie sucrée ?
  - Demander si elles sont essayées l'ajout d'un oeuf à la portion de la bouillie pour l'enfant ? Si oui, œuf entier ?

## 4. RECIPES OF CURRENTLY FED COMPLEMENTARY FOODS

### 1. *Bouillie Bonbon sel*

Ingrédients	Quantité utilisée (mesure locale)	Quantité utilisée (g)
Bonbon (1/2 paquet, 2 bonbons) trempé dans l'eau	1/8 cup	34 g
Sucre	1 tablespoon	13 g
Sel	1/8 teaspoon	0,625 g
Eau	1/3 cup	75 g
Quantité totale	1/3 cup	81 g
Quantité d'une portion pour un enfant de 10 jours	1/3 cup	81 g

#### *Mode de préparation :*

Laisser tremper les bonbons (12 grammes) dans l'eau (1/2 cup) pendant 20 minutes, mettre dans un tamis pour enlever l'eau (reliquat : 1/8 cup de bonbon), ajouter de sucre, sel et de l'eau, faire bouillir pour 5 minutes.

### 2. *Bouillie Farine France*

Ingrédients	Quantité utilisée (mesure locale)	Quantité utilisée (g)
Farine France	1,5 cups	207 g
Eau	8 cups	1800 g
Peau de citron vert	1	7 g
Sel	1 tablespoon	16 g
Sucre marron	¾ cup	166,5 g
Quantité totale		1534 g
Quantité d'une portion pour un enfant d'un mois	¼ cup	
un enfant de trois mois	½ cup	122 g

#### *Mode de préparation :*

Faire griller la farine France pendant d'environ 10 minutes. Porter à ébullition 6 cups de l'eau et la peau d'un citron vert et du sel, ajouter du sucre marron et faire bouillir ;

Mélanger la farine grillée avec 2 cups de l'eau, passer au tamis et ajouter à l'eau bouillante, mélanger et faire mijoter pendant 10 minutes.

### 3. *Soupe de pain*

Ingrédients	Quantité utilisée (mesure locale)	Quantité utilisée (g)
Pain biscuits	6	91 g
Feuille « Lianpanier »	1/3 cup	10 g
Huile	2 tablespoons	22 g
Epices (mélange d'ail, poireau)	1 tablespoon	12 g
Hareng sol	1 tablespoon	10 g
Eau	2,8 cups	630 g
Sel	½ teaspoon	2,5 g
Quantité totale	2,5 cups	590 g
Quantité d'une portion pour un enfant de six mois	1 cup	236 g
un enfant de trois mois	½ cup	118 g

*Mode de préparation :*

Enlever la croûte du pain (jeter), tremper dans l'eau (2 cups), couper feuilles, chauffer l'huile ensemble avec les épices (épices pilée), frire légèrement les épices, ajouter le hareng sol, les feuilles, l'eau (1,8 cups), sel et le pain trempé (1 cup=206g), faire mijoter et brasser avec une cuillère pendant 10 minutes.

**4. Banane écrasée**

Ingrédients	Quantité utilisée (mesure locale)	Quantité utilisée (g)
Sel	½ teaspoon	2,5 g
Banane « gros bot » bouillie et écrasée	2 petites bananes(d'environ 3 inches chacune)	150 g
Huile	3 tablespoons	33 g
Hareng sel	1 tablespoon 1 teaspoon	12 g
Epices (mélange d'ail, poireau)	½ teaspoon	2 g
Maggi	¼ teaspoon	2 g
Eau	1/3 cup	75 g
Quantité totale	½ cup + 1 tablespoon + 2 teaspoons banane écrasée 1/3 cup de sauce	217 g
Quantité d'une portion pour un enfant de trois mois	½ cup + 1 tablespoon + 2 teaspoons banane écrasée 1/3 cup de sauce	217 g

*Mode de préparation :*

Laver les bananes et enlever la peau, faire bouillir l'eau, ajouter du sel et les bananes, bouillir pendant 10 minutes ;

Pour la sauce : chauffer l'huile, ajouter hareng sel (enlever peau et piler), épices, maggi et 1/3 cup de l'eau et laisser mignoter pendant quelques minutes ;

Entre-temps enlever l'extérieur des bananes, couper en morceau, enlever l'intérieur des bananes et écraser avec une cuillère ;

Mélanger un peu de sauce avec les bananes écrasées et servir avec un peu de la sauce.

## 5. RECIPES OF NEW AND MODIFIED COMPLEMENTARY FOODS

### Préparatifs pour les recettes :

#### **Pois noir**

- Trier les pois et le laver
- Griller les pois dans une marmite pendant 10-15 minutes
- Laisser les refroidir
- Piler les pois jusqu'à obtention d'une farine (vanner une fois pour enlever les pellicules noires = depelliculage)

#### **Arachides**

- Trier les arachides décortiquées (pas laver)
- Griller les arachides pendant 10 minutes dans une marmite
- Laisser refroidir
- Depelliculage à la main
- Piler les arachides

#### **Petit mil**

- *Pour le Cham Cham*
  - Laver le petit mil
  - Sécher au soleil
  - Griller pendant 10 minutes dans une marmite (quelques grains éclatent)
  - Laisser refroidir
  - Piler et passer au tamis à plusieurs reprises pour obtenir la farine (pulversiser)
- *Pour la bouillie de petit mil*
  - Laver
  - Sécher
  - Piler une première fois pour enlever la grosse paille



- Piler et vanner à plusieurs reprises pour enlever la farine (d'environ 35 minutes)

### **Eau de cannelle pour la bouillie**

- Faire bouillir de l'eau avec quelques morceaux de cannelle et la peau d'un citron

## **1. Bouillie de petit mil avec pois et arachides – Bassin Zim**

Ingrédients	Quantité utilisée (mesure locale)	Quantité utilisée (g)
Farine de petit mil	2,625 cup	338 g
Farine de pois grillé	1 cup	157 g
Farine d'arachides grillées	½ cup	78 g
Eau	10 cups	2250 g
Sucre brun	1 cup	222 g
Sel lavé	1 teaspoon	5 g
Essence de vanille	1 tablespoon	14 g
Cannelle	quelques morceaux (pour 1,5 Gourdes)	4 g
Quantité totale	10 ¾ cups	2794 g

### *Mode de préparation :*

Mélanger les trois différentes farines et ajouter 8 cups de l'eau et 2 cups d'eau de cannelle, bien mélanger avec la farine, verser-le tout dans une marmite et porter à ébullition en remuant, ajouter 1 teaspoon de sel lavé, laisser bouillir pendant 15 minutes, ajouter le sucre, remuer et laisser cuire à petit feu pendant 30 minutes après avoir couvert la marmite, ensuite ajouter l'essence de vanille et remuer.

## **2. Bouillie farine France – Bassin Zim**

Ingrédients	Quantité utilisée (mesure locale)	Quantité utilisée (g)
Farine de France	2 cups (1 gobelet)	276 g
Farine de pois grillé	½ cup	78,5 g
Farine d'arachides grillées	½ cup	78 g
Eau	11 cups	2475 g
Sucre brun	1 cup	222 g
Sel lavé	½ teaspoon	2,5 g
Huile	2 teaspoon	6 g
Essence de vanille	1 tablespoon	14 g
Cannelle	quelques morceaux (pour 1,5 Gourdes)	4 g
Quantité totale	10 5/8 cups	2736 g

### *Mode de préparation :*

Griller la farine France pendant 5 minutes et laisser refroidir. Mélanger avec la farine de pois et d'arachides, y ajouter 5 cups d'eau et remuer. Chauffer 6 cups d'eau (dont 2 cup d'eau cannelle) dans une marmite, ajouter le sel lavé et verser la farine dans l'eau bouillante. Porter à ébullition en remuant. Laisser bouillir pendant 10 minutes et ajouter l'huile et le sucre, remuer et laisser bouillir encore pendant 5 minutes, ajouter l'essence de vanille.

### 3. Cham Cham – Bassin Zim

Ingrédients	Quantité utilisée (mesure locale)	Quantité utilisée (g)
Farine de petit mil grillé	3 1/3 cups	430 g
Farine d'arachides grillées	2 cup	312 g
Sucre brun	1 cup	222 g
Sel lavé	1 teaspoon	5 g
Quantité totale	6,5 cups	969 g

*Mode de préparation :*

Mélanger le tout et piler d'avantage pour obtenir une poudre.

### 4. Préparation de la bouillie farine France avec pois grillé et hareng saur -- Marmont

Ingrédients	Quantité utilisée (mesure locale)	Quantité utilisée (g)
Farine France grillée	1 cup (1/2 gobelet)	138 g
Farine de pois grillé	1/2 cup	78,5 g
Hareng saur pilé	2 tablespoons	20 g
Eau	3 1/2 cups	787,5 g
Huile	2 tablespoons	22 g
Sel lavé	2/4 teaspoon	2,5 g
Quantité totale	2,5 cups	632 g

*Mode de préparation :*

Passer la farine France dans une passoire. Griller la farine pendant 5 minutes et laisser refroidir. Passer encore dans une passoire. Mélanger avec la farine de pois grillé.

Nettoyer un morceau de hareng (coupé d'un hareng que nous avons apporté) avec du citron, enlever la peau et les arrêts et piler-le.

Mettre une chaudière sur le feu et chauffer. Ajouter de l'huile, le hareng pilé et 1 1/2 cups d'eau. Porter à ébullition et ajouter du sel lavé. Laisser bouillir pendant 2-3 minutes. Retirer la chaudière du feu.

Diluer la mélange de farine de pois et de farine France dans 2 cups d'eau froide.

Ajouter la pâte de farine à la sauce de hareng en remuant. Remettre la chaudière sur le feu, porter à nouveau à ébullition et laisser bouillir en remuant pendant 20 minutes.

### 5. Bouillie de farine France avec pois grillé (version sucrée) -- Marmont

Ingrédients	Quantité utilisée (mesure locale)	Quantité utilisée (g)
Farine France grillée	presque 1 cup	120 g
Farine de pois grillé	1/2 cup	78,5 g
Eau	4 cups	900 g
Sucre brun	1/2 cup	111 g
Sel lavé	1/8 teaspoon	0,625 g
Quantité totale	3 1/3 cups	861 g

*Mode de préparation :*

Passer la farine France dans une passoire. Griller la farine pendant 5 minutes et laisser refroidir. Passer encore plusieurs fois dans une passoire. Mélanger avec la farine de pois grillé, y ajouter de l'eau froide (2 cups) et diluer.

Porter 1 ½ cups d'eau à ébullition avec la peau d'un citron. Ajouter le sel lavé et le sucre. Retirer la chaudière du feu, laisser refroidir un instant et verser la pâte de farine dans l'eau en remuant. Porter à nouveau à ébullition en remuant. Laisser bouillir en remuant pendant 20 minutes. Ajout de ½ cup d'eau vers la fin parce que la bouillie était trop épaisse pour les femmes.

**6. Banane écrasée avec giraumont et hareng saur – Marmont**

Ingrédients	Quantité utilisée (mesure locale)	Quantité utilisée (g)
Banane « matenten » bouillie et écrasée	2 cups	480 g
Giraumont bouilli et écrasé	1 ½ cups	360 g
Sel lavé	¼ teaspoon	1,25 g
Hareng saur pilé	2,875 tablespoon 1,25 teaspoon	31,25 g
Huile	3 tablespoon	33 g
Ail	1 dent écrasée	2 g
Eau	1 cup	225 g
Quantité totale	4 ½ cups	1048 g

*Mode de préparation :*

Couper le giraumont, enlever la peau et les graines. Laver les morceaux et le mettre dans un peu d'eau dans une chaudière. Enlever la peau des bananes, les laver et les mettre dans un peu d'eau dans une autre chaudière. Ajouter un peu de citron pour empêcher l'oxydation.

Faire bouillir 3 cups de l'eau avec du sel lavé. Ajouter les bananes et les morceaux de giraumont au moment de l'ébullition.

Faire bouillir pendant 15 minutes (chaudière est couverte avec une assiette).

Ecraser avec une cuillère d'abord les bananes en ajoutant un peu d'eau de banane/ giraumont pour légèrement assouplir la purée. Ecraser les morceaux de giraumont.

Pour la sauce : Prendre deux morceaux (deux « māk ») de hareng saur (pour 4 Gourdes) et les nettoyer avec du citron. Enlever ensuite la peau et les arrêts et piler-les.

Chauffer une chaudière, ajouter de l'huile, le hareng pilé et 1 cup d'eau (l'eau de banane/ giraumont). Laisser bouillir et ajouter l'ail. Laisser encore bouillir pour quelques minutes.

Mélanger bien la purée de banane et de giraumont et ensuite ajouter toute la sauce à cette purée et mélanger à nouveau.

## 7. Bouillie farine France avec pois grillé et huile -- Tierra Muscadi

Ingrédients	Quantité utilisée (mesure locale)	Quantité utilisée (g)
Farine France grillé	1 cup + 1 tablespoon (1/2 gobelet)	146 g
Farine de pois grillé	1 cup	157 g
Eau	7 cups	1575 g
Sucre brun	¾ cups	166,5 g
Sel lavé	1 teaspoon	5 g
<i>Huile</i>	1 tablespoon	11 g
Quantité totale	6 cups	1581g

### *Mode de préparation :*

Passer la farine France dans une passoire. Griller la farine pendant 5 minutes et laisser refroidir (quantité : 1 cup + 1 tablespoon). Passer encore plusieurs fois dans une passoire (quantité : 1 1/8 cups). Mélanger avec la farine de pois grillé, y ajouter de l'eau froide (4 cups) et diluer.

Porter 2 cups d'eau à ébullition avec la peau d'un citron. Ajouter le sucre (1/2 cup) et le sel lavé. Retirer la chaudière du feu, laisser refroidir un instant et verser la pâte de farine dans l'eau en remuant. Porter à nouveau à ébullition en remuant. Ajouter encore 1 cup de l'eau et laisser bouillir pendant 5 minutes en remuant. Ajouter de l'huile et encore un peu de sucre (1/4 cup). Laisser bouillir en remuant pour 15 minutes.

## 8. Banane écrasée avec giraumont et hareng saur – Tierra Muscadi

Ingrédients	Quantité utilisée (mesure locale)	Quantité utilisée (g)
Banane « matenten » bouillie et écrasée	1,5 cups	360 g
Giraumont bouilli et écrasé	1 1/3 cups	320 g
Sel lavé	1 teaspoon	5 g
Jus de citron	demi-citron	2 g
Hareng saur pilé	¾ cup	72 g
Pâte de tomate mélangée avec un petit morceau de beurre	1 teaspoon	7 g
Epices (mélange pilé d'1 cube maggi, ail, oignon vert)	1 teaspoon	7 g
Huile	4 tablespoon	44 g
Eau	1 1/3	300 g
Quantité totale banane+giraumont	4 1/8 cups	1032 g
Quantité totale sauce		

### *Mode de préparation :*

Laver les bananes et enlever la peau. Enlever la peau du giraumont et couper en morceaux. Faire bouillir 2 cups de l'eau et ajouter du sel lavé au moment de l'ébullition. Ajouter les bananes, les morceaux de giraumont et le jus de citron à l'eau bouillante.

Faire bouillir pendant 25 minutes (chaudière est couverte avec une assiette).

Couper les bananes pour enlever la partie à l'intérieur et les écraser avec une cuillère.

Ecraser les morceaux de giraumont.

Pour la sauce : Prendre un hareng saur (pour 7 Gourdes) et le mettre pour quelques instants sur le feu pour pouvoir enlever la peau plus facilement. Enlever ensuite la peau et les arrêts. Piler les morceaux de hareng. Mélanger l'huile et la pâte de tomate/beurre. Mettre ce mélange et les épices dans une chaudière, chauffer, ajouter le hareng puis 1/3 cup d'eau (l'eau de banane/giraumont). Laisser bouillir pour quelques minutes, ajouter 1 cup d'eau et laisser encore bouillir pendant deux minutes.

Mélanger la banane et le giraumont écrasés avec toute la sauce.

### **9. Bouillie de farine France avec œuf – Tierra Muscadi**

Nous avons enlevé un peu de la bouillie farine France avec pois grillé pour cette préparation parce qu'il n'y avait plus assez de farine France pour faire une autre bouillie sans ajout de farine de pois. L'accent a été mis sur le fait qu'un jour la bouillie avec ajout de pois peut être préparée et un autre jour on ajoute un œuf mais pas le pois, si les moyens sont limités.

Ingrédients	Quantité utilisée (mesure locale)	Quantité utilisée (g)
Bouillie farine France avec pois grillé	½ cup	125 g
Œuf	1	45 g
Quantité totale	½ cup	124 g

*Mode de préparation :*

Ajout de l'œuf à une bouillie déjà préparée. Bien battre un œuf entier, en s'assurant que la partie blanche de l'œuf et le jaune ne forme qu'un. Ajouter ensuite en battant la bouillie préparée à cette masse et mélanger bien. Mettre dans une chaudière et laisser chauffer pendant 2-3 minutes en brassant continuellement.

### **10. Ajout du lait maternel à la bouillie – Tierra Muscadi**

Deux femmes (Céliana et Edmari) avaient dit pendant la dégustation qu'elles ne donnaient pas encore de la bouillie de farine France ni la banane écrasée à leurs enfants car ils sont trop petits (2-3 mois). Comme elles ont l'habitude de leur donner la Bouillie Bonbon Sel, nous avons proposé de tester l'ajout du lait maternel extrait avec la bouillie bonbon sel.

## 6. Recipes of complementary foods using food-aid commodities

### 1. Bouillie CSB avec hareng saur (version salée) -- Marmont

Ingrédients	Quantité utilisée (mesure locale)	Quantité utilisée (g)
Farine CSB	1,5 cup	205 g
Hareng saur pilé	3 màk	36 g
Eau	4 cups	900 g
Huile	3 tablespoons	33 g
Sel lavé	1/4 teaspoon	1,25 g
Quantité totale	3 ½ cups	932 g
	1 cup	264 g

#### *Mode de préparation :*

Nettoyer un morceau de hareng : mettre sur le feu pour ensuite enlever la peau, mettre dans l'eau pour quelques minutes pour le dessaler, coupé en petits morceaux, enlever les arrêts et piler-le.

Diluer la farine CSB dans 2 ½ cups d'eau froide.

Mettre une chaudière sur le feu et chauffer. Ajouter de l'huile et laisser chauffer. Ajouter le hareng pilé et laisser frire pour quelques minutes. Verser 1 ½ cups de l'eau. Porter à ébullition et ajouter du sel lavé.

Verser la pate de farine dans la sauce de hareng bouillante. Porter à nouveau à ébullition et laisser bouillir en remuant pendant 10 minutes.

### 2. Bouillie de CSB avec sucre et lait en poudre (version sucrée) -- Marmont

Ingrédients	Quantité utilisée (mesure locale)	Quantité utilisée (g)
Farine CSB	1,5 cups	198 g
Eau	4 cups	900 g
Sucre brun	¾ cup	158 g
Sel lavé	1/8 teaspoon	0,625 g
Lait en poudre (lait entier)	1/3 cup	31 g
Quantité totale	3 ¾ cups	1036 g
	1 cup	270 g

#### *Mode de préparation :*

Diluer la farine dans 3 cups de l'eau froide.

Porter 1 cup d'eau à ébullition. Ajouter le sel lavé et le sucre. Verser la pate de farine dans l'eau en remuant. Porter à nouveau à ébullition en remuant. Laisser bouillir en remuant pendant 10 minutes. Ajout de lait en poudre juste avant la fin et bien remuer.

### 3. Acra de CSB avec hareng saur -- Marmont

Ingrédients	Quantité utilisée (mesure locale)	Quantité utilisée (g)
Farine CSB	1 cup	136 g
Sel lavé	¼ teaspoon	1,25 g
Hareng saur pilé	¼ cup (2 màk)	28 g
Eau	¾ cup	170 g
Quantité totale		296 g

#### *Mode de préparation :*

Nettoyer un morceau de hareng : mettre sur le feu pour ensuite enlever la peau, mettre dans l'eau pour quelques minutes pour le dessaler, coupé en petits morceaux, enlever les arrêts et piler-le.

Mélanger l'eau, le sel et la farine pour en faire une pate. Ajouter le hareng pilé et remuer.

Mettre la chaudière sur le feu. Ajouter un peu d'huile et laisser chauffer. Former des petites boules avec une cuillère et ensuite frire dans l'huile chaude pendant d'environ 5 minutes.

## Key Principles and Practices of Adult Learning— How an Adult Learner Learns Best

- Learner feels respected and feels like an equal (respect).
- Learner needs to receive praise for even small attempts (affirmation).
- Learner learns best by drawing on his/her own knowledge and experience (relevance).
- Learning must allow the learner to enter into a dialogue with the teacher and with other learners (dialogue).
- Learner must get involved through discussion, small groups, and learning from peers (engagement).
- Learning must meet the real-life needs of the adult—jobs, family, etc. (relevance).
- Learner must be able to apply the new learning immediately (immediacy).
- Learner remembers more when visuals are used to support the verbal; adults remember best when they practice the new skill (20/40/80).
- Learning should involve feelings and doing as well as thinking (affective, psychomotor and cognitive).
- Learner needs to feel that their ideas and contributions will be valued—that they will not be ridiculed or belittled (safety).



<b>Key Principles and Practices of Adult Learning</b>	
<b>Principle</b>	<b>Description</b>
<b>Respect</b>	Learners feel respected and feel like equals.
<b>Affirmation</b>	Learners need to receive praise for even small attempts.
<b>Relevance</b>	Learners learn best by drawing on their own knowledge and experience. Learning must meet the real-life needs of the adult—jobs, family, etc.
<b>Dialogue</b>	Learning must be two-way to allow the learner to enter into a dialogue with the teacher.
<b>Engagement</b>	Learners must get involved through discussion, small groups and learning from peers.
<b>Immediacy</b>	Learners must be able to apply the new learning immediately.
<b>20/40/80 Rule</b>	Learners remember more when visuals are used to support the verbal presentation and best when they practice the new skill. We remember 20 percent of what we hear, 40 percent of what we hear and see, and 80 percent of what we hear, see and do.
<b>Thinking, Feeling, Acting</b>	Learning should involve thinking and emotions as well as doing.
<b>Safety</b>	Learners need to feel that their ideas and contributions will be valued—that they will not be ridiculed or belittled.

## Definition of Engagement

The principle of engagement is that adults must be fully involved in “doing” what they are learning, not merely listening to someone else talk about it. Our education sessions must be done so that the learners are actually doing something with the information — as a means of learning it.

## Keys to Managing Small-Group Work

- Be sure to clearly define the activity and “product” of the small-group work. Assure that everyone understands the group size before breaking into groups. Instructions may be given after groups have formed.
- Make sure that participants move physically so they can face each other and hear each other—encourage quick physical movement.
- Use groups of different sizes—use pairs or groups of three.
- Move around while discussions are occurring to assure understanding, answer questions and note key points of discussion. You may even want to encourage some groups to share specific points you think are key with the larger group when the time comes.
- It is not always necessary to have each group present. Take a sample from among the groups.
- Avoid having each individual member of a group report to a larger group—ask groups to assign one person to report.
- If you find there is confusion, stop all groups and clarify the activity.

### Excerpt on Monologue<sup>1</sup>

Monologue (with the teacher as the speaker) leads the students to mechanically memorize the narrated content. Worse yet, it turns them into "containers," into "receptacles" to be "filled" by the teacher. The more completely the teacher fills the receptacles, the better a teacher she/he is. The more meekly the receptacles permit themselves to be filled the better students they are. [...]

Education thus becomes an act of depositing, in which the students are the depositories and the teacher is the depositor. Instead of communicating, the teacher issues communiqués and makes deposits which the students patiently receive, memorize, and repeat. This is the "banking" concept of education, in which the scope of action allowed to the students extends only as far as receiving, filing and storing the deposits. [...]

In the banking concept of education, knowledge is a gift bestowed by those who consider themselves knowledgeable (the teacher) upon those whom they consider to know nothing (the student). [...]

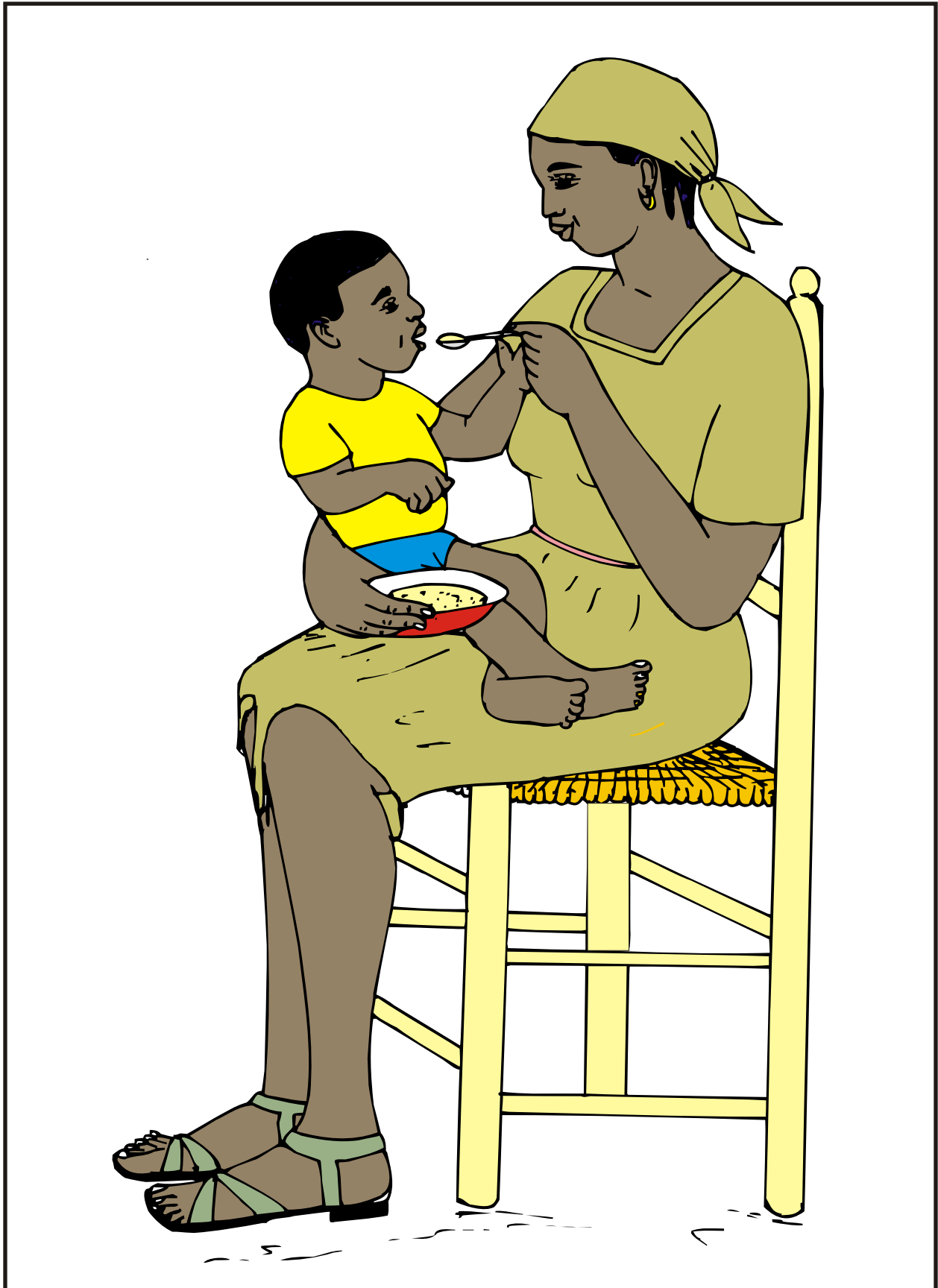
Adult education must begin with the solution of the teacher-student contradiction [...] so that both are [...] teachers and students (*dialogue*).

<sup>1</sup> Adapted from Paulo Freire's *Pedagogy of the Oppressed*.

## Passage on Relevance

“Adults will learn faster and more permanently that which is significant to them and to their present lives. The trainer’s activity often is not to change what we wish to teach but to make it relevant by connecting the content to the issues important to the learner [...]. The important question is how is this new knowledge and how are these new skills and attitudes relevant to the learning needs of these adults? [...] If adults do not see the relevance of content no matter how crucial that content is to the teacher the learners quickly determine that they do not need to know it.”

—Jane Vella [1995], *Training Through Dialogue*

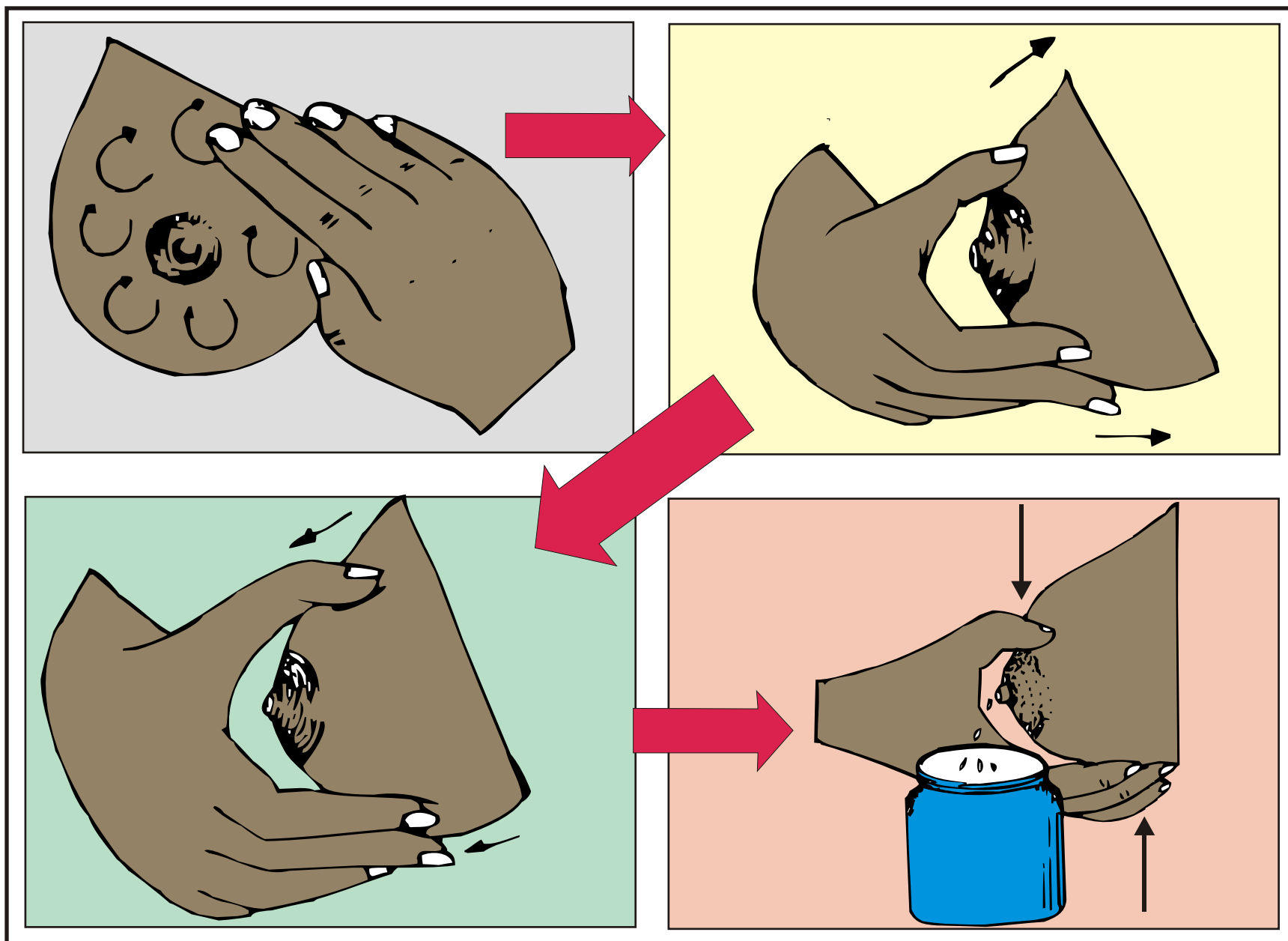


**Infant and young child feeding**

**Session 9:** Helping children eat well in health and in sickness

**Session 10:** Variety of food combinations appropriate for children 6-12 months

How to express breast milk



Infant and young child feeding  
Session 3: Always promote breastfeeding  
Session 4: How to breastfeed better

# MODULE ON INFANT AND CHILD FEEDING PRACTICES

## TRAINER'S GUIDE

*This module is based on the following two modules developed by Freedom From Hunger: "Improving Breastfeeding - Everyone Can Help" and "Infant and Child Feeding: Helping Young Children to Eat and Grow Well". The IFPRI/Cornell/World Vision team thanks Freedom From Hunger for their permission to adapt their materials*  
January 2003



## Introduction to the module on infant and child feeding

This guide is intended to provide directives for training of trainers and for training of health agents/voluntary health collaborators ("colvols") on the infant and child feeding module. To make it possible for each organization to adapt its own training approach in terms of when the training will be held, how much time will be set aside for it, and what else (if anything) will be included in the same training, this guide is not made up of a series of chronological activities, it just presents the essential components:

1. Technical information on infant and child feeding
2. Preparation to present the infant and child feeding module
3. Key principles and practices of adult learning

Each of these sections contains a series of activities to train health agents and colvols on how to present the infant and child feeding module in the Mothers' Clubs. Each learning activity includes the following elements:

1. Goal and objectives
2. Time allotted to each activity
3. Methods to use
4. Necessary materials and preliminary preparation
5. Steps to follow to complete each activity

The following section introduces the trainer's guide by using the « Seven steps of planning » drawn from Jane Vella's books<sup>1</sup> :

- « **Who** » (trainees and trainers)
- « **Why** » the situation that calls for the training
- « **When** » and « **Where** » the training will take place
- « **What** » : the points to cover
- « **For what** » : the objectives
- « **How** » : the steps to follow by the trainer to reach the objectives

By following these seven steps, the person designing the training exercises is forced to pay attention to all the aspects of the training, e.g. not jumping to « How » without first thinking about « Why ».

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<sup>1</sup> See: « Learning to Listen, Learning to Teach: The Power of Dialogue in Educating Adults » Jane Vella, 1994, Ed. Jossey-Bass, San Francisco ; and « Training Through Dialogue: Promoting Effective Learning and Change with Adults », Jane Vella, 1995, Ed. Jossey-Bass, San Francisco.

## THE SEVEN STEPS

### Who :

Health agents/ *co/vols* providing training to mothers attending Mothers' Clubs. These health agents and *co/vols* have at least some experience facilitating health education sessions in Mothers' clubs. They have little to no other training in public health and may not be practicing (or not have practiced) the recommended practices they are promoting in this module. They are likely unaware of the Ministry of Health or WHO guidelines on breastfeeding and complementary feeding and have a need to understand how the recommendations they are conveying to the women compare to what women are actually doing in this community.

They will be exposed to important principles and practices of adult learning during initial training sessions and refresher courses. They will have the opportunity to facilitate learning sessions and should be given an occasion to review these principles and consider how they might better apply them in their work. There may be some principles of adult learning to which they have not yet been exposed, but that are necessary to successfully facilitate the learning sessions on infant and child feeding.

The training will be facilitated by a team composed of at least two nurses who have attended one training workshop on the « infant and child feeding module » and one on the « principles and practices of adult learning ». They are responsible not only for training health agents, but also for supervising their work in education facilitation (and other areas of health service delivery) in Mothers' Clubs. They need to have objective criteria by which they can evaluate the training and implementation in the field of what has been learned.

**Why :** (The situation that calls for the training - the purpose). The health agents/ *co/vols* are used to organize training sessions for the women in Mothers' Clubs but without using a « consciousness-raising » approach. This module may be somewhat different from others they have used because it relies more on small-group interaction among women during the learning session. Also, it seeks to explicitly engage participants in a process of learning from and interacting with members of their community concerning infant and child feeding.

The overall purpose of the training is, therefore, to prepare health agents and *co/vols* to effectively facilitate the learning sessions on infant and child feeding by combining key technical knowledge with effective, adult education-oriented facilitation techniques.

**When :** The training may take place over 6-7 days. It should be combined with other activities in principles and practices of adult learning.

**Where:** The training location should have sufficient wall space to hang large sheets of paper and room to allow participants space to move around and work in small groups.

**What :** (Content)

- Technical information on breastfeeding, infant and child feeding
- Thirteen learning sessions on Infant and Child Feeding Practices
- Nutrition problems and their impact in the country
- The UNICEF diagram: "Helping children grow strong and healthy"
- Data on breastfeeding derived from a national DHS survey, national or regional survey(s)
- Child feeding and development chart
- Improved complementary foods (recipe trials)
- Key principles and practices of adult learning
- Principles for giving and receiving feedback
- Schedule of learning sessions at Mothers' Clubs in both programs, the preventive and recuperative

**For what:** At the end of the training, the participants will have:

1. **reviewed** state-of-the art technical information on infant and child feeding ;
2. **presented** the 13 learning sessions on infant and child feeding and given feedback on those presentations ;
3. **explored** key principles and practices of adult learning to better facilitate the learning sessions on infant and child feeding;
4. **analyzed** secondary data on breastfeeding from the country or the region(s) in which they work to better understand breastfeeding practices of the women with whom they will be facilitating the learning sessions;
5. **analyzed**, nutrition problems and their impact in the country based on data on child nutrition from nutrition surveys;
6. **identified** how the Infant and Child Feeding Module contributes to children's improved health and nutrition as described in the UNICEF diagram « *Helping children grow strong and healthy* » ;
7. **practiced** communicating key feeding recommendations for children 0-24 months of age in the preventive program and 0-59 months in the recuperative program and how these recommendations change as children get older, using the child feeding and development chart ;
8. **practiced** how to prepare, from recipes, improved complementary foods;
9. **listed** key principles for giving and receiving feedback and **practiced** them by giving and receiving feedback after each presentation ;
10. **established the difference** in the schedule of learning sessions at the Mothers' Clubs in the preventive and in the recuperative programs.

**How :** See the detailed presentation of the steps for each activity in the different training components presented in the following pages.

## TRAINER'S GUIDE

### MODULE ON INFANT AND CHILD FEEDING

#### LIST OF HANDOUTS, LARGE SHEETS (FLIP CHART) AND OTHER USEFUL TRAINING MATERIALS

ACTIVITIES	HANDOUTS	FLIP-CHART	OTHER
1. Presentation and pre-test	<ul style="list-style-type: none"> <li>• Pre-test</li> </ul>	<ul style="list-style-type: none"> <li>• Training objectives</li> </ul>	<ul style="list-style-type: none"> <li>• Post-it or other sheets to write down participants' expectations</li> </ul>
2. Presentation of breastfeeding recommendations	<ul style="list-style-type: none"> <li>• A copy of "recommendations" for each participant</li> <li>• A copy of "reasons for the recommendations (benefits)" for each participant</li> </ul>	<ul style="list-style-type: none"> <li>• Breastfeeding recommendations</li> </ul>	<ul style="list-style-type: none"> <li>• Flip chart paper for each group to write its answers to the 3 questions</li> </ul>
3. Technical data on breastfeeding: special themes	<ul style="list-style-type: none"> <li>• A copy of "Important information on HIV/AIDS and breastfeeding"</li> <li>• A copy of "Important information on breastfeeding and family planning"</li> </ul>	<ul style="list-style-type: none"> <li>• Summary of the "3 LAM requirements"</li> <li>• Summary of "HIV/AIDS and breastfeeding"</li> </ul>	
4. Analysis of local "data"	<ul style="list-style-type: none"> <li>• A copy of the "indicators" for the region and the country</li> </ul>	<ul style="list-style-type: none"> <li>• Indicators</li> <li>• Recommendations on breastfeeding</li> </ul>	
5. Introduction to the learning sessions on Infant and Child feeding	<ul style="list-style-type: none"> <li>• A copy of each session of the module on infant and child feeding : the introduction + the 13 sessions + the images</li> <li>• Summary of the sessions</li> <li>• A copy of the table : «Schedule of the learning sessions at the Mothers' Clubs in the preventive and recuperative programs»</li> </ul>	<ul style="list-style-type: none"> <li>• Assignment of health agents to different teams to prepare and present Sessions 2-13</li> <li>• Model summary table</li> <li>• Summary of Session #1</li> <li>• How the module is structured</li> </ul>	
6. Important resource documents	<ul style="list-style-type: none"> <li>• <b>Resource documents :</b></li> <li>- <i>Recommended breastfeeding practices (distributed in Activity #2)</i></li> <li>- <i>Benefits of recommendations (distributed in Activity #2)</i></li> <li>- <i>Breastfeeding promotion strategies in the community</i></li> <li>- <i>Analysis of attitudes toward breastfeeding (matrix)</i></li> <li>- <i>Recipes</i></li> <li>- <i>Information on the development of children's feeding skills and other development stages</i></li> <li>- <i>Take-home worksheet and answer sheet</i></li> </ul>	<ul style="list-style-type: none"> <li>• List of resource documents</li> </ul>	
7. Advice for health agents/colvols		<ul style="list-style-type: none"> <li>• Summary of advice for health agents/colvols</li> </ul>	

ACTIVITIES	HANDOUTS	FLIP-CHART	OTHER
8. Giving and receiving feedback	<ul style="list-style-type: none"> <li>A copy of "principles for giving and receiving feedback"</li> </ul>	<ul style="list-style-type: none"> <li>"principles for giving and receiving feedback"</li> </ul>	
9. Presentation of learning sessions with feedback	<ul style="list-style-type: none"> <li>A copy per participant of the infant and child feeding module (if it was not distributed earlier), including all the images</li> <li>Checklist of observations and directives for each session</li> </ul>	<ul style="list-style-type: none"> <li>Assignment of health agents to presentation teams</li> <li>Summary of each session</li> <li>Principles for "giving and receiving feedback"</li> <li>Feedback questions</li> </ul>	
10. How this module contributes to improved child health and nutrition	<ul style="list-style-type: none"> <li>UNICEF diagram</li> </ul>	<ul style="list-style-type: none"> <li>UNICEF diagram: "Helping children to grow strong and healthy"</li> <li>Summary page of title and goal of each learning session on infant and child feeding</li> </ul>	<ul style="list-style-type: none"> <li>Small pieces of paper or "post-it" notes</li> </ul>
11. Presentation of the child development and feeding chart	<ul style="list-style-type: none"> <li>A copy of the complete child development and feeding chart</li> <li>Summary of the child development and feeding chart</li> </ul>	<ul style="list-style-type: none"> <li>Child development and feeding chart</li> </ul>	<ul style="list-style-type: none"> <li>Sheet of paper to write the name of each group</li> </ul>
12. Magnitude of malnutrition in the country	<ul style="list-style-type: none"> <li>Definitions of stunting, wasting, and underweight</li> <li>Graphs showing data on stunting, wasting, and underweight for Haiti and 15 other countries</li> </ul>	<ul style="list-style-type: none"> <li>Graphs showing data on stunting, wasting, and underweight for Haiti and 15 other countries</li> </ul>	
13. How iron, vitamin A and iodine deficiencies affect children	<ul style="list-style-type: none"> <li>Table : « How iron, vitamin A and iodine deficiencies affect children »</li> </ul>	<ul style="list-style-type: none"> <li>Table : « How iron, vitamin A and iodine deficiencies affect children »</li> </ul>	
14. Preparation of improved complementary foods	<ul style="list-style-type: none"> <li>A copy of the recipes for each participant</li> </ul>	<ul style="list-style-type: none"> <li>The 3 categories of foods shown in the recipes</li> </ul>	<ul style="list-style-type: none"> <li>Prepare kitchen utensils, ingredients and all necessary materials</li> </ul>
15. Final evaluation, post-test, closure	<ul style="list-style-type: none"> <li>Post-test — two copies per participant : one blank and one with the correct answers</li> <li>Evaluation of the training</li> <li>Certificates</li> </ul>		

## ACTIVITY 1 : PRE-TEST ON INFANT AND CHILD FEEDING

Note for the trainer : this pre-test is not a « stand-alone » activity ; it should probably be done as part of a larger activity to introduce the training module. The box below contains information concerning this larger activity. However, the steps that follow it concern only the pre-test ; we think that each trainer has his/her own preferences for opening the training, doing the introductions and presenting the training objectives and expectations.

### **PURPOSE :**

To open the training and provide a framework for working together in preparing the presentation of the learning sessions on infant and child feeding to the women in Mothers' Clubs.

### **OBJECTIVES :**

At the end of this session, the participants will have :

1. **greeted** each other;
2. **reviewed** the objectives of the infant and child feeding module ;
3. **established** norms for group interaction and behavior during the training ;
4. **discussed** their expectations for the training ;
5. **completed** a short pre-test on their knowledge of key information on infant and child feeding.

### **TIME :**

60 minutes

### **METHODS :**

Will depend on the activities selected by the trainer (see below) and may include discussions in groups of two or three (presentations), presentation by the trainer, presentations by participants to the large group, etc.

### **PREPARATION/MATERIALS :**

- Will depend on specific activities selected, but will probably include writing down the « Why » of the training - the objectives - on a flip-chart.
- Copies of the pre-test on breastfeeding for each of the participants (see « Trainer's toolkit »).

### **STEPS**

1. **Pre-test to evaluate knowledge of breastfeeding and feeding recommendations - 20 minutes**

Review the following points for the participants before giving the pre-test :

*The objective of this pre-test is to help us evaluate one aspect of the effectiveness of this training. A more thorough evaluation can only be performed by observing your work directly while facilitating the training. However, we can begin by evaluating knowledge change during the training itself. By giving this pre-test, we can use your knowledge level before the training as a basis to evaluate changes due to the training.*

*All test results will be confidential, however each participant is free to discuss his/her test results with the trainer. The pre-test is one way to evaluate how much you know about just one aspect of the training : technical knowledge of infant and young child feeding.*

Distribute the pre-test (you will find a copy in the « Trainer's toolkit ») and give participants about 20 minutes to complete.

Tell participants that you will not take the time now to go over the questions now but that together you will cover all the issues addressed in them before the end of the training.

## ACTIVITY 2 : PRESENTATION OF BREASTFEEDING RECOMMENDATIONS

### **PURPOSE :**

To encourage health agents/colvols to explore their understanding and practices concerning breastfeeding and to compare these with recommended practices.

### **OBJECTIVES :**

At the end of this session, the participants will have :

1. **identified** their own understanding and practices regarding initiation and continuation of breastfeeding, and the introduction of complementary foods and drinks;
2. **reviewed** current breastfeeding recommendations and reasons for them ;
3. **compared** their understanding with the recommendations and **identified** the concepts that are new to them ;

### **TIME :**

40 minutes

### **METHODS :**

Paired discussions, gallery walk with a small group, reading, large-group discussion, and question/answer period.

### **PREPARATION/MATERIALS :**

- Write the following recommendations on three flip-charts, one per recommendation.
- Prepare a copy of « Reasons for the recommendations (Benefits) » for each participant (see « Trainer's toolkit »).

### **STEPS**

#### **1. Paired discussions concerning breastfeeding - 10 minutes**

Ask participants to discuss their understanding of and their practices (or those of their spouses) concerning the following three questions (write them on a flip-chart) :

- *When should breastfeeding start ?*
- *When should other foods or drinks, other than breast milk, be introduced?*
- *Until what age should an infant be breastfed ?*

Give them 10 minutes to discuss these 3 questions in paired groups.



## 2. Gallery walk to review recommended breastfeeding practices - 10 minutes

At the end of the discussion, post the three recommendations that will be made in the infant and child feeding module. Use three flip-charts.

### Recommended breastfeeding practices

#### Start breastfeeding within one hour after birth.

- Start to breastfeed within one hour after birth to make sure that the baby receives the «first milk » or colostrum.
- Colostrum should be the baby's first taste.
- Nothing else should be given (no water, other drinks or ritual foods such as « lòk ») before or after the colostrum.

#### Breastfeed exclusively during the first 6 months.

- Breastfeed exclusively (no other foods or drinks, not even water).
- Breastfeed often and on demand, including at night (breastfeed at least 8 times per 24 hours).
- Give at least 5 complete feeds (for 20 minutes or more) until the breast is emptied.

#### Continue breastfeeding and introduce complementary foods at about 6 months.

- Start introducing other foods at about 6 months.
- Continue breastfeeding for 2 years or beyond.

Invite the participants to stroll in pairs to read the three recommendations on the flip-chart sheets and to compare them with the discussion that they just had.

## 3. Individual reading to review reasons for recommendations - 10 minutes

Hand out a copy of the « Reasons for the recommendations (benefits) » to each participant and tell them :

*You have reviewed important breastfeeding recommendations. This sheet lists the reasons for these recommendations - benefits for the mother and the child. Take about 10 minutes to read them and circle what you find particularly interesting or not clear.*

## 4. Large group discussion of new things learned - 5 minutes

In the large group, ask a volunteer to answer the following question:

*Which elements of the recommendations or of the reasons were different from your understanding or practices ?*

*Which elements were not clear for you ?*

N.B. : the recommendations and the reasons for them will be given to all the health agents and colvols in a set of resource documents for them to keep (see Activity 6).

## ACTIVITY 3 : TECHNICAL DATA ON BREASTFEEDING : SPECIAL THEMES

### **PURPOSE :**

To draw attention to two important breastfeeding issues in order to avoid confusion if they are discussed in Mothers' Clubs.

### **OBJECTIVES :**

At the end of this session, the participants will have :

1. **reviewed** information regarding two important breastfeeding topics:
  - Breastfeeding and HIV/AIDS
  - Breastfeeding and family planning
2. **asked** questions to clarify their understanding of these two topics.

### **TIME :**

30 minutes

### **METHODS :**

Presentation by the trainer, question/answer session

### **PREPARATION/MATERIALS :**

- Prepare on the flip-chart and on a handout a summary of the tree LAM requirements and the summary statement on HIV/AIDS and breastfeeding (see « Trainer's toolkit »).

### **STEPS**

#### **1. Presentation on HIV/AIDS and breastfeeding - 10 minutes**

Present clearly the following points (they could be summarized on the flip-chart and on a handout [see « Trainer's toolkit »]).

#### **Important information on HIV/AIDS infection and breastfeeding**

You or women from the Mothers' Clubs may have heard that a breastfeeding mother can transmit the HIV/AIDS virus to her child via the breast milk. Here is what we know :

- It is possible for an HIV infected mother to transmit the virus to her infant through breastfeeding.
- Many infants of HIV infected mothers will already be infected at birth (about one out of 5).

- Of the babies not infected at birth, some (about one out of seven) will become infected through breastfeeding.
- In places where disease and malnutrition are the main causes of infant mortality, breastfeeding may still be the best strategy, because alternatives to breastfeeding may not be available or may cause infant death through infections or malnutrition.
- There is some evidence that HIV infection through breastfeeding can be reduced if the mother breastfeeds exclusively. This means giving the baby should receive no other foods or drinks, not even water.
- Health agents should tell infected mothers about the risks and benefits of all available infant-feeding options. They should then help mothers carry out their infant feeding strategy as safely as possible.
- Mothers who are not infected or who do not know if they are should be strongly encouraged to breastfeed exclusively during the first 6 months.

## 2. Questions/Answers on HIV/AIDS infection and breastfeeding - 15 minutes

Ask participants : *What questions do you have ?*

Facilitate a question/answer session in order to give more details.

## 3. Presentation on breastfeeding and family planning - 10 minutes

Present clearly the following points (they could be summarized on the flip-chart and on a handout [see « Trainer's documents »]).

### **Important information on breastfeeding and family planning**

One of the reasons for recommending exclusive breastfeeding for 6 months is the following :

« If a mother breastfeeds exclusively and on demand, she may be protected from pregnancy for at least 6 months (as long as her menstrual period has not yet returned).»

Women are always interested in this reason because many of them are looking for ways to avoid getting pregnant right away.

The information is correct ; this birth control method is called LAM (Lactational Amenorrhea Method) ; however, it should be presented very carefully. A woman wishing to use LAM as a birth control or spacing method must understand the three requirements that must be met. If this is not the case, you may lose her trust if the method fails.

Here are the three conditions that you must insist on :

1. Her menstrual period has not returned.
2. Exclusive breastfeeding : the mother gives only breastmilk to the baby, whenever s/he wants - day and night - and gives five complete feeds which last for 20 minutes or more.
3. The baby is less than 6 months old.

If one of those conditions is not met, another birth control method should be used in order to ensure adequate birth spacing and promote child survival.

#### **4. Questions and answers on breastfeeding and family planning - 15 minutes**

Ask participants : *What questions do you have ?*

Facilitate a question/answer session in order to give more details.

Close the session by thanking the participants for their questions and inviting them to continue to ask questions throughout the training.

## ACTIVITY 4 : ANALYSIS OF « LOCAL » DATA

### PURPOSE :

To analyze data that have been collected and tabulated - such as data from DHS surveys or other national or regional surveys on breastfeeding practices.

### OBJECTIVES :

At the end of the session, the participants will have :

1. **reviewed** indicators of breastfeeding practices from national and regional surveys.
2. **described** how these data can help them determine which recommendations to emphasize during the learning sessions.

### TIME :

30 minutes

### METHODS :

Presentation by the trainer, small- and large-group discussions.

### PREPARATION/MATERIALS :

- Identify the set or sets of data from which you will review the information (if a set of data has not been prepared for you) and review them in a table like the one presented below.
- Write the indicators on the flip chart and on a handout.
- Post, well in sight, the recommended practices on breastfeeding for the participants to read and compare to the data.

### STEPS

#### 1. Presentation of indicators on recommended breastfeeding practices - 5 minutes

Say these words to the health agents/colvols :

*We would like to understand to what extent the practices of women in this country correspond to the recommendations we reviewed. In order to do so, we are going to look at answers given by mothers on their breastfeeding practices.*

*We will then compare their answers to the recommended practices in order to see if there are some recommendations that need to be emphasized more during the learning sessions. We will analyze answers to five questions.*

Summarize the five « indicators » below and the corresponding recommendations - use the flip chart to present them :

Indicator	Description	Recommendation
Percentage of mothers who ever breastfed their child.	This is the percentage of women who answered "yes" when asked whether they <u>ever</u> breastfed their child.	This is a general indicator of whether mothers ever breastfed their child.
Percentage of mothers starting breastfeeding within one hour after birth.	Percentage of women who have said that they had begun to breastfeed their babies within one hour after birth.	Start breastfeeding within about one hour after birth.
Percentage of babies who were given « lòk ».	Percentage of women who said "Yes" that they gave "lòk" to their babies.	Colostrum must be the first thing that babies taste.
Percentage of babies 0-3 months who are breastfed exclusively.	Although the recommendation is to breastfeed exclusively for 6 months, this indicator gives the percentage of women who said that they breastfed exclusively for 3 months.	Give only breastmilk for about the first 6 months.
Percentage of babies 4-5 months old breastfed exclusively.	Although the recommendation is to breastfeed exclusively for 6 months, this indicator gives the percentage of women who said that they breastfed exclusively for 4-5 months.	Give only breastmilk for about the first 6 months.

Ask for any questions on these indicators.

## 2. Small group discussions of what the participants think about the women's - 5 minutes

Form 4 small groups and ask each group to do the following :

*Discuss the 5 indicators and try to come up with what you think is the response of women in this country. After 3 minutes you will share your guesses with the large group.*

During the discussions, post a large sheet like this one :

Indicator	Group 1		Group 2		Group 3		Group 4		Actual survey results	
	Zone	Country	Zone	Country	Zone	Country	Zone	Country	Zone	Country
% of breastfed babies										
% of mothers who breastfeed within one hour after birth										
% of babies who were given "lòk"										
% of babies 0-3 months breastfed exclusively										
% of babies 4-5 months breastfed exclusively										

Each small group must present its guess for each indicator - examine one indicator at a time and get each group's response.

### 3. Posting of survey results and large group discussion - 5 minutes

Write down the true results from the survey you selected and note which year the results are from. Ask for volunteers to comment what they see.

Indicators	Zone: Central Plateau	Haiti
❖ % of breastfed babies	98%	97.4%
❖ % of mothers who breastfeed within one hour after birth	36.5%	46.7%
❖ % of babies who were given "lok"	56.4%	52.2%
❖ % of babies 0-3 months breastfed exclusively		32 %
❖ % of babies 4-5 months breastfed exclusively		9.8%

Source : « Demographic and Health Survey EMMUS-III, Haiti 2000 »

Note the similarities and the differences between the guesses and the real results.

Distribute a copy of the table to each participant.

### 4. Small-group analysis and large-group discussion of the survey results - 15 minutes

Invite participants to form 4 small groups again and to discuss the following questions :

*According to these data, which recommendations women in this country (or this region) seem to be following ?*

*Which recommendations they do not seem to be following ?*

After 5 minutes, ask volunteers from each small group to summarize their discussions.

In the large group, ask for volunteers to answer the following question :

*Accoding to what you have seen, what do you think are the recommendations that need to be most emphasized in this module and why ?*

Close the session by asking the participants to keep in mind these data and these discussions when presenting the learning sessions on infant and child feeding.



## **Note for the trainer on the preparation of the learning sessions**

This part of the training deals with the actual presentation of the thirteen learning sessions on infant and child feeding. It is expected that participants will form teams to practice presenting the different learning sessions. Experience has shown that the teams will need at least 2 hours to prepare each learning session (not including the time necessary to prepare a summary of the session - see Activity 5).

In the activities presented in the following pages, no time is specified for this preparation. However, at least 2 hours must be provided for the teams to have enough time to prepare. The trainer must assist the teams in their preparation.

Also, it is expected that you, the trainer, will present the first session - the summary and the entire session (see Activity 5, « Important note »).

## ACTIVITY 5 : INTRODUCTION TO THE LEARNING SESSIONS ON INFANT AND CHILD FEEDING

### **PURPOSE :**

To enable health agents/colvols to review and summarize a learning session on infant and child feeding.

### **OBJECTIVES :**

At the end of this activity, the participants will have :

1. **reviewed** the content of the module on infant and child feeding ;
2. **prepared**, for the other health agents/colvols, a summary of one learning session on infant and child feeding ;
3. **listened to** a summary of the sessions on infant and child feeding and **asked** questions for clarification ;
4. **established the difference** in the schedule of learning sessions to use at the Mothers' Clubs in the preventive and in the recuperative programs.

### **TIME :**

155 minutes

### **METHODS :**

Discussions in small groups (teams), presentations by the teams, presentation by the trainer

### **PREPARATION/MATERIALS :**

- Prepare copies of the infant and child feeding module (the introduction and the 13 sessions), including all the pictures to use in each session.
- Prepare a flip-chart showing the composition of each team (sessions 2-13). The team members will work together to present the summary and the entire session.
- Prepare a flip-chart showing the elements to include in the summary.
- Prepare on a flip-chart a summary of Session 1 (see below)
- Prepare a flip-chart with the table : « how this module is structured »
- Prepare a flip-chart and a handout with the schedule for the sessions.

### **STEPS**

1. **Presentation of the module content by the trainer - 5 minutes**

Distribute the module on infant and child feeding and introduce it in the following manner :

### How this module is structured

Introduction to the module — The introduction presents a summary of the module with the title and the purpose of each session.

Sessions— Each session includes :

- The title.
- A box that includes the objectives of the session, the time needed to complete it, the methods used, and preparations that the health agent/colvol must complete before presenting it.
- Instructions for each step ; and
- Pictures/illustrations to use for the session.

Ask for any questions or comments.

#### 2. Team discussion to prepare a brief summary of one learning session - 60 minutes

Post a flip-chart showing the composition of the different teams.

Important note : You, as the trainer, will present Session 1 in order to demonstrate the presentation process. You will also present a summary of Session 1 as an example before breaking the teams to prepare the summaries. You will therefore assign sessions 2-13 to the teams.

Tell the participants that each group will have 60 minutes to :

- a) Review the learning session that they will present during the training ;
- b) Prepare a short summary of the session for their colleagues.

Give a flip-chart to each group and show them the elements to include in their summary. They will have less than 5 minutes to present a summary on a table like this :

#### Summary of activities

Session title :

Fill out the following table for each step:

Step	Methods used	What is to be accomplished in this step
1		
2		
etc.		

Note : These summaries are designed to help each team understand the relation of its session to the other sessions in the module and to make it possible for each team to have a general view of the module.

Present the summary of Session 1 as a model.

Ask participants :

*What are your questions or comments on how to prepare the summaries ?*

Give more details as needed and give them time to prepare the summaries.

### **3. Presentations by the teams of the sessions' summaries - 75 minutes**

Ask each group to present its summary.

After each presentation, add important comments and ask participants for questions or comments.

Follow attentively each team's summary and use the summaries shown in the « trainer's toolkit » to give more details. At the end, show how the 13 sessions of the module are linked, distribute a copy of the summaries to each participant, and explain how the module will be used in the Mothers' Clubs according to the preventive and recuperative programs.

### **4. Presentation of the schedule of the sessions according to the two programs : recuperative and preventive - 15 minutes**

Post a flip-chart sheet with the table : *Schedule of learning sessions in the preventive and the recuperative programs*. Explain :

*In looking at the summaries, you can see that the sessions are numbered from 1-13. These sessions are used in two different programs : preventive and recuperative. The order of the sessions changes according to the program.*

**Important note :** Review briefly the two underlying approaches of the preventive and the recuperative programs !

*In the preventive program there are "Mothers' Clubs for pregnant women", "Mothers' Clubs for lactating women", and "Mothers' Clubs for mothers of children 6-24 months of age". This means that each child is followed from its mother's womb until s/he is 2 years old (cohort approach). It is very important to present the information to the mothers at what is likely to be the appropriate learning moment for each set of behaviors: when they are pregnant, when they are breastfeeding, until their children are 2 years old.*

*In the recuperative program, there are "Mothers' Clubs for pregnant women", "Mothers' Clubs for lactating women", and "Mothers' Clubs for mothers of malnourished children". In the "Mothers' Clubs for pregnant women" and the "Mothers' Clubs for lactating women", the learning sessions are the same as in the preventive program until the child is 6 months old (cohort approach: the child is followed from the womb until h/she is 6 months old). All mothers with malnourished children 6 months to 5 years old will attend a special Mothers' Club for 9 months. In this they will mainly focus on the topic of malnutrition and the recuperation of malnourished children, with a special emphasis on how to prevent their children from getting malnourished again.*

*For pregnant and lactating women, the schedule is the same in both programs (preventive and recuperative). The activities will start from the time the woman is about 7 months pregnant. This way, before she gives birth, she will have the possibility to attend the first 2 sessions.*

*After giving birth - we are now having lactating mothers - we will deal with Sessions 3 to 6. This is valid for both programs until the baby is in its 5<sup>th</sup> month of age. At the age of 6 months, the session for the 2 programs is different. There are two Sessions #7, one designed for the use in the recuperative and one for the use in the preventive program.*

*In the preventive program, the "Mothers' Clubs for mothers of children 6-24 months of age" will continue with the sessions in the following order:*

- *Session 8-11 (P&R)<sup>2</sup>*
- *Session 12 (P)<sup>3</sup> and*
- *Session 13 (P)*

*Note that, in general, the mothers of children 6-24 months of age have already attended «Mothers' Clubs for lactating women» before, i.e., the same mothers who are in the «Mothers' Clubs for lactating women» continue to attend the «Mothers' Clubs for mothers of children 6-24 months of age» ! If this is not the case, the health agent/colvol could use the schedule of the recuperative program for the mothers of malnourished children (see below).*

*In the recuperative program, the "Mothers' Clubs for mothers of malnourished children" will follow the sessions in the following order:*

- *Session 13 (R)<sup>4</sup>*
- *Sessions 8-10 (P&R)*
- *Session 12 (R)*

<sup>2</sup> (P&R) after the Session number implies that the session was designed for use in both the preventive and recuperative programs. The session can be found in folders "Learning sessions for use in the preventive program" & "Learning sessions for use in the recuperative program" on the CD-ROM

<sup>3</sup> A (P) after the Session number implies that the session was designed for use in the *preventive* program and can be found in the folder "Learning sessions for use in the preventive program" on the CD-ROM

<sup>4</sup> An (R) after the Session number implies that the session was designed for use in the *recuperative* program and can be found in the folder "Learning sessions for use in the recuperative program" on the CD-ROM.

- *Session 1 (R), and*
- *Session 11 (P&R)*

*Note that these mothers have not necessarily attended «Mothers' Clubs for pregnant women» and/or «Mothers' Clubs for lactating women» before !*

*Considering that the learning sessions have precise objectives, it is recommended that the proposed order be followed for best results.*

*For "Mothers' Clubs for pregnant women" and "Mothers' Clubs for lactating women" in the preventive and recuperative programs and the "Mothers' Clubs for mothers of children 6-24 months of age", we advise the health agents to always organize a Club meeting with a colvol present. This is to assure as much as possible that the right information is addressed at the right time to the mothers. To make this possible, participants should be divided in 2 sub-groups according to the month of pregnancy or the age of the infant/child. The health agent and the colvol can work each with one subgroup and choose the session that is appropriate for the women at that time. This is important because all the pregnant women from one area will be together, no matter how many months pregnant they are. This is the same for all lactating women and all mothers of children 6-24 months old (Note: The children's ages in the same Club can vary between 0 and 6 months).*

Important note : a mother must absolutely follow the sessions in the proposed order for best results.

*In the prenatal and postnatal consultations, the health agents may use excerpts from these sessions. The second part of the table is presented for illustrative purposes.*

Ask participants :

*What is not clear for you in how to use these sessions ?*

Provide necessary details and distribute the table to all participants while inviting them to ask questions at any time on the approaches of the two programs and the schedule of the learning sessions.

## SCHEDULE OF LEARNING SESSIONS FOR USE IN THE PREVENTIVE AND RECUPERATIVE PROGRAMS

	Preventive	Recuperative
<b>Stage of pregnancy</b>	<u>Mothers' Clubs for pregnant women</u>	
Last Trimester	<b>Session 1 (P&amp;R)</b>	
8th or 9 <sup>th</sup> month of pregnancy	<b>Session 2 (P&amp;R)</b>	
<b>Child age (months)</b>	<u>Mothers' Clubs for lactating women</u>	
1	<b>Session 3 (P&amp;R)</b>	
2	<b>Session 4 (P&amp;R)</b>	
3	Other topic - to be decided (for example, special diet for breastfeeding mothers)	
4	<b>Session 5 (P&amp;R)</b>	
5	<b>Session 6 (P&amp;R)</b>	
6	<b>Session 7 (P)</b>	<b>Session 7 (R)</b>
<b>Program month</b>	<u>Mothers' Clubs for mothers of children 6-24 months of age</u>	<u>Mothers' Clubs for mothers of malnourished children 6 to 59 months of age</u>
1	<b>Session 8 (P&amp;R)</b>	<b>Session 13 @</b>
2	<b>Session 9 (P&amp;R)</b>	<b>Session 8 (P&amp;R)</b>
3	<b>Session 10 (P&amp;R)</b>	<b>Session 9 (P&amp;R)</b>
4	<b>Session 11 (P&amp;R)</b>	<b>Session 10 (P&amp;R)</b>
5	<b>Session 12 (P)</b>	<b>Session 12 (R)</b>
6	<b>Session 13 (P)</b>	<b>Session 1 (R)</b>
7	Other topics - placement in schedule to be determined	<b>Session 11 (P&amp;R)</b>
8	Other topics - placement in schedule to be determined	Other topics - placement in schedule to be determined (for example, HIV/AIDS)
9	Other topics - placement in schedule to be determined	Other topics - placement in schedule to be determined (for example, family planning)
10	Other topics - placement in schedule to be determined	Participants in this program attend only for 9 months
11	Other topics - placement in schedule to be determined	

	<b>Preventive</b>	<b>Recuperative</b>
12	Other topics - placement in schedule to be determined	
13	Other topics - placement in schedule to be determined	
14	Other topics - placement in schedule to be determined	
15	Other topics - placement in schedule to be determined	
16	Other topics - placement in schedule to be determined	
17	Other topics - placement in schedule to be determined	
18	Other topics - placement in schedule to be determined	
<b>Preventive &amp; Recuperative Programs</b>		
<b>Stage of pregnancy</b>	<u>Prenatal consultations</u>	
8 <sup>th</sup> or 9 <sup>th</sup> month of pregnancy	<b>Session 2 (P&amp;R), Steps 2+5</b>	
<b>Child age (months)</b>	<u>Postnatal consultations</u>	
1	Other topics - placement in schedule to be determined	
2	<b>Session 3 (P&amp;R), step 5</b>	
3	<b>Session 3 (P&amp;R), step 2</b>	



## ACTIVITY 6 : IMPORTANT RESOURCE DOCUMENTS

Note for the trainer : This session cannot be done entirely in one day because it requires that the health agents/colvols take time to read the resource documents and to complete a worksheet about these documents. The entire session is presented here but the health agents/colvols must be given one evening to do their homework.

### **PURPOSE :**

To introduce the health agents/colvols to a set of documents that they can use and to give them a homework that will require that they read them.

### **OBJECTIVES :**

At the end of this session, the participants will have :

1. **reviewed** the content of the resource documents for the infant and child feeding module ;
2. **completed** a take-home worksheet that requires that they read the resource documents.

### **TIME :**

30 minutes (not including one evening to do the homework)

### **METHODS :**

Presentation by the trainer, homework

### **PREPARATION/MATERIALS :**

- Prepare a copy of the set of resource documents and of the take-home worksheet for each health agent/colvol (see « Trainer's toolkit »).
- Prepare a flip-chart showing the list of resource documents distributed.

### **STEPS**

1. **Presentation of the documents by the trainer - 5 minutes**

Distribute the resource documents and review their content:

#### **List of resource documents**

- Recommended breastfeeding practices
- Reasons for recommendations on breastfeeding
- Strategies for promoting breastfeeding in the community
- Analysis of breastfeeding behaviors (matrix)
- Recipes for improved complementary foods

Distribute the take-home worksheet on the resource documents (see « Trainer's toolkit ») and explain to the participants that they must read all the documents distributed in order to complete it.

Decide together when they are going to do this work and tell them that you will review the answers with them when they have finished.

Ask for questions or comments.

Important note : Between this step and the next one, at least one evening must be given to participants to allow them to do the homework.

## **2. Presentation of answers to the homework - 20 minutes**

Use the answer sheet from the « Trainer's toolkit » to review the answers one by one. Ask for volunteers to give their answers and compare them to the answer sheet.

Congratulate those who have done the work.

Ask for questions or comments about the resource documents.

## ACTIVITY 7 : ADVICE FOR THE HEALTH AGENTS/COLVOLS

### **PURPOSE :**

To enable the health agents/colvos to present to their colleagues what they have learned by facilitating learning sessions and to receive advice from the trainer.

### **OBJECTIVES :**

At the end of this session, the participants will have :

1. **listed** the things that they have done and that have helped them to facilitate the learning sessions better ;
2. **reviewed** some points that will help them to facilitate the learning sessions better.

### **TIME :**

30 minutes

### **METHODS :**

Discussions in paired groups, large group discussion, presentation by the trainer

### **PREPARATION/MATERIALS :**

- Prepare a flip-chart sheet with the recommendations for the health agents/colvols.

### **STEPS**

1. **Discussions in paired groups to identify the facilitation strategies that work - 15 minutes**

Invite each participant to discuss the following with her/his neighbor :

*Talk about what you do in your Mothers' Clubs to improve the facilitation of the learning sessions. Think in particular about the things that you have designed yourself to improve members' active participation.*

Ask for volunteers to share the ideas that they discussed. Give to each group the opportunity to share at least one idea. As they share, write down the ideas on the flip-chart.

Thank participants for their ideas.

## 2. Presentation by the trainer of « recommendations for the health agents » - 15 minutes

Using the flip-chart, present the following recommendations on how to better facilitate the infant and child feeding module (summarize them if necessary). Be sure to compare your recommendations to what they have already said.

### Advice for health agents/colvols in order to improve the facilitation of the infant and child feeding module

1. Preparation - The most important thing that you can do to improve how you facilitate your sessions is to be prepared. If your materials are ready and you know the steps that you are going to facilitate, you will be more confident and the women will see it. Being prepared means that you have read the session, prepared the materials and practiced the questions and instructions. You may also have with you the session plan - with the important parts underlined in red or highlighted with a different color.
2. Homework - Some of the sessions include homework that the women must do before the next session. These homeworks are very important because they force the women to try a new attitude and/or to talk to other women in the community. The best way to make sure that they have done them is to bring attention to them during the next session -in other words, to show the participants that you believe in the importance of the homeworks. In addition, when they are preparing a homework make sure that they are as precise as possible about what it is that they are going to do.
3. Congratulations - Even if the lesson plan does not specifically ask the health agent/colvol to congratulate the women for what they have done, remember to congratulate them when they have presented ideas, designed plans or presented what they have tried or done.
4. Follow-up - When participants present actions that they have taken or ideas that they have, ask questions to encourage them to be as precise as possible.
5. Pictures - Pictures are not useful if the women cannot see them. In this module the pictures are usually on small sheets. The health agent/colvol must walk among the participants with the picture to make sure they see it.
6. Challenge - As the health agent/colvol, your work is difficult because you must pay attention both to the technical content and your facilitation approach. The best way to be sure that you present correct information is to review the session plan and the resource documents before each session. If a participant asks a question that you cannot answer, say that you are going to find the answer and you will communicate it to them later. Do not be afraid to say that you do not know the answer.
7. Other

Ask for questions or comments on these recommendations.

## ACTIVITY 8 : GIVING AND RECEIVING FEEDBACK

Note for the trainer : Giving and receiving feedback concerns any training (initial training and refresher courses) because of the need to present the learning sessions and review how the presenters did. It is therefore possible that the issue of feedback has already been presented in a previous training. If this is the case, you may just summarize the key principles and practices for giving and receiving feedback. However, this session is presented with the assumption that the topic is new to the group.

### **PURPOSE :**

To review the principles for giving and receiving feedback in order to guide participants when giving feedback to their colleagues at the end of their presentations.

### **OBJECTIVES :**

At the end of the session, the participants will have :

1. **reviewed** a set of principles for giving and receiving feedback ;
2. **added** to the list any principles that are missing ;
3. **agreed** how to apply the principles during the presentations of the learning sessions.

### **TIME :**

20 minutes

### **METHODS :**

Reading, large group discussion, presentation by the trainer

### **PREPARATION/MATERIALS :**

- Write on a flip-chart the principles for giving and receiving feedback. Consult the review sheet entitled « Giving and receiving feedback » in the « Trainer's toolkit » - you may summarize them if necessary without giving examples.)
- A copy of the document « Giving and receiving feedback » for each participant.

## **STEPS**

### **1. Individual reading and analysis of principles for giving and receiving feedback - 10 minutes**

Hand out a copy of the document « Giving and receiving feedback ».

Ask participants to read it and to underline or highlight the points that are particularly important for them. Encourage them to add other principles that they think are important.

Ask for volunteers to share the points that are important to them.

### **2. Large group discussion to identify how the principles will guide session feedback - 10 minutes**

Summarize the principles on the flip-chart.

Ask for volunteers to suggest other principles that are not on the list.

Tell participants that you will keep these principles posted throughout the presentations of the learning sessions and that they should refer to them when giving feedback.

Ask for volunteers who would be willing to help group members be vigilant about applying the principles and reminding them when they stray.

Write down the names of the volunteers.

<b>Giving and receiving feedback</b>
<p><b>Giving feedback :</b></p> <ol style="list-style-type: none"> <li><b>1. Be precise.</b> Give clear examples.</li> <li><b>2. Suggest another practice or approach.</b></li> <li><b>3. Include appreciative comments.</b></li> <li><b>4. Ask questions to understand first why the person has done something differently that you considered inappropriate.</b></li> </ol>

**Receiving feedback :**

- 1. Hear the entire comment/suggestion.**  
Try not to interrupt the person giving feedback.
- 2. Before answering, ask questions to make sure that you do understand what the person has said.**
- 3. Try not to be defensive and justify your actions.**
- 4. Thank the person for his/her comments.**
- 5. Help the person giving feedback to be clear (see point 1 in "Giving feedback").**

## ACTIVITY 9 : PRESENTATIONS BY THE TEAMS OF THE LEARNING SESSIONS - WITH FEEDBACK

Note for the trainer : In order to keep an open dialogue on the practices and principles of adult learning that are important for the facilitation of this module, the trainer is encouraged to alternate the presentations of the sessions with activities on adult learning. Directions for these activities can be found in the guide entitled « Primer on principles and practices of adult learning ». If the presentations by the teams take place during a 6-7 day workshop, it could be useful to do these activities on adult learning between each presentation.

### **PURPOSE :**

To allow all the health agents/colvols to participate in presenting a learning session on infant and child feeding, to observe all the other sessions and to give feedback to the group on how the presentation of the session could be improved.

### **OBJECTIVES :**

At the end of this session, the participants will have :

1. **presented** their learning sessions on infant and child feeding **or participated** in other sessions on infant and child feeding as a « member of a Mother's Club » ;
2. **given or received** feedback on the presentation of the sessions.

### **TIME :**

About 70 minutes per presentation - including the feedback - plus the adult education activities.

### **METHODS :**

Presentations by the teams, large group discussion (feedback)

### **PREPARATION/MATERIALS :**

- Post the flip-chart sheet with the principles on giving and receiving feedback.
- Prepare to present Session 1.

### **STEPS**

#### **1. Trainer presentation of Session 1 with feedback - 45 minutes**

Present the first session entirely (« The importance of good breastfeeding practices ») to the health agents and colvols and have the participants act as members of a Mothers' Club.

Incite them to give feedback on what you have said by first saying what you appreciate and what you would like to change in your own presentation. Ask them to give feedback by following the rules established in Activity 8 : « Giving and receiving feedback ».



## 2. Health agents/colvols presentations of the remaining learning sessions with feedback - about 70 minutes each

The steps of each presentation may be the same :

- The team presents its learning session.
- Feedback session :
  - Arrange the group in a circle and seat the presentation team together.
  - Ask the presenters to talk about what they liked in their presentation and what they would like to change.
  - Ask participants to talk about what they liked in the presentation and what they would like to change.

## ACTIVITY 10: HOW THIS MODULE CONTRIBUTES TO IMPROVING CHILDREN'S HEALTH AND NUTRITION

### PURPOSE:

To provide a framework for thinking about the causes of malnutrition and bad health status that result from it and clarify how this module contributes to improving the nutritional status of children.

### OBJECTIVES:

By the end of this activity, participants will have:

1. **examined** UNICEF's "Helping Children Grow Strong and Healthy" diagram.
2. **stated** what factors they think this program seeks to influence and why.
3. **evaluated** factors on the diagram that contribute to both dietary intake and health of a child.

### TIME:

30 minutes

### METHODS:

Presentation by the trainer, paired discussions, large-group discussions

### PREPARATION/MATERIALS:

1. A picture of the UNICEF chart on a large sheet of paper and as a handout (see "Trainer's toolkit").
2. Small pieces of paper or post-it notes for paired discussions.
3. A flip-chart page summarizing the titles and purpose of each session

### STEPS

#### 1. Present the UNICEF "Helping Children Grow Strong and Healthy" Diagram - 10 minutes

Present the flow of the diagram. Start at the top of the diagram with the "final outcome" seeking: child survival and growth.

Point to the right-hand side of the diagram while talking about this point to show that this is the outcome.

Next move down to the direct influences. These are the things that directly influence whether a child will survive and grow well. Ultimately children need to be healthy and take in adequate food—in terms of both quality and quantity. Whether a child takes in adequate food and remains healthy are affected by many critical factors.

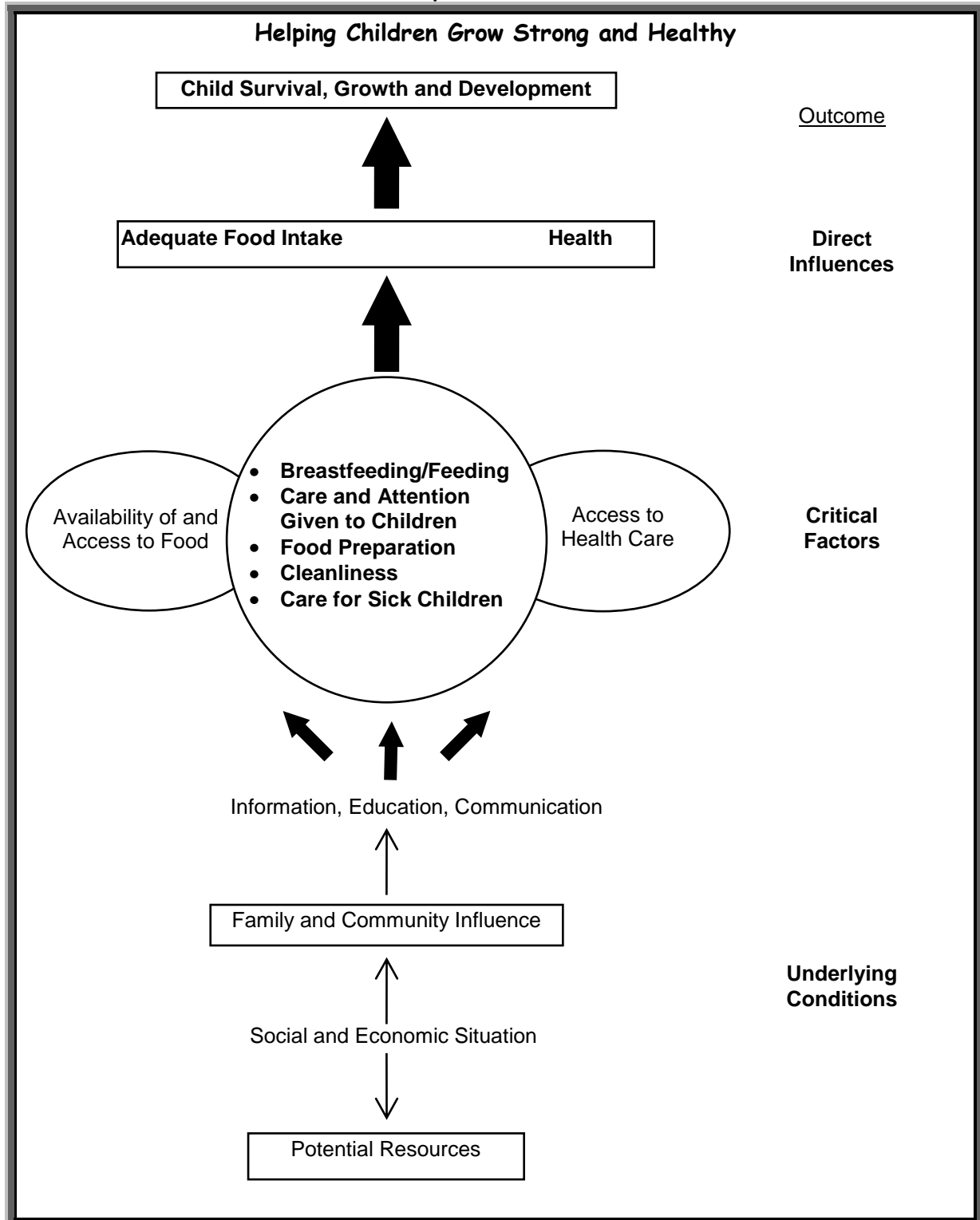
Move to the middle of the diagram where these critical factors are located and show how the three circles here overlap. They overlap because they influence each other. Point out that availability of food refers to food actually existing in the field or in the market to buy. Access to food means that, if food does exist in the market or the field, families have the ability to buy or get the food. This points out that having food available is NOT enough. Families must be able to buy it. The center of the diagram covers a number of important issues related to how a child is cared for and fed. Finish this level by pointing out that access to health care is also a critical factor.

After describing these critical factors, move to the bottom part of the diagram to describe all the factors that either allow these things to happen or not. These underlying conditions are things in the society, economy and household that influence individual and family behavior. Some of these are under the control of the family and some are not. Notice the way that information, education and communication can have a direct influence on the critical factors but that the underlying economic and social situation may influence whether information and communication are even available.

Note that the Infant and Child Feeding Module deals with issues that strongly influence child survival, growth and development and that this diagram helps us to see the importance of the information presented/discussed in the module.

Ask what questions or comments participants have. After assuring that everyone understands how "potential resources" lead to child survival growth and development, move on to Step 2.

## Flip-Chart: UNICEF



## **2. Paired and Large-Group Discussion on the Level of Factors that the Program Seeks to Influence - 15 minutes**

Ask each participant to discuss the following with one other person:

*Looking at the diagram, where does the program seek to have an influence?*

After a few minutes ask participants to use a post-it note or another small piece of paper to note why they chose the factor level and post it next to the factor level that they think the program most tries to influence.

After each group has posted its answer, have participants gather around the diagram and ask for volunteers to explain their answers. Be sure to note any contradictions/agreements. Thank participants for their ideas.

Have them note that this diagram shows the necessity for World Vision to create a synergy between the activities of the different sectors: health, education, agriculture, micro-finance, etc. so that families may have food available and that children have access to this food, to health care, are well cared for etc.

## **3. Presentation of Key Care Behaviors Covered in the Module - 5 minutes**

Close the activity by pointing to the center circle in the "Critical factors" level. Point out the issues in the circle and note how each is covered in the module by comparing it to the title and purpose of each session (use the flip chart and the title/objectives table for this). Emphasize that the module touches not only on WHAT is to be fed but also on HOW it is prepared and fed to the child (care and attention).

### Flip-Chart: Title and Purpose of Infant and Child Feeding Sessions

Session Title	Purpose of the Session
1. The importance of good breastfeeding practices	Understand the importance of breastfeeding for children
2. Good breastfeeding practices	Understand the importance of colostrum, good positioning and attachment during breastfeeding, and breastfeeding frequency
3. Always promote breastfeeding	Encourage the women to share their experiences with exclusive breastfeeding and help them find solutions to problems encountered
4. How to breastfeed better	Encourage the women to share their experiences with exclusive breastfeeding and help them find solutions to problems encountered
5. LAM - Lactational Amenorrhea Method	Understand the three LAM requirements and all benefits of the method
6. Start giving other rich foods to complement breast milk when children are 6 months old	Review the importance of breastfeeding and its continued importance when foods other than breast milk are added to children's diets
7. Learning to eat: how to breastfeed and feed children less than 12 months old	Analyze stages in children's development and the implications of these stages for how children learn to eat other foods in addition to breast milk
8. Preparing nutritious foods for children	Practice preparing nutritious foods such as enriched gruel and other special foods
9. Helping children eat well in health and in sickness	Focus attention on how to successfully feed children who are just learning to eat and on how to feed them during and after an illness
10. Variety of food combinations appropriate for children 6-12 months	Identify local foods that could be used to develop a varied diet for children (to assure adequate intake of micronutrients)
11. Protecting your food - protecting your children	Review how to avoid illness via appropriate food preparation, handling and storage
12. Feeding children beyond 12 months of age	Analyze issues concerning feeding of children more than 12 months old, such as frequency and quantity (to assure adequate intake of micronutrients)
13. What we can do to combat malnutrition	Understand what malnutrition is and how to help children with malnutrition recuperate.

## ACTIVITY 11: INTRODUCTION TO THE CHILD DEVELOPMENT AND FEEDING CHART

### PURPOSE:

To introduce the basic visual tool that will be used throughout the entire module: "The child development and feeding chart".

### OBJECTIVES:

By the end of this activity, participants will have:

1. **examined** the Child Development and Feeding Chart and its different components;
2. **noted** any areas of confusion they have on the chart and received clarification for their questions.

### TIME:

45 minutes

### METHODS:

Presentation by the trainer, small-group work, large-group discussions

### PREPARATION/MATERIALS:

1. A copy of the full Child Development and Feeding Chart.
2. Handout of the Child Development and Feeding Chart Summary in Step 2 (see "Trainer's toolkit").

### STEPS

#### 1. Presentation of the Child Development and Feeding Chart - 10 minutes

Show participants a copy of the full Child Development and Feeding Chart. Explain that individual parts or components of this chart will be used as visual aids in the learning sessions they will be facilitating. Tell participants that this chart contains, in visual form, the essential elements of the entire module.

#### Child Development and Feeding Chart Elements

	0	6	9	12	24
Child Development					
Food Texture					
Breastfeeding and Feeding					
Participating in Feeding					
Frequency of Feeding					
Quantity of Food					

Link the chart to the central circle of the UNICEF diagram and explain how this chart summarizes important recommendations concerning childcare and child feeding.

Point out that the chart has ages across the top ranging from 0-24 months—ages during which children are particularly vulnerable to malnutrition and illness. Describe how each row represents a different theme or recommendation related to infant and child feeding.

Be sure that the title of each row is visible for each participant and quickly review the row titles without going into detail:

- Row 1: Child Development
- Row 2: Food Texture
- Row 3: Breastfeeding and Feeding
- Row 4: Participating in Feeding
- Row 5: Frequency of Feeding
- Row 6: Quantity of Food

Ask for questions to briefly clarify any confusion but note also that participants will have an opportunity to work with the chart and ask questions about any points of confusion.

## 2. Group Work on the Message of Each Row of the Child Development and Feeding Chart - 15 minutes

Divide participants into five groups—one for each row after the first one. Describe their task.

*The Child Development and Feeding Chart has six separate rows that contain important information and recommendations on child development and feeding. Your task is to develop a brief summary of the content or recommendations of the row to which you are assigned. Your summary should be based on how you understand the entire row based on the picture.*

*The purpose of this activity is to check your understanding of the images and begin to work with the technical content of the module. For example, the first row is not a set of recommendations but merely shows some of the different stages of development through which children progress. It is designed to help participants see how the chart proceeds from birth (on the left) through 24 months of age (on the right).*

Assure that the task is clear and encourage groups to write their summaries on a single sheet of paper that can be hung next to the row in question.

As groups are working, circulate around the room and guide them by giving hints about each row such as the following (it may not be necessary to use these hints, but use them if a group is struggling):

- Row 2: Food Texture - What would you say about texture of food from 0-6 months? What do you notice about the food on the spoon—does it run off? What is the



difference between the bowl in the first and second picture? What do you notice about the food variety from 12-24 months?

- Row 3: Breastfeeding and Feeding - What do you notice about the order of feeding and breastfeeding as you move across the row from the left to the right?
- Row 4: Participating in Feeding - Describe as much as you can what the mother is doing in each picture. What do you notice about what the child has? Look at the bowls used. What do you notice about the bowls?
- Row 5: Frequency of Feeding - What might you say about frequency of feeding from 0-6 months? Do you remember the breastfeeding recommendations? What can you conclude from the number of pictures in each part of the drawing?
- Row 6: Quantity of Food - What might you say about the quantity of food given from 6-9 months? What is the minimum amount of food that should be given based on the pictures?

After about 7 minutes ask each group to present their summaries. Tell participants that they will be using the chart in several sessions of the module. Correct any wrong information using the summaries provided in the image below. Congratulate participants on their efforts. Hand out a copy of the following chart, which summarizes each set of pictures.

### Child Development and Feeding Chart Summary

	0	6	9	12	24
Child Development	Various stages of child development				
Food Texture	Breastmilk is appropriate	Breastmilk plus other nutritious complementary foods pureed, mashed and soft like a gruel	Breastmilk plus other nutritious complementary foods chunky, lumpy or chopped Increase the variety of foods fed, as the child gets older	Continue to feed nutritious foods plus small chunks of what the other family members are eating Increase the variety of foods fed, as the child gets older	
Breastfeeding and Feeding	Breastfeed only If the mother is going out, express breastmilk	Breastfeed first, then feed other foods If the mother is going out, express breastmilk		Feed other foods first, then breastfeed	
Participating in Feeding	Talk to children while breastfeeding	Feed infants directly, and feed slowly and patiently Talk to children during feeding, with eye to eye contact Encourage children to eat but do not force them Feed them in their own bowl Give them liquids with a little spoon out of a clean cup		Assist and supervise feeding Feed slowly and patiently Talk to children during feeding, with eye to eye contact Encourage children to eat but do not force them Feed them in their own bowl Children eat with family	
Frequency of Feeding	Day and night Whenever the child wants	Feed them nutritious or special meals 2-3 times per day Provide nutritious snacks 1-2 times per day	Feed them nutritious or special meals 3-4 times per day Provide nutritious snacks 1-2 times per day	Feed them nutritious or special meals 3-4 times per day Provide nutritious snacks 1-2 times per day	
Quantity of Food	Give five complete feeds, emptying one breast before offering the other	Each time you feed the child, give several small spoonfuls to equal 2-4 large spoonfuls until the child eats at least $\frac{1}{4}$ of a local cup (#7 <sup>5</sup> )	Each time you feed the child, give at least $\frac{1}{2}$ of a local cup (#7)	$\frac{1}{2}$ of a local cup (#7) or more at each meal - as the child gets older, give more food at each feeding	

<sup>5</sup> 1 local cup #7 is equal to 2 measuring cups U.S.

### **3. Individual Listing of Areas of Confusion - 15 minutes**

Ask each participant to examine the individual pictures in detail and list one or two questions or areas of confusion for them concerning the chart.

After a few minutes ask for a volunteer to share his/her question(s), and respond. Continue asking for volunteers until all questions have been answered.

Before ending this activity, ask what other questions or comments participants have.

## ACTIVITY 12: MAGNITUDE OF MALNUTRITION IN THE COUNTRY

### PURPOSE:

To enable participants to compare data from the country on stunting, wasting and underweight and appreciate both the magnitude of the problem and which ages are most vulnerable.

### OBJECTIVES:

By the end of this activity, participants will have:

1. **compared** the country data on the prevalence of stunting, wasting and underweight with the prevalence in 15 other countries;
2. **analyzed** the ages when stunting, wasting and underweight become a problem and the ages when risk is greatest for these three conditions.

### TIME:

30 minutes

### METHODS:

Presentation by trainer, paired analysis of graphs, large-group discussions

### PREPARATION/MATERIALS:

1. Handouts with the descriptions of stunting, wasting and underweight (see "Trainer's toolkit").
2. Graphs on large flip-charts and handouts (see "Trainer's toolkit") showing stunting, wasting and underweight data for the country and 15 other countries.

## STEPS

### 1. Presentation of Definitions of Stunting, Wasting and Underweight - 10 minutes

This activity should follow the presentation of Activity 6 in which the issue of vulnerability of children 6-24 months is raised. In that activity the idea of malnutrition is presented without defining it. Here we first provide definitions of malnutrition and then show data to understand both how the country compares to other countries and to what extent children of different ages are vulnerable.

Provide the following definitions—they are three different ways to describe malnutrition:

Stunting means that children are too short for their age. Stunted children have had some food but not quite enough over a long period of time. Stunted children may also have had many illnesses over a long period.

Wasting means that children do not weigh enough for their height. Wasting happens when a family or even a whole region does not have enough food for a short time, as in a famine, flood or war, or when a severe illness or epidemic occurs. Because it indicates a short-term and often local problem it is less frequent than stunting in most populations.

Underweight means that children do not weigh enough for their age. It means that children do not weigh enough in general although it is not always clear why—is it because children are simply too short for their age or because they do not weigh enough for their height (even though they are the right height for their age)? The measurement of children's weight for age is often used in growth-monitoring programs when children's weights can be taken month by month as they get older and comparisons can be made easily with their previous weight.

Ask what questions for clarification participants have.

## **2. Analysis of Data on Stunting, Wasting and Underweight - 15 minutes**

Post data charts on the walls for each of the three measures of malnutrition and break the participants into three groups. Ask each group to go to one of the graphs (stunting, wasting or underweight) and, using the definition for the appropriate measure, discuss these two questions:

- a. *How do Haiti's results compare, in general, to the averages of the 15 poor countries presented?*
- b. *What can you say about when stunting, wasting and underweight begin to be a problem for children and what ages seem most vulnerable?*

## **3. Large-Group Summaries of Discussions - 10 minutes**

Ask each group to briefly summarize their findings. Point out in closing that for each type of malnutrition the problem begins to appear at about 6 months of age and peaks in the age group 12-24 months. The only exception is stunting, for reasons discussed in the definition. Note that the problem of stunting levels off after the second birthday, indicating that most stunting occurs between the ages of 12 and 24 months.

## **ACTIVITY 13: HOW IRON, VITAMIN A AND IODINE DEFICIENCIES AFFECT CHILDREN**

### **PURPOSE:**

To enable participants to analyze the importance of iron, vitamin A and iodine in the diets of children and the magnitude of deficiencies in the country.

### **OBJECTIVES:**

By the end of this activity, participants will have:

1. **analyzed** the importance of 3 key nutrients to the growth and development of children;
2. **reviewed** how deficiencies of each nutrient affect the country (if data is available).

### **TIME:**

15 minutes for each topic

### **METHODS:**

Presentation by trainer, large-group Q/A

### **PREPARATION/MATERIALS:**

1. A large flip-chart and handouts (see "Trainer's toolkit") with the chart "How Iron, Vitamin A and Iodine Deficiencies Affect Children" (columns of the matrix to be presented one at a time after the presentation of learning sessions).

### **STEPS**

1. **Presentation of Columns of the Chart on Iron, Vitamin A and Iodine Deficiencies - 10 minutes**

Present one at a time the key information in the matrix, using the flip-chart version below.

## Flip-Chart: How Iron, Vitamin A and Iodine Deficiencies Affect Children

How Iron, Vitamin A and Iodine Deficiencies Affect Children			
	Iron	Vitamin A	Iodine
<b>Why is this nutrient important?</b>	<ul style="list-style-type: none"> <li>The body needs iron to make hemoglobin—a protein in red blood cells that carries oxygen to the brain, muscles, immune system and other parts of the body.</li> <li>Without adequate oxygen the physical and mental capacity of individuals is reduced.</li> </ul>	<ul style="list-style-type: none"> <li>The body's immune system cannot function well without adequate levels of vitamin A.</li> <li>Important for eyesight.</li> </ul>	<ul style="list-style-type: none"> <li>Iodine is essential for the production of thyroxin—a hormone used to maintain body temperature, brain function, growth and reproduction.</li> </ul>
<b>What causes a deficiency?</b>	<ul style="list-style-type: none"> <li>Too little iron in food eaten.</li> <li>Poor iron absorption.</li> <li>Increased need for iron of sick persons, pregnant and lactating women and young children.</li> <li>Chronic blood loss caused by worms or malaria.</li> <li>Can lead to anemia (inadequate hemoglobin in the blood).</li> </ul>	<ul style="list-style-type: none"> <li>Too little vitamin A in food eaten.</li> <li>Too little is absorbed (due to diarrhea).</li> <li>It is used up more quickly (during illnesses with fevers—such as measles).</li> <li>Increased need for vitamin A for pregnant and nursing mothers and for young children.</li> </ul>	<ul style="list-style-type: none"> <li>Iodine deficiency is most common in mountainous regions like the Central Plateau. Soil and water are iodine deficient, resulting in low levels of iodine in locally grown foods, vegetables or animal source foods.</li> </ul>
<b>What are the physical implications of deficiency in children?</b>	<ul style="list-style-type: none"> <li>(Iron deficiency anemia).</li> <li>Impaired learning.</li> <li>Impaired development.</li> <li>Lower height.</li> <li>Weakened defense against infection.</li> <li>Feel tired.</li> </ul>	<ul style="list-style-type: none"> <li>Damaged surfaces of the skin, eyes and mouth, the lining of the stomach and the respiratory system.</li> <li>More infections that become more severe.</li> <li>Can lead to blindness.</li> </ul>	<ul style="list-style-type: none"> <li>(In fetus) Poor brain development and impaired ability to learn (cretinism).</li> <li>Brain damage—affecting ability to walk, hear and learn.</li> <li>Goiter - clinical manifestation of iodine deficiency.</li> </ul>
<b>What can be done?</b>	<ul style="list-style-type: none"> <li>Nutritional sources according to their importance:               <ol style="list-style-type: none"> <li>Foods rich in iron: red meat, liver, fish</li> <li>Vegetables and dry beans (contain iron less bioavailable)                   <ul style="list-style-type: none"> <li>The iron in vegetables and dry beans is less bioavailable than iron in meat and fish.</li> </ul> </li> <li>Vitamin C helps the body absorb more iron.</li> <li>Supplements may be necessary when there is an increased need, for example for pregnant and nursing mothers and for young children.</li> </ol> </li> <li>Look for fortified foods.</li> </ul>	<ul style="list-style-type: none"> <li>It may be easier to provide an adequate amount of vitamin A via food consumption than to provide adequate iron or iodine via food consumption.</li> <li>Nutritional sources according to their importance:               <ol style="list-style-type: none"> <li>Eggs, liver, milk</li> <li>Mangos, yellow melons</li> <li>Pumpkin, carrots, yellow sweet potato</li> <li>Green leafy vegetables</li> </ol> </li> <li>Supplements may be necessary when there is an increased need, for example for pregnant and nursing mother and for young children.</li> </ul>	<ul style="list-style-type: none"> <li>Ocean fish, but important quantities must be consumed every day to meet requirements.</li> <li>Iodized salt may be the best option in places like the Central Plateau where soil does not contain enough iodine.</li> <li>Note that iodine deficiency in the pregnant mother can cause cretinism but that cretinism can develop after birth too.</li> </ul>

**2. Large-Group Q/A on Each Nutrient and Magnitude of the Problem - 5 minutes**

Ask what questions or comments participants have after each presentation.

Review briefly some of the key local foods that contain each of the nutrients discussed.

After presenting all three nutrients, distribute a copy of the chart to each participant.



## ACTIVITY 14 : PREPARATION OF IMPROVED COMPLEMENTARY FOODS

**NOTE FOR THE TRAINER :** This activity must take place during the training of health agents/colvols. The trainer should make arrangements to have at his/her disposal all necessary materials for cooking the improved complementary foods presented in the recipes. These foods can be prepared in one day (the last day of the workshop). They could also be prepared at the end of each day at the rate of 1-2 recipes per day. That will depend on the trainer and the facilities on the training site. However, it is important to consider this activity as an integral part of the training.

Steps 1 and 2 are done only for the first recipe. Steps 3 and 4 are repeated for each new recipe.

### **PURPOSE :**

To enable health agents/colvols to prepare the improved complementary foods they will be promoting in mothers' clubs.

### **OBJECTIVES :**

At the end of the session, the participants will have :

1. **produced** a list of complementary foods given to children in the community and **discovered** improved complementary foods ;
2. **discussed** the nutritive value of the ingredients in the improved complementary foods ;
3. **prepared** improved complementary foods that mothers can give to their children.

### **TIME :**

Half a day if 2 groups simultaneously cook 2 different recipes.

### **METHODS :**

Work in small groups

### **PREPARATION/MATERIALS :**

1. Prepare a copy of the recipes for each participant.
2. Prepare all ingredients and cooking utensils needed for cooking the foods.
3. Prepare a large sheet with the three food types shown in the recipe book : enriched gruel, special meals, snacks.

## STEPS

### 1. Small group discussion on complementary foods - 10 minutes

#### Explain to participants :

As shown in the child development and feeding chart, complementary foods should be given to children as of 6 months in addition to breast milk. In the infant and child feeding module, some of the learning sessions make reference to the preparation of some of those foods. This is why in this training workshop we are planning to prepare improved complementary foods together. But before doing so, we are going to discuss the following two questions in small groups :

Ask the following questions :

*What are the first foods that people in the community usually give children to complement breastmilk ?*

*What do you think of the nutritive value of those foods ?*

After a few minutes, ask for volunteers to share the results of their discussions with the large group.

#### **Practices in the community :**

Bread soup, salt crackers gruel, wheat flour gruel, mashed plantain with dried fish, etc.

#### **Nutritive value :**

These complementary foods contain energy but are poor in nutritive elements such as protein and micro-nutrients to enhance the growth and development of the child's brain. Animal source foods are not consumed frequently and not in important amounts. Food variety seems to be low.

Those complementary foods can be improved.

### 2. Presentation of the recipe book and discussion in small groups of the nutritive value of the ingredients - 20 minutes

Tell participants : People in the community have many recipes. In order to help children grow healthier we are going to use these same recipes as starting point to prepare the improved complementary foods. The recipe book is a guide that you can use to help mothers in the Mothers' Clubs prepare nutritious foods for their children.

Distribute a copy of the recipe book to the participants. Explain to them that this guide includes three types of foods :

- Enriched gruels
- Special meals
- Snacks

Post the sheet showing the recipes :

Enriched gruels	Special meals	Snacks
<ul style="list-style-type: none"> <li>➤ WSB gruel with dried fish (salty)</li> <li>➤ WSB gruel with sugar and milk (sweet)</li> <li>➤ Wheat flour gruel with beans and dried fish (salty)</li> <li>➤ Wheat flour gruel with beans (sweet)</li> <li>➤ Wheat flour gruel with an egg</li> </ul>	<ul style="list-style-type: none"> <li>➤ Mashed plantain with pumpkin and dried fish</li> </ul>	<ul style="list-style-type: none"> <li>➤ WSB croquettes with dried fish</li> <li>➤ Millet snack ("Cham Cham")</li> </ul>

Divide participants in 4 small groups to discuss the following question :

*What is the nutritive value of each ingredient in the recipes? (WSB flour, wheat flour, dried fish, sugar, beans, egg, milk, plantain, pumpkin, etc.)*

After about 5 minutes, ask for volunteers to share the results of their discussion. Facilitate a discussion after each group presentation and present the large sheet with the nutritive value of the different foods.

Nutritive value of foods :	
Foods	Nutritive value
Dried fish	Iron and protein to protect the child and enhance growth
Pumpkin, carrot, yellow sweet potato, green leaves, WSB	Vitamin A to protect the child
Beans, peanuts/peanut butter, WSB	Protein to protect the child and enhance growth
Egg, milk	Protein and Vitamin A to protect the child
Plantain, WSB, wheat flour, sugar, oil	Energy for strength

Ask participants if they have any questions.

Answer their questions and encourage them to take advantage of all opportunities to share this information with the women in the Mothers' Clubs.

### 3. Preparation of improved complementary foods

Divide participants in two subgroups and give each a recipe to prepare. Ask them to follow the instructions in the recipe for the preparation.

Assist the group throughout the whole process. Pay special attention to : food texture, quantity of ingredients used, mixing techniques, cooking time. When the meals are ready, ask participants to taste them.

### 4. Discussion on the improved complementary foods - 15 minutes

Invite each group to explain to the other how it prepared its meal. Add to their explanations what you feel is necessary.

Then, facilitate a discussion of the following questions :

- *What questions do you have on the food preparation techniques ?*
- *How do you think children will like them ?*
- *What quantities should be given to children ? [6-9 months ? 9-12 months ? 12 months and more?] (use the information in the child development diagram)*
- *What is the nutritive value of the ingredients ?*
- *What can be done to encourage mothers to prepare them at home ?*

**Important note** : Repeat Steps 3 and 4 for each new recipe.

## ACTIVITY 15: FINAL EVALUATION, POST-TEST AND WRAP-UP

### PURPOSE:

To enable health agents/colvols to evaluate the training and the module and take a post-test.

### OBJECTIVES:

By the end of the activity, participants will have:

1. **completed** a written evaluation of the infant and child feeding module training;
2. **completed** a post-test with questions concerning infant and child feeding practices;
3. **completed** the closing activities of the workshop.

### TIME:

60 minutes

### METHODS:

Individual work

### PREPARATION/MATERIALS:

1. Prepare 2 copies of the Post-Test for each participant—one for them to fill out and one with responses for them to keep after they have taken the test (see "Trainer's toolkit").
2. Prepare copies of the training evaluation for each participant. (Note: No evaluation is provided in the "Trainer's toolkit". Each trainer should develop his/her own evaluation form.)
3. Prepare certificates for each participant.

## STEPS

### 1. Individual Work on Post-Test- 15 minutes

Before starting the post-test, remind the following points to the participants:

*The objective of this test is to help us evaluate one aspect of the effectiveness of this training. A more thorough evaluation can only be performed by observing your work directly while facilitating the training. However, we can begin by evaluating knowledge change that occurs during the training itself.*

*By comparing the results of this test with the one done at the beginning of this training, we can evaluate the change brought about by the training. All test results will be confidential, however each participant is free to discuss his/her test results with the trainer. The comparison of the results of these two tests is one way to evaluate how well the information has been presented on just one aspect of the training : technical knowledge of infant and child feeding practices.*

Distribute the post-test on infant and child feeding practices (see "Trainer's toolkit") and give participants about 20 minutes to complete it.

Collect the forms and put them aside for analysis after closing.

Review the questions and the correct answers.

Provide participants with a copy of the test with correct responses for their information.

## **2. Individual Work on Training Evaluation - 15 minutes**

Distribute the training evaluation form (see "Trainer's toolkit") and give participants 15minutes to complete it.

## **3. Presentation of Certificates and Closing Business - 30 minutes**

# MODULE ON INFANT AND CHILD FEEDING PRACTICES

## TRAINER'S TOOLKIT (Handouts)

*This module is based on the following two modules developed by Freedom From Hunger: "Improving Breastfeeding - Everyone Can Help" and "Infant and Child Feeding: Helping Young Children to Eat and Grow Well". The IFPRI/Cornell/World Vision team thanks Freedom From Hunger for their permission to adapt their materials.*

January 2003

## PRE-TEST BEFORE THE WORKSHOP STARTS

### First part: Breastfeeding

Question	Answer
1. How long after birth should a baby start breastfeeding? <i>(Fill in the blank.)</i>	_____ after birth.
2. What should a mother do with the "first milk" or colostrum? <i>(Circle the correct answer.)</i>	A. Throw it away and start breastfeeding when the real milk comes in. B. Give it to her baby by breastfeeding soon after birth.
3. Women with small breasts will produce less milk.	True                      False
4. How often should a baby breastfeed? <i>(Write the answer.)</i>	
5. If a mother thinks her baby is not getting enough breast milk, what should she do? <i>(Write the answer.)</i>	
6. What is the most common reason for a mother to have over-full, sore breasts? <i>(Write the answer.)</i>	
7. If the weather is very hot, infants under 6 months of age should be given water in addition to breast milk. <i>(Circle true or false.)</i>	True                      False
8. If a breastfeeding mother of an infant under 6 months of age becomes pregnant, she should stop breastfeeding. <i>(Circle true or false.)</i>	True                      False
9. If a mother needs to be away from her baby and the baby gets hungry, what should the baby be fed? <i>(Write the answer.)</i>	
10. If a 4-month-old baby becomes ill, the mother should stop breastfeeding him/her and give the baby other liquid and food until the baby feels better. <i>(Circle true or false.)</i>	True                      False
11. At what age should a baby first start to receive foods and liquids other than breast milk? <i>(Fill in the blank.)</i>	At _____ months of age.
12. Give two reasons a young baby should be exclusively breastfed. <i>(List two reasons.)</i>	1. 2.
13. A mother should leave expressed breast milk for her baby in a bottle. <i>(Circle true or false.)</i>	True                      False
14. Until about what age should a baby continue to be breastfed? <i>(Fill in the blank.)</i>	Until about the age of _____
15. Malnourished women can successfully breastfeed their children. <i>(Circle true or false.)</i>	True                      False
16. Frequent breastfeeding during the night as well as the day will increase milk production. <i>(Circle true or false.)</i>	True                      False



**PRE-TEST BEFORE THE WORKSHOP STARTS**  
**Second part: Complementary Feeding**

Question	Answer	
1. Name one thing that can happen to children if they do not get enough iron (either in their diet or via iron supplements). <i>(Write one response)</i>		
2. Vitamin ____ helps the body to use iron better. <i>(Fill in the blank)</i>		
3. Vitamin A—a nutrient necessary to protect the body from illness—is found in what kinds of food? <i>(Write at least one response)</i>		
4. What seasoning is often fortified with iodine (a nutrient important for brain development)? <i>(Write your response)</i>		
5. Children can learn to adapt to new foods easily and should therefore begin to eat the same food as the rest of the family as soon as they begin to eat other foods besides breastmilk. <i>(Circle True or False)</i>	True	False
6. When children <u>begin</u> to eat solid foods they should not be given breastmilk since it makes them less hungry for the more nutritious solid food. <i>(Circle True or False)</i>	True	False
7. Different foods are required for different ages.	True	False
8. After an illness it is important to give children an extra meal per day for at least ____ weeks (after the illness has passed). <i>(Fill in the blank with a number)</i>		
9. State one common problem with many first complementary foods, as they are traditionally prepared. <i>(Write your response)</i>		
10. When children start eating other foods in addition to breast milk a variety of foods should be added all at once to their diets since they are ready to try many new things. <i>(Circle True or False)</i>	True	False
11. List some of the special foods a mother can prepare for her child to complement breast milk.		
12. A 1-year old child needs no assistance to eat, he/she can eat alone.	True	False
13. It is not a good idea to feed children an evening meal because they may inflate the child.	True	False
14. How many times per day a child 6-9 months old should eat?		
15. A 1-year old child should eat the same foods as the rest of the family.	True	False

## TRAINING SESSION ON INFANT AND YOUNG CHILD FEEDING PRACTICES

### TRAINING OBJECTIVES

#### What For

At the end of the training, the participants will have:

1. **reviewed** state-of-the art technical information on infant and child feeding ;
2. **presented** the 13 learning sessions on infant and child feeding and given feedback on those presentations ;
3. **explored** key principles and practices of adult learning to better facilitate the learning sessions on infant and child feeding;
4. **analyzed** secondary data on breastfeeding from the country or the region(s) in which they work to better understand breastfeeding practices of the women with whom they will be facilitating the learning sessions;
5. **analyzed**, nutrition problems and their impact in the country based on data on child nutrition from nutrition surveys;
6. **identified** how the Infant and Child Feeding Module contributes to children's improved health and nutrition as described in the UNICEF diagram « *Helping children grow strong and healthy* » ;
7. **practiced** communicating important feeding recommendations for children 0-24 months of age in the preventive program and 0-59 months in the recuperative program and how these recommendations change as children get older, using the child feeding and development chart ;
8. **practiced** how to prepare, from recipes, improved complementary foods;
9. **listed** key principles for giving and receiving feedback and **practiced** them by giving and receiving feedback after each presentation ;
10. **established the difference** in the schedule of learning sessions at the Mothers' Clubs in the preventive and in the recuperative programs.

## RECOMMENDED BREASTFEEDING PRACTICES

### **Start Breastfeeding Within About One Hour of Birth.**

- Start breastfeeding within about one hour of birth, thus making sure that the baby gets the "first milk" or colostrum.
- The colostrum should be the baby's first taste.
- There should be no other foods given before the colostrum, such as water, other liquids, or ritual foods.

### **Breastfeed Exclusively for About the First 6 Months.**

- Breastfeed exclusively (without giving any other foods or liquids, not even water).
- Practice frequent, on-demand breastfeeding, including night feeds (breastfeeding at least 8 times in 24 hours).
- Give at least 5 complete feeds (about 20 minutes or more in length) during which the breast is emptied.

### **Continue Breastfeeding and Introduce Complementary Foods at About 6 Months.**

- Start introducing other foods at about six months of age.
- Continue breastfeeding for two years or beyond.

## REASONS FOR THE RECOMMENDATIONS (BENEFITS)

### Benefits of Initiating Breastfeeding Within About One Hour of Birth

- Colostrum contains all the nutrients that a newborn needs—no other drink or food is necessary.
- Colostrum protects the baby from illness—it contains elements that actually fight illness.
- It eliminates the need to give a newborn something else because it is all a newborn needs.
- Holding the baby skin-to-skin right after birth keeps the newborn warm.
- It helps the mother start good milk production.
- Colostrum cleanses the newborn's stomach (passes the meconium).
- It helps shrink the uterus back to normal size.
- It reduces the risk of bleeding after birth.
- It promotes mother-child bonding.

### Benefits of Exclusive Breastfeeding for Around 6 Months

- Breast milk is affordable—breast milk substitutes are expensive.
- Breast milk contains all the food and liquids a baby needs for about the first six months.
- Breast milk protects the baby from illness—it contains elements that actually fight illnesses such as diarrhea.
- Exclusive breastfeeding reduces healthcare costs.
- If an exclusively breastfed baby does get sick, the sickness is usually less severe—especially diarrhea and pneumonia.
- It is convenient.
- It is clean and safe.
- Exclusive breastfeeding delays return of the period, helping to protect the mother against anemia.
- Exclusive breastfeeding helps the mother to recover her previous weight faster.
- If a mother's menstrual period has not returned, she breastfeeds exclusively and her child is less than 6 months of age, she can be protected from pregnancy (for up to 6 months).

### Benefits of Continuing to Breastfeed for 24 Months and Beyond (While Introducing Complementary Foods at 6 Months)

- Breastfed children grow up to be stronger and do better in school.
- Breast milk continues to be an important source of nutrition for older infants and toddlers, and should be continued for two years or beyond.
- Breast milk continues to be safe, convenient and inexpensive.
- Breastfeeding continues to help keep children from getting sick even after 6 months.

## IMPORTANT INFORMATION ON BREASTFEEDING AND FAMILY PLANNING

One reason for the recommendation to breastfeed exclusively for six months follows:

"If breastfeeding is done *exclusively* and on demand, it can protect the mother from pregnancy for up to six months (unless the mother begins her menstrual period)."

Women are always very interested in this reason because many of them want better ways to keep from getting pregnant.

The information is correct and the family planning method is called LAM (lactational amenorrhea method) but it must be presented very carefully. A woman must understand the three requirements that must be met in order to practice LAM as a birth/spacing method. If she does not meet all of the conditions, she may lose trust in you if the method fails.

Here are the three mandatory conditions you must always insist the woman follow:

1. Her menstrual period has not returned.
2. Exclusive breastfeeding. The woman gives only breast milk and when the child wants—night and day, and gives at least five "complete" feeds which last about 20 minutes.
3. She gave birth to the baby less than six months ago.

If any one of these conditions is not met, another family planning method must be used to ensure adequate birth spacing and promote child survival.

## IMPORTANT INFORMATION ON HIV/AIDS AND BREASTFEEDING

You or some other women in the community may have heard that a breastfeeding mother can transmit the virus that causes AIDS/HIV—to her child via breastmilk. We know the following:

- It is possible for a mother infected with HIV to pass the virus on to her infant through breastfeeding.
- Many infants (about one out of every five) born to mothers with HIV will be already infected at birth.
- Of those infants not already infected at birth, some (about one out of every seven) will become infected through breastfeeding.
- In places where disease and malnutrition are the main cause of infant death, breastfeeding may still be the safest strategy because alternatives to breastfeeding may not be available, or may cause infant death through other infections or malnutrition.
- There is some evidence that HIV infection through breastfeeding can be reduced if the mother breastfeeds exclusively. This means giving the infant no other foods or fluids, not even water.
- Health agents should tell mothers with HIV about the risks and benefits of all available infant feeding options. They should then help mothers carry out their infant feeding strategy as safely as possible.
- Mothers who are not infected or who do not know if they are infected should be strongly encouraged to breastfeed exclusively for the first six months.

## INDICATORS OF BREASTFEEDING PRACTICE

Indicators	Zone: Central Plateau	Haiti
❖ % of breastfed babies	<i>98%</i>	97.4%
❖ % of mothers who breastfeed within one hour after birth	<i>36.5%</i>	46.7%
❖ % of babies who were given "lok"	<i>56.4%</i>	52.2%
❖ % of babies 0-3 months breastfed exclusively		32 %
❖ % of babies 4-5 months breastfed exclusively		9.8%

Source : « Demographic and Health Survey EMMUS-III, Haiti 2000 »

## SUMMARY OF SESSIONS

### SESSION 1 (P&R)<sup>1</sup>: IMPORTANCE OF GOOD BREASTFEEDING PRACTICES

STEPS	METHODS	ACTIONS
1.	Short presentation	- Discuss contents of the module.
2.	Story, images	- Compare 2 different ways a mother cared for her 2 children to show the importance of breast milk.
3.	Paired and large group discussions, images	- Analyze the story to understand what happened and why. - Present 3 recommendations drawn from the story: <i>start breastfeeding the baby within the first hour after birth; during the first 6 months, give only breast milk; keep breastfeeding for up to 2 years and beyond while adding other nutritious foods at 6 months.</i>
4.	Small and large group discussions	- Discuss local breastfeeding practices: how long after childbirth do they usually start to breastfeed their babies and when do they start to give other foods or drinks.
5.	Short presentations, images	- Review again the 3 recommendations: <i>start breastfeeding the baby within the first hour after birth; during the first 6 months, give only breast milk; keep breastfeeding for up to 2 years and beyond while adding other nutritious foods at 6 months.</i>
6.	Large group discussions	- Compare the recommendations to local practices.

### SESSION 1 (R): IMPORTANCE OF GOOD BREASTFEEDING PRACTICES

STEPS	METHODS	ACTIONS
1.	Presentation	- Tell the women that this session is about breastfeeding.
2.	Story, images	- Compare 2 different ways a mother cared for her 2 children to show the importance of breast milk.
3.	Paired and large group discussions, images	- Analyze the story to understand what happened and why. - Present 3 recommendations drawn from the story: <i>start breastfeeding the baby within the first hour after birth; during the first 6 months, give only breast milk; keep breastfeeding for up to 2 years and beyond while adding other nutritious foods at 6 months.</i>
4.	Small and large group discussions	- Discuss local breastfeeding practices: how long after childbirth do they usually start to breastfeed their babies and when do they start to give other foods or drinks.
5.	Short presentations, images	- Review again the 3 recommendations: <i>start breastfeeding the baby within the first hour after birth; during the first 6 months, give only breast milk; keep breastfeeding for up to 2 years and beyond while adding other nutritious foods at 6 months.</i>
6.	Large group discussions	- Compare the recommendations to local practices.

<sup>1</sup> A (P) after the Session number implies that that session was designed for use in the *preventive* program and can be found in the folder “Learning sessions for use in the preventive program” on the CD-ROM.

An (R) after the Session number implies that that session was designed for use in the *recuperative* program and can be found in the folder “Learning sessions for use in the recuperative program” on the CD-ROM.

(P&R) after the Session number implies that that session was designed for use in both the preventive and recuperative programs. The session can be found in folders “Learning sessions for use in the preventive program” & “Learning sessions for use in the recuperative program” on the CD-ROM



### SESSION 2 (P&R): GOOD BREASTFEEDING PRACTICES

STEPS	METHODS	ACTIONS
1.	Large group discussion	- Review of the first session
2.	Short presentations, images, large group discussions	- Discuss the recommendation to “ <i>start breastfeeding the baby within the first hour after birth</i> ”.
3.	Large group discussions	- Discuss local practices regarding the first thing they usually give newborn babies.
4.	Short presentations, images, large group discussions	- Discuss the following recommendation: “ <i>during the first 6 months, give only breast milk</i> ”. - Present reasons for this recommendation.
5.	Short presentations, images, large group discussions	- Show good positioning and attachment of the baby during breastfeeding. - Discuss how often to breastfeed a baby.
6.	Work in small groups: song, sketch, story	- The women prepare and present an activity to show how they are going to put into practice what they have learned so far in the training.

### SESSION 3 (P&R): ALWAYS PROMOTE BREASTFEEDING

STEPS	METHODS	ACTIONS
1.	Short presentations	- Present the activities of the remaining sessions.
2.	Paired and large group discussions	- The women share their breastfeeding experiences.
3.	Game (question/answer), large group discussions	- Review of: number of months of exclusive breastfeeding, breastfeeding frequency, how to know when a baby wants to breastfeed, benefits of exclusive breastfeeding for 6 months.
4.	Demonstrations, large group discussions, short presentations, images	- Demonstrate good positioning and attachment of the baby during breastfeeding. - Discuss: how often babies should be breastfed, reasons for frequent breastfeeding. - Discuss how to avoid sore breasts and how to treat sore breasts.
5.	Demonstrations (invitation of role model), large group discussions	- Demonstrate how to express breast milk to leave for the baby when has to go out for some time; explain how to conserve the expressed breast milk and how to feed it to the baby
6.	Story, discussions	- Advice mothers on what to do to be less tired from breastfeeding. - Encourage mothers to drink lots of water while breastfeeding in order to be less tired.
7.	Sentence to complete/Trial of practices at home	- Each one will indicate from what she has learned in this session what practice she is going to try and what she will continue to do.

**SESSION 4 (P&R): HOW TO BREASTFEED BETTER**

<b>STEPS</b>	<b>METHODS</b>	<b>ACTIONS</b>
1.	Large group discussions	- The women share their experiences with expressing breast milk and drinking water while breastfeeding.
2.	Paired group discussions	- The women share what has worked well for them with exclusive breastfeeding and what difficulties they have encountered.
3.	Story to complete	- Show that all mothers encounter some difficulties when breastfeeding, share the difficulties and look for solutions. - Discuss the benefits of being treated as a “ <i>tinouris</i> ” (a mother who has just given birth) during the 6 months of exclusive breastfeeding.
4.	Large group discussions	- Participants say what they are going to put into practice at home. - Encourage participants to continue to breastfeed exclusively and to learn from each other’s experiences.

**SESSION 5 (P&R): LAM – LACTATIONAL AMENORRHEA METHOD**

<b>STEPS</b>	<b>METHODS</b>	<b>ACTIONS</b>
1.	Discussions, short presentations, images	- Find out how many of the women <u>believe</u> that they are practicing LAM. - Discuss the 3 LAM requirements (the baby is not yet 6 months old, the mother’s menstrual period has not yet returned, she exclusively breastfeeds – day and night).
2.	Stories (case studies), small and large group discussions	- Analyze case studies of several women to determine which ones meet all 3 LAM requirements to avoid pregnancy. - Find out how many of the women in the Mothers’ Club believe that they meet all 3 LAM requirements. - Encourage the women to use another birth control method as soon as one of the requirements is not met.
3.	Small group discussions and presentations to the large group	- List all the benefits of LAM for the baby, the mother, and the rest of the family. - Mothers reflect on the most important benefits for them.
4.	Images, large group discussions	- Review the 3 LAM requirements. - Encourage the women to continue to discuss LAM with their husbands, friends, neighbors, and to select another birth control method as soon as one of the 3 LAM requirements is not met.

**SESSION 6 (P&R): START GIVING OTHER RICH FOODS TO COMPLEMENT BREAST MILK WHEN CHILDREN ARE 6 MONTHS OLD**

<b>STEPS</b>	<b>METHODS</b>	<b>ACTIONS</b>
1.	Short presentations, images, large group discussions	<ul style="list-style-type: none"> <li>- Discuss the recommendation to “<i>keep breastfeeding for up to 2 years and beyond while adding other nutritious foods at 6 months</i>”.</li> <li>- Present the reasons for the recommendation.</li> </ul>
2.	Sentence to complete/game, large group discussions, images	<ul style="list-style-type: none"> <li>- Review the 3 recommendations concerning breastfeeding and the reasons for each.</li> </ul>
3.	Story, images, paired group discussions	<ul style="list-style-type: none"> <li>- Find out why children 6-24 months are most at risk of getting weak and sick.</li> </ul>
4.	Short presentations, large group discussion, paired group discussions	<ul style="list-style-type: none"> <li>- Present the benefits of breast milk for children 6-24 months even after they have started to eat other rich foods.</li> <li>- Get the women to commit themselves to share the recommendations with other mothers of children 6-24 months old.</li> </ul>
5.	Short lecture	<ul style="list-style-type: none"> <li>- Encourage the women to continue to discuss those ideas and to share their experiences with each other.</li> </ul>

**SESSION 7 (P): LEARNING TO EAT: HOW TO BREASTFEED AND FEED CHILDREN LESS THAN 12 MONTHS OLD**

<b>STEPS</b>	<b>METHODS</b>	<b>ACTIONS</b>
1.	Presentations, child development and feeding chart, large group discussions	<ul style="list-style-type: none"> <li>- Show the women the information in the child development and feeding chart, explain the rows and the columns.</li> <li>- Use the chart to talk about children less than 12 months (how they develop, the texture of their foods, how to help them eat, how often to feed them and how much food to give them).</li> </ul>
2.	Demonstrations, short presentations, child development chart, large group discussions	<ul style="list-style-type: none"> <li>- Participants experience the different stages of learning to eat and see what happens to children when their food has not the right texture.</li> <li>- Use the child development chart to talk about how the texture of foods should be adapted to children’s eating abilities and how children learn to eat.</li> </ul>
3.	Large group discussions, take-home assignment	<ul style="list-style-type: none"> <li>- Discuss several examples of enriched gruel and special foods for children.</li> <li>- Decide which enriched gruel and which special food they will prepare during the next session and discuss the role of each of the ingredients (nutritional value).</li> <li>- Each participant says what she will bring to prepare the recipes and the group decides where the food will be prepared.</li> <li>- Encourage the women to put into practice all what they have learned.</li> </ul>

### SESSION 7 (R): LEARNING TO EAT: HOW TO BREASTFEED AND FEED CHILDREN LESS THAN 12 MONTHS OLD

STEPS	METHODS	ACTIONS
1.	Presentations, child development and feeding chart, large group discussions	<ul style="list-style-type: none"> <li>- Show the women the information in the child development and feeding chart, explain the rows and the columns.</li> <li>- Use the chart to talk about children less than 12 months (how they develop, the texture of their foods, how to help them eat, how often to feed them and how much food to give them).</li> </ul>
2.	Demonstrations, short presentations, child development chart, large group discussions	<ul style="list-style-type: none"> <li>- Participants experience the different stages of learning to eat and see what happens to children when their food has not the right texture.</li> <li>- Use the child development chart to talk about how the texture of foods should be adapted to children's eating abilities and how children learn to eat.</li> <li>- Encourage the women to put into practice all what they have learned.</li> </ul>

### SESSION 8 (P&R): PREPARING NUTRITIOUS FOODS FOR CHILDREN

STEPS	METHODS	ACTIONS
1.	Cooking and tasting of enriched complementary foods, small and large group discussions	<ul style="list-style-type: none"> <li>- Cooking of an enriched gruel and a special food.</li> <li>- Review the role of each of the ingredients (nutritional value).</li> </ul>
2.	Large group discussions	<ul style="list-style-type: none"> <li>- Discuss: food taste, food texture, how the children like it, how much to give to children, and why children's foods should not be too liquid.</li> </ul>
3.	Small and large group discussions	<ul style="list-style-type: none"> <li>- Each small group will answer one of these questions: the benefit of each of the ingredients for children, how easy or difficult it is for them to prepare these foods at home, how they intend to prepare these foods at home.</li> <li>- Review the ways children learn to eat and the women will decide what they are going to put into practice.</li> </ul>

### SESSION 9 (P&R): HELPING CHILDREN EAT WELL IN HEALTH AND IN SICKNESS

STEPS	METHODS	ACTIONS
1.	Large group discussion, child development chart	<ul style="list-style-type: none"> <li>- Review of the information in the child development chart for children less than 12 months.</li> </ul>
2.	Story	<ul style="list-style-type: none"> <li>- Advice on how to help children eat.</li> </ul>
3.	Small and large group discussions	<ul style="list-style-type: none"> <li>- Analyze the story in order to list all the recommendations on how to encourage children to eat and the benefits for the mother when she encourages her child to eat.</li> </ul>
4.	Small and large group discussions	<ul style="list-style-type: none"> <li>- Get the participants to commit themselves to try new child feeding practices to help their children eat.</li> </ul>
5.	Short presentation, large group discussions	<ul style="list-style-type: none"> <li>- Discuss how to feed children during and after illness.</li> </ul>
6.	Small and large group discussions, take-home assignment/trial of practices at home	<ul style="list-style-type: none"> <li>- Plan the next session and have each one say which kind of foods she will bring.</li> <li>- Remind the women of their take-home assignments: putting into practice the recommendations on how to help children eat and each person bringing an uncooked food.</li> </ul>

**SESSION 10 (P&R): VARIETY OF FOOD COMBINATIONS APPROPRIATE FOR CHILDREN 6-12 MONTHS**

<b>STEPS</b>	<b>METHODS</b>	<b>ACTIONS</b>
1.	Paired and large group discussions	<ul style="list-style-type: none"> <li>- Women share their experiences in trying new feeding practices to help their children eat.</li> <li>- Encourage them to continue to put into practice all what they have learned.</li> </ul>
2.	Small and large group discussions	<ul style="list-style-type: none"> <li>- Participants who have not brought the same kinds of foods form a small group and try to see what other foods to add to increase variety (foods rich in energy, for protection or for growth).</li> <li>- Talk about the role of each of the foods and about other important aspects, such as the importance of fruits and vegetables, as well as eggs, meat, fish to help children's brains develop well.</li> <li>- Find out which categories of foods might be difficult to provide and what special foods they can prepare for children 6-12 months.</li> <li>- Encourage the women to keep trying the new food preparation practices at home with adding some of the foods they had brought.</li> </ul>
3.	Large group discussions	<ul style="list-style-type: none"> <li>- Participants share their experiences in preparing special foods at home for their children and how they conserve the foods when they are going out for some time.</li> <li>- Encourage the women to prepare special foods for their children and to give them nutritious snacks that are easy to prepare.</li> </ul>

**SESSION 11 (P&R): PROTECTING YOUR FOOD – PROTECTING YOUR CHILDREN**

<b>STEPS</b>	<b>METHODS</b>	<b>ACTIONS</b>
1.	Large group discussions, images	<ul style="list-style-type: none"> <li>- Talk about the causes of diarrhea.</li> </ul>
2.	Large and small group discussions, images, game	<ul style="list-style-type: none"> <li>- Use the images to show all that mothers can do to prevent diarrhea.</li> <li>- Discuss what foods and snacks do not require to be cooked that can be served to children.</li> </ul>
3.	Images, short presentations, large group discussions	<ul style="list-style-type: none"> <li>- Review how to feed children during and after illness.</li> </ul>
4.	Large group discussions	<ul style="list-style-type: none"> <li>- Participants say what they are going to do to prevent diarrhea in their children and how they will feed their children during and after illness.</li> </ul>

**SESSION 12 (P): FEEDING CHILDREN BEYOND 12 MONTHS OF AGE**

<b>STEPS</b>	<b>METHODS</b>	<b>ACTIONS</b>
1.	Presentations, child development and feeding chart, large group discussion	<ul style="list-style-type: none"> <li>- Participants review themselves all the information on children less than 12 months in the child development chart.</li> <li>- The health agent adds other important points and then talks about the information in the chart for children 12-24 months.</li> </ul>
2.	Large group discussions	<ul style="list-style-type: none"> <li>- Talk about the need to prepare special foods also for children 12-24 months old.</li> <li>- Encourage the women to feed their children in the evening also and not to worry about indigestion.</li> </ul>
3.	Work in small groups, story, sketch, song, presentations	<ul style="list-style-type: none"> <li>- Participants will choose one idea from the child development chart to develop an activity that can be used to show other mothers of children older than 12 months how to feed them.</li> <li>- Review the child development chart and encourage mothers to put the recommendations into practice.</li> </ul>

**SESSION 12 (R): FEEDING CHILDREN BEYOND 12 MONTHS OF AGE**

<b>STEPS</b>	<b>METHODS</b>	<b>ACTIONS</b>
1.	Presentations, child development and feeding chart, large group discussion	<ul style="list-style-type: none"> <li>- Participants review themselves all the information on children less than 12 months in the child development chart.</li> <li>- The health agent adds other important points and then talks about the information in the chart for children 12 months to 5 years old.</li> </ul>
2.	Large group discussions	<ul style="list-style-type: none"> <li>- Talk about the need to prepare special foods also for children older than 12 months.</li> <li>- Encourage the women to feed their children in the evening also and not to worry about indigestion.</li> </ul>
3.	Work in small groups, story, sketch, song, presentations	<ul style="list-style-type: none"> <li>- Participants will choose one idea from the child development chart to develop an activity that can be used to show other mothers of children older than 12 months how to feed them.</li> <li>- Review the child development chart and encourage mothers to put the recommendations into practice.</li> </ul>

**SESSION 13 (P): WHAT WE CAN DO TO COMBAT MALNUTRITION**

<b>STEPS</b>	<b>METHODS</b>	<b>ACTIONS</b>
1.	Story, images, small group discussions	- Find out the reasons why children less than 5 years old are at risk of malnutrition.
2.	Large group discussions, images, presentations	- Present the 2 forms of severe malnutrition: marasmus and kwashiorkor. - Identify the symptoms of the 2 forms of malnutrition and discuss what can happen to children who are malnourished.
3.	Small group discussions, presentations	- Find out how to help moderately malnourished children recuperate. - Encourage mothers to take actions to prevent malnutrition in their children and to share what they learned in this session with other mothers.

**SESSION 13 (R): WHAT WE CAN DO TO COMBAT MALNUTRITION**

<b>STEPS</b>	<b>METHODS</b>	<b>ACTIONS</b>
1.	Presentation	- Inform the women about the content of this session.
2.	Story, images, small group discussions	- Find out the reasons why children less than 5 years old are at risk of malnutrition.
3.	Large group discussions, images, presentations	- Present the 2 forms of severe malnutrition: marasmus and kwashiorkor. - Identify the symptoms of the 2 forms of malnutrition and discuss what can happen to children who are malnourished.
4.	Small group discussions, presentations	- Find out how to help moderately malnourished children recuperate. - Encourage mothers to take actions to prevent malnutrition in their children and to share what they learned in this session with other mothers.
5.	Presentations, child development and feeding chart, large group discussions	- Show the women the information in the child development and feeding chart, explain the rows and the columns. - Use the chart to talk about children 0-59 months old (how they develop, the texture of their foods, how to help them eat, how often to feed them and how much food to give them).
6.	Large group discussions, take-home assignment	- Discuss several examples of enriched gruel and special foods for children. - Decide which enriched gruel and which special food they will prepare during the next session and discuss the role of each of the ingredients (nutritional value). - Each participant says what she will bring to prepare the recipes and the group decides where the food will be prepared. - Encourage the women to put into practice all what they have learned.

**SCHEDULE OF LEARNING SESSIONS FOR USE IN THE PREVENTIVE AND  
RECUPERATIVE PROGRAMS**

	Preventive	Recuperative
<b>Stage of pregnancy</b>	<u>Mothers' Clubs for pregnant women</u>	
Last Trimester	<b>Session 1 (P&amp;R)<sup>2</sup></b>	
8th or 9 <sup>th</sup> month of pregnancy	<b>Session 2 (P&amp;R)</b>	
<b>Child age (months)</b>	<u>Mothers' Clubs for lactating women</u>	
1	<b>Session 3 (P&amp;R)</b>	
2	<b>Session 4 (P&amp;R)</b>	
3	Other topic - to be decided (for example, special diet for breastfeeding mothers)	
4	<b>Session 5 (P&amp;R)</b>	
5	<b>Session 6 (P&amp;R)</b>	
6	<b>Session 7 (P)<sup>3</sup></b>	<b>Session 7 (R)<sup>4</sup></b>
Program month	<u>Mothers' Clubs for mothers of children 6-24 months of age</u>	<u>Mothers' Clubs for mothers of malnourished children 6 to 59 months of age</u>
1	<b>Session 8 (P&amp;R)</b>	<b>Session 13 (R)</b>
2	<b>Session 9 (P&amp;R)</b>	<b>Session 8 (P&amp;R)</b>
3	<b>Session 10 (P&amp;R)</b>	<b>Session 9 (P&amp;R)</b>
4	<b>Session 11 (P&amp;R)</b>	<b>Session 10 (P&amp;R)</b>
5	<b>Session 12 (P)</b>	<b>Session 12 (R)</b>
6	<b>Session 13 (P)</b>	<b>Session 1 (R)</b>
7	Other topics - placement in schedule to be determined	<b>Session 11 (P&amp;R)</b>
8	Other topics - placement in schedule to be determined	Other topics - placement in schedule to be determined (for example, HIV/AIDS)

<sup>2</sup> (P&R) after the Session number implies that the session was designed for use in both the preventive and recuperative programs. The session can be found in folders "Learning sessions for use in the preventive program" & "Learning sessions for use in the recuperative program" on the CD-ROM.

<sup>3</sup> A (P) after the Session number implies that the session was designed for use in the *preventive* program and can be found in the folder "Learning sessions for use in the preventive program" on the CD-ROM

<sup>4</sup> An (R) after the Session number implies that the session was designed for use in the *recuperative* program and can be found in the folder "Learning sessions for use in the recuperative program" on the CD-ROM.



	<b>Preventive</b>	<b>Recuperative</b>
9	Other topics - placement in schedule to be determined	Other topics - placement in schedule to be determined (for example, family planning) Participants in this program attend only for 9 months
10	Other topics - placement in schedule to be determined	
11	Other topics - placement in schedule to be determined	
12	Other topics - placement in schedule to be determined	
13	Other topics - placement in schedule to be determined	
14	Other topics - placement in schedule to be determined	
15	Other topics - placement in schedule to be determined	
16	Other topics - placement in schedule to be determined	
17	Other topics - placement in schedule to be determined	
18	Other topics - placement in schedule to be determined	
<b>Preventive &amp; Recuperative Programs</b>		
<b>Stage of pregnancy</b>	<u>Prenatal consultations</u>	
8 <sup>th</sup> or 9 <sup>th</sup> month of pregnancy	<b>Session 2 (P&amp;R), Steps 2+5</b>	
<b>Child age (months)</b>	<u>Postnatal consultations</u>	
1	Other topics - placement in schedule to be determined	
2	<b>Session 3 (P&amp;R), step 5</b>	
3	<b>Session 3 (P&amp;R), step 2</b>	

## STRATEGIES FOR PROMOTING BREASTFEEDING IN THE COMMUNITY

- Members can encourage friends and neighbors to try immediate initiation.
- Older members can tell their friends who are grandmothers/mothers-in-law to adopt immediate initiation when at births in which they are involved.
- Members can encourage Traditional Birth Attendants to have mothers initiate immediately at the births they assist.
- Members can facilitate mother-to-mother support groups. Mothers who have tried recommended practices and seen results can lead the groups.
- Members can encourage mothers whose babies are about 4 months to stop giving water, liquids and foods and return to exclusive breastfeeding. After a few days of only breastfeeding, mothers usually find the amount of breast milk increases.
- Members can encourage women who are pregnant to make the decision to breastfeed exclusively until the baby is 6 months of age.
- Members can encourage friends and neighbors to try exclusive breastfeeding until about 6 months.
- Older members can tell their friends who are grandmothers/mothers-in-law about the recommendations to increase support for mothers to adopt the new behavior.
- Mothers who have tried recommended practices and seen results can facilitate mother-to-mother support groups.
- Members can encourage friends and neighbors to properly attach and position the baby.
- Older members can tell grandmothers/mothers-in-law, so that they can help the breastfeeding women in their families.
- Members can encourage friends and neighbors to breastfeed frequently day and night.
- Members can encourage friends and neighbors to keep feeding when the mother or child is ill.
- Members can encourage friends and neighbors to empty one breast first if their babies seem fussy and unsatisfied.
- Members can encourage friends and neighbors to begin offering soft foods at about 6 months.
- Members can encourage husbands to help make sure that the mother has enough time to adequately breastfeed.
- Members can discuss what they learned during the learning sessions with their husbands.

## ANALYSIS OF BREASTFEEDING BEHAVIORS

### *Ideal Behavior: Initiate Breastfeeding Within One Hour of Birth*

<i>Situations in Which This Message is a Priority</i>	<i>Beliefs and Practices That Affect the Adoption of the Ideal Behavior</i>	<i>Appeals That May Motivate the Mother to Try the New Practice</i>
<ul style="list-style-type: none"> <li>▪ When there is a low percentage of early initiation of breastfeeding</li> <li>▪ During pregnancy</li> </ul>	<ul style="list-style-type: none"> <li>▪ Ritual feeds after birth are common. There is often a religious ceremony related to the new birth in which the baby will be given "holy water" or some other liquids.</li> <li>▪ Other fluids may be given before breastfeeding starts to make the meconium pass, "cleanse the baby's stomach" or to satisfy thirst until the milk comes in.</li> <li>▪ Colostrum is often expressed and thrown away for one to three or more days.</li> <li>▪ In most cultures, the first milk (colostrum) is considered dirty and/or dangerous.</li> <li>▪ Many cultures believe that giving a baby colostrum may cause illness and even kill the baby.</li> <li>▪ Many cultures do not know that even though it looks different from "milk" colostrum has exactly what babies need the first few days of life.</li> <li>▪ Birth attendants usually play a large role in the decision about when to initiate. Mothers or mothers-in-law and/or traditional birth attendants often tell the mother what to do, and monitor the milk to see whether the "real" milk has come in.</li> </ul>	<ul style="list-style-type: none"> <li>▪ (We usually do not interfere with the ritual water etc., as it is religious and usually consists of only a few drops).</li> <li>▪ Colostrum cleanses the newborn's stomach (passes the meconium) and welcomes the baby into the world.</li> <li>▪ Newborns do not need to drink much—colostrum is all they need.</li> <li>▪ Colostrum is super-rich in nutrients and protects the newborn from diseases.</li> <li>▪ Colostrum is like a vaccine, it protects the child against common illnesses.</li> <li>▪ Colostrum has high quantities of Vitamin A.</li> <li>▪ Colostrum does not look like milk because it contains special substances to make the meconium pass and protect the newborn baby from common illnesses.</li> </ul>

<i>Situations in Which This Message is a Priority</i>	<i>Beliefs and Practices That Affect the Adoption of the Ideal Behavior</i>	<i>Appeals That May Motivate the Mother to Try the New Practice</i>
	<ul style="list-style-type: none"> <li>▪ Sometimes the breast milk is not expressed and the breast is allowed to swell.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Early sucking at the breast helps the mother's uterus to shrink more quickly and reduces bleeding after birth.</li> <li>▪ Early sucking makes the milk come in more quickly.</li> <li>▪ All animals encourage their babies to suck immediately after birth so they will be stronger and healthier and to protect the health of the mother. Humans also need the colostrum—it exists for the health of the baby.</li> </ul>

***Ideal Behavior: Breastfeed Only (no Water, Liquids or Food) Until the Baby is About 6 Months Old***

<b><i>Situations in Which This Message is a Priority</i></b>	<b><i>Beliefs and Practices That Affect the Adoption of the Ideal Behavior</i></b>	<b><i>Appeals That May Motivate the Mother to Try the New Practice</i></b>
<ul style="list-style-type: none"> <li>▪ When there are low rates of exclusive breastfeeding</li> <li>▪ When there are high rates of stunting (low height for age)</li> <li>▪ When malnutrition appears before 6 months</li> <li>▪ When there are relatively high rates of diarrhea before 6 months</li> </ul>	<ul style="list-style-type: none"> <li>▪ Although in most developing countries breastfeeding has a positive image—and mothers breastfeed for more than 6 months—it is widely felt that breast milk alone does not provide sufficient water or nourishment. A small percentage breastfeed exclusively beyond a few weeks.</li> <li>▪ Especially in hot climates families believe babies need water to live.</li> <li>▪ In some cultures mothers worry that breastfeeding weakens them.</li> <li>▪ Some mothers believe that they are not eating well enough to breastfeed.</li> <li>▪ Exclusive breastfeeding is more difficult for women working outside the home. And in some countries breastfeeding in public is not acceptable.</li> <li>▪ Women may worry that breastfeeding ruins their figures.</li> <li>▪ Many healthcare providers do not understand how breastfeeding works and too easily recommend supplementation in the face of minor difficulties.</li> <li>▪ Mothers often believe that they have insufficient milk at about 3 months and begin to add water, other milk and liquids sometimes in.</li> <li>▪ Bottles may be considered a symbol of education/status.</li> </ul>	<ul style="list-style-type: none"> <li>▪ <b>Breast milk alone provides all the water and food the baby needs until 6 months.</b></li> <li>▪ <b>Breastfeed ONLY: no water, liquids or food until the baby is about 6 months old. The baby will be healthier.</b></li> <li>▪ <b>Breast milk provides protection against diarrhea, respiratory infections, allergies and diseases.</b></li> <li>▪ <b>Mothers should not stop breastfeeding even if they are not eating well or are sick; they can still breastfeed.</b></li> <li>▪ <b>Breastfeeding is good for the mother's health; it helps prevent some kinds of cancer and other illnesses.</b></li> <li>▪ <b>Exclusive breastfeeding saves time and money for food and medical bills.</b></li> <li>▪ <b>Exclusive breastfeeding promotes maternal-child bonding.</b></li> <li>▪ <b>All women can produce sufficient milk even if they are not eating well or are sick.</b></li> <li>▪ <b>Giving only breast milk helps produce more breast milk.</b></li> <li>▪ <b>Breastfeeding is a traditional practice worth maintaining.</b></li> </ul>

***Ideal Behavior: Breastfeed Frequently—Day and Night***

<b><i>Situations in Which This Message is a Priority</i></b>	<b><i>Beliefs and Practices That Affect the Adoption of the Ideal Behavior</i></b>	<b><i>Appeals That May Motivate the Mother to Try the New Practice</i></b>
<ul style="list-style-type: none"> <li>▪ When women complain of decreasing milk supply</li> <li>▪ When babies are not growing satisfactorily</li> <li>▪ When babies are not urinating enough</li> <li>▪ When women are busy with work and delay breastfeeds</li> </ul>	<ul style="list-style-type: none"> <li>▪ In some countries breastfeeding in public is not acceptable.</li> <li>▪ Mothers' work may prevent frequent breastfeeding.</li> <li>▪ Many women are pressured to leave their baby with someone else in order to go to work.</li> <li>▪ Women may not understand that more sucking and emptying the breast stimulates milk production.</li> <li>▪ Most women in developing countries sleep with their baby at their side, and so feed during the night.</li> </ul>	<ul style="list-style-type: none"> <li>▪ When mothers must leave the home for several hours, mothers should have the baby brought to them to nurse, take the baby with them, or express their milk and leave it with the caretaker to give during the mother's absence.</li> <li>▪ Mothers should breastfeed day and night because frequent sucking and emptying the breast stimulates the breast to produce more milk.</li> <li>▪ Frequent day and night breastfeeding helps delay the next pregnancy.</li> </ul>

***Ideal Behavior: Empty One Breast First Before Offering the Other***

<b><i>Situations in Which This Message is a Priority</i></b>	<b><i>Beliefs and Practices That Affect the Adoption of the Ideal Behavior</i></b>	<b><i>Appeals that May Motivate the Mother to Try the New Practice</i></b>
<ul style="list-style-type: none"> <li>▪ When babies are fussy, have green stools and seem to be unsatisfied</li> <li>▪ When babies under 6 months are not gaining weight satisfactorily even though they are breastfeeding on demand</li> </ul>	<ul style="list-style-type: none"> <li>▪ Mothers often have so much work to do that they are forced to feed the baby while doing their other work. This may mean that not enough attention is given to the baby by emptying one breast first.</li> <li>▪ Many mothers "switch nurse" going from one breast to the other giving only the high water content of fore milk and limiting the rich hind milk the baby needs to grow.</li> <li>▪ Mothers of older children may say that the baby keeps switching, perhaps out of disappointment at the amount or taste of the milk.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Women should empty one breast before offering the other: this will produce more milk.</li> <li>▪ Women should empty one breast before offering the other; the baby needs both the watery milk that comes first and the thicker milk that comes at the end of the feed.</li> <li>▪ Women who don't have enough milk may not be emptying their breasts sufficiently because they are switching breasts too often.</li> <li>▪ The hind milk, having more fat in it, helps the baby to feel full, so s/he may not get hungry so soon.</li> </ul>

***Ideal Behavior: Establish Good Breastfeeding Skills Including Proper Attachment of the Baby to the Breast and Proper Positioning***

<b><i>Situations in Which This Message is a Priority</i></b>	<b><i>Beliefs and Practices That Affect the Adoption of the Ideal Behavior</i></b>	<b><i>Appeals that May Motivate the Mother to Try the New Practice</i></b>
<ul style="list-style-type: none"> <li>▪ When baby less than 6 months is not gaining weight</li> <li>▪ When baby less than 6 months is not urinating enough in 24 hours</li> <li>▪ When mother has sore or cracked nipples</li> <li>▪ When mother has nipple pain</li> </ul>	<ul style="list-style-type: none"> <li>▪ Mothers, especially young mothers, may have trouble during the first few days or weeks after birth attaching the baby to the breast and holding the baby in a good position.</li> <li>▪ Sometimes the baby is not attached and sucks on the end of the nipple, resulting in sore or cracked nipples.</li> <li>▪ Sometimes the baby is not attached properly and cannot get enough milk.</li> <li>▪ Some babies are held in positions that make it difficult or even painful to suck.</li> <li>▪ Healthcare providers may lack training to help young mothers to correctly position the baby.</li> <li>▪ Mothers believe that their breasts need to be washed before breastfeeding and may use harsh soaps, detergents or medicines on breasts leading to cracked nipples.</li> <li>▪ Mothers and other caretakers find it easier to distract the baby by giving the baby something else to suck when mother has to work or must leave the home temporarily.</li> <li>▪ Bottles and pacifiers are popular in many countries.</li> </ul>	<ul style="list-style-type: none"> <li>▪ If the baby is attached and positioned properly, baby will receive both the first watery milk to quench thirst, and the rich last milk to make the child grow and protect him/her against diseases.</li> <li>▪ The proper position for the baby is:               <ul style="list-style-type: none"> <li>➤ Baby opens his/her mouth wide.</li> <li>➤ Most of the bottom and most of the top of the areola is in the baby's mouth.</li> <li>➤ Baby's lower lip is curled outwards.</li> <li>➤ Baby's chin and nose touch the breast.</li> <li>➤ Mother may be able to hear the baby swallowing.</li> <li>➤ The front of the baby's body is facing and touching the mother.</li> <li>➤ Mother does not feel nipple pain.</li> <li>➤ Baby is relaxed and satisfied at the end of the feed.</li> </ul> </li> <li>▪ Babies may get confused and not suck properly on the breast if other nipples (bottles or teats) are placed in their mouths.</li> </ul>

***Ideal Behavior: Continue to Breastfeed When the Baby or Mother is Sick***

<b><i>Situations in Which This Message is a Priority</i></b>	<b><i>Beliefs and Practices That Affect the Adoption of the Ideal Behavior</i></b>	<b><i>Appeals that May Motivate the Mother to Try the New Practice</i></b>
<ul style="list-style-type: none"> <li>▪ When the baby is sick</li> <li>▪ When the mother who breastfeeds is sick</li> </ul>	<ul style="list-style-type: none"> <li>▪ Family members and others often put pressure on the mother not to feed the baby during illness.</li> <li>▪ Many women believe that breast milk will make illnesses like diarrhea worse.</li> <li>▪ Breastfeeding may be stopped during the mother's illness because of a belief that the mother passes the illness to the baby through the breast milk.</li> </ul>	<ul style="list-style-type: none"> <li>▪ If baby continues to breastfeed during illness, s/he will recover from the illness more quickly and regain his/her strength more quickly.</li> <li>▪ If the baby under 6 months of age is ill, mothers should increase the frequency of breastfeeds when s/he is sick.</li> <li>▪ Babies over 6 months may eat less food when they are ill, so they should be offered more breast milk. If your baby is over 6 months and is ill, increase breastfeeds and other liquids and continue to offer foods the baby likes.</li> <li>▪ If mother is ill, she can still breastfeed. The alternatives are too dangerous for her baby.</li> <li>▪ Continuing to breastfeed when the mother is ill gives the baby protection against the mother's illness.</li> </ul>



## RECIPES

### **ENRICHED GRUELS :**

- WSB/CSB gruel with dried fish (salty)
- WSB/CSB gruel with sugar and powdered milk (sweet)
- Wheat flour gruel with beans and dried fish (salty)
- Wheat flour gruel with beans (sweet)
- Wheat flour gruel with one egg

### **SPECIAL FOODS :**

- Mashed plantain with pumpkin and dried fish

### **SNACKS :**

- WSB/CSB croquettes with dried fish (« Acra »)
- Millet snack (« Cham Cham »)

### WSB/CSB gruel with dried fish (salty)

Ingredients	Quantity
WSB or CSB flour	1,5 measuring cups
Dried fish	3 pieces (local measure : « màk »)
Water	4 measuring cups
Oil	3 tablespoons
Washed salt	A pinch
Total	3,5 measuring cups

#### *Directions :*

Clean the dried fish: put the fish into the fire for some seconds in order to take off the skin, soak in water a few minutes to remove salt, cut in small pieces, remove the bones and pound it.

Dilute the flour in a 2,5 cups of cold water.

Place a pot on the fire and heat. Add oil and heat up the oil. Add the crushed fish and let it fry for a few minutes. Pour 1,5 cups of water. Boil and add washed salt.

Pour the flour dough in the boiling herring sauce. Boil again and let boil while stirring for 10 minutes.

### WSB/CSB gruel with sugar and powdered milk (sweet)

<b>Ingredients</b>	<b>Quantity</b>
WSB or CSB flour	1,5 measuring cups
Water	4 measuring cups
Brown sugar	½ - 1 measuring cup
Washed salt	A pinch
Powdered milk (whole milk)	about ½ measuring cup
Total	4 measuring cups

***Directions :***

Dilute the flour in 2 cups of water.

Boil 2 cups of water. Add the washed salt and sugar. Pour the flour dough in the water while stirring. Boil again while stirring. Let boil while stirring for 10 minutes. Add the powdered milk just toward the end and stir well.

Note : Fresh milk may be used instead of powdered milk; in this case, reduce the amount of water used.

### Wheat flour gruel with beans and dried fish (salty)

Ingredients	Quantity
Roasted wheat flour	1 measuring cup
Roasted bean flour	½ measuring cup
Dried fish	2 – 3 pieces (local measure : « màk »)
Water	4 measuring cups
Oil	2 tablespoons
Washed salt	A pinch
Total	2,5 measuring cups

#### *Preparation steps :*

##### Black beans

- Sort the beans (remove insects/undesirable particles) and wash.
- Roast the beans in a pot for 10-15 minutes.
- Let cool.
- Pound the beans until they turn to flour (winnow once to throw away the skins).

#### *Directions :*

Pass the wheat flour through a sieve. Roast the flour for 5 minutes and let cool. Pass through the sieve again. Mix with the roasted bean flour.

Clean the fish with lemon, take off the skin, soak in water for a few minutes to remove salt, cut in small pieces, remove the bones, and pound it.

Dilute the wheat and bean flour mix in 2 cups of cold water.

Place a pot on the fire and heat. Add the oil, the crushed fish, and 2 cups of water. Boil and add washed salt. Let boil for 2-3 minutes. Remove the pot from the fire.

Add the flour dough to the fish sauce while stirring. Put the pot back on the fire, boil again and let boil for 20 minutes while stirring.

## Wheat flour gruel with beans (sweet)

<b>Ingredients</b>	<b>Quantity</b>
Roasted wheatflour	1 measuring cup
Roasted bean flour	½ measuring cup
Water	4 cups
Brown sugar	½ measuring cup
Washed salt	A pinch
Total	3,5 measuring cups

### *Preparation steps :*

#### Black beans

- Sort the beans (remove insects and undesirable particles) and wash.
- Roast the beans in a pot for 10-15 minutes.
- Let cool.
- Pound the beans until they turn to flour (winnow once to throw away the skins).

### *Directions :*

Pass the wheat flour through a sieve. Roast the flour for 5 minutes and let cool. Pass through the sieve again several times. Mix with the roasted bean flour, add cold water (2 cups) and dilute.

Boil 2 cups of water. Add washed salt and sugar. Remove the pot from the fire, let cool a little and pour the flour dough in the water while stirring. Boil again while stirring. Let boil for 20 minutes and continue stirring.

### Wheat flour gruel with one egg

<b>Ingredients</b>	<b>Quantity</b>
Wheat flour gruel	½ measuring cup
Egg	1
Total	½ measuring cup

***Directions :***

Add one egg to an already prepared gruel. Scramble the egg until the yellow and white parts are well mixed. While scrambling, add the prepared gruel and mix well. Pour in a pot and let heat for 2-3 minutes while stirring.

## Mashed plantain with pumpkin and dried fish

<b>Ingredients</b>	<b>Quantity</b>
Plantain « matenten » boiled and mashed	1,5 measuring cups
Pumpkin boiled and mashed	1,5 measuring cups
Washed salt	1 teaspoon
Lemon juice	Half a lemon
Dried fish	4 – 5 pieces (local measure : « màk »)
Tomato paste mixed with a small piece of butter	1 teaspoon
Spices (1 cube Maggi, garlic, green onion mixed together and crushed)	1 teaspoon
Oil	4 teaspoons
Water	1,5 measuring cups
Total	4 measuring cups

### *Directions :*

Wash and peel the plantains. Remove the pumpkin rind and cut into small chunks. Boil 2 cups of water and add washed salt when it starts to boil. Add the plantains, chunks of pumpkin, and lemon juice to the boiling water.

Cover the pot with a plate and boil for 25 minutes.

Cut the plantains to remove the « hearts » and mash them with a spoon.

Mash the chunks of pumpkin.

### *For the sauce:*

Put the fish into the fire for some seconds in order to remove the skin more easily. Take off the skin and soak it in water to remove salt, cut in small pieces. Remove the bones and pound it. Combine together the oil, tomato paste and butter. Put this mix and the spices in the pot, heat, add the fish and ½ cup of water (water left over after boiling the plantains and the pumpkin). Let boil for a few minutes, add 1 cup of water and let boil again for 2 minutes.

Mix the mashed plantains and pumpkin with the sauce.

### WSB/CSB croquettes with dried fish

Ingredients	Quantity
WSB or CSB flour	1 measuring cup
Washed salt	A pinch
Dried fish	2 pieces (local measure : « māk »)
Water	½ - 1 measuring cup

***Directions :***

Clean the herring : put the fish into the fire for some seconds in order to take off the skin, soak in water a few minutes to remove salt, cut in small pieces, take off the bones and pound it.

Mix the water, the salt and the flour to make a dough. Add the pounded fish and stir.

Put the pot on the fire. Add a little oil and let heat. Make little balls with a spoon and let fry in the hot oil for about 5 minutes.



### Millet snack (« Cham Cham »)

Ingredients	Quantity
Roasted millet flour	3,5 measuring cups
Roasted peanut flour	2 measuring cups
Brown sugar	1 measuring cup
Washed salt	1 teaspoon
Total	6,5 measuring cups

#### *Preparation steps:*

##### Peanuts

- Sort the shelled peanuts (don't wash).
- Roast peanuts for 10 minutes in a pot.
- Let cool.
- Remove skins by hand.
- Pound peanuts.

##### Millet

- Wash millet.
- Sun-dry.
- Roast for 10 minutes in a pot (a few grains will pop).
- Let cool.
- Pound and pass through the sieve several times to obtain a fine flour.

#### *Directions :*

Mix all the ingredients and pound until a powder is obtained.

## **Information on Child-Feeding Skill Development and Other Development Milestones**

**The following pages contain background information on stages of children's feeding development and other important development stages from birth.**

## FEEDING SKILL DEVELOPMENT

Stephanie Gabela, MPH, RD Wellstart International

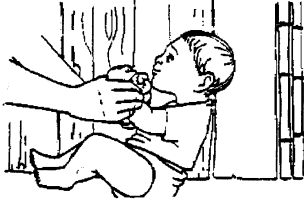
Age	Reflexes	Oral, Fine, Gross Motor Development
One month	Rooting, suck-swallow and gag reflexes are present at birth. Grasp reflex.	Poor head control. Secures milk with sucking pattern, tongue projected during swallowing.
Four to six months	Rooting reflex fades. Suck-swallow reflex fades.	Head control present. Changes from sucking to mature suck with increased strength. Munching pattern begins. Grasping with the palm. Brings objects to mouth.
Eight months	Gag reflex is less strong as chewing of solids begins and normal gag is developing. Bite reflex fades.	Sits alone/trunk control present. Rotary chewing begins. Has voluntary grasp and release. Holds bottle alone. Pincer grasp.
Twelve months		Reaches for spoon. Bites nipples, spoons, and crunchy foods. Grasps bottle and foods and brings them to mouth. Drinks from cup that is held. Tongue is used to lick food off lower lip. Finger feeds with refined grasp.
Fifteen months		Demands to help feed. Drinks from cup well with one or two hands.
Eighteen months		Uses spoon, fills poorly, spills, turns at mouth. Verbalizes "eat, all gone, no more."
Two years		Fills spoon, no turning, no spilling, overhand grasp. No dribbling while drinking from cup. Starts to use fork.
Three years		Combines finger feeding and eating with spoon and fork. Drinks with straw.
Four years		Feeds self well, spills little. Pours from pitcher. Serves self.
Five years		Cuts with knife. Is independent.
Six years		Can set the table.

Adapted from Center for Child Development, Children's Hospital, Los Angeles (1991), *Nutrition Strategies for Children with Special Needs*. Los Angeles: CHLA.

## CHILDREN'S MOTOR DEVELOPMENT MILESTONES

### Developmental Milestones

1.



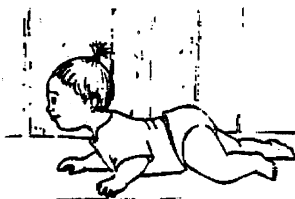
The child pulls to sit, with head steady, in a straight position

2.



Child sits straight, with head erect, and does not need his arms to balance or support his body.

3.



Child crawls with his stomach against the floor with sustained movement (at least three in a row). His propulsion is highly dependent on the use of his arms.

4.



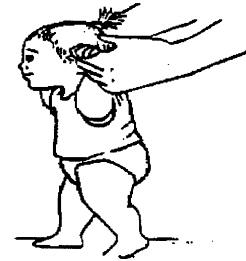
The child crawls with sustained movement (at least three in a row), pushing with his legs. His stomach no longer touches the floor.

5.



The child is able to stand holding onto furniture or an assistant, for at least 10 seconds. His legs support his body.

6.



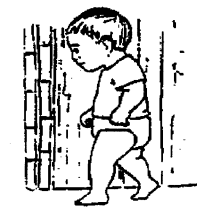
The child starts walking with assistance. Head is erect, back straight, legs support weight of body. Takes at least five steps.

7.



Child stands alone, balancing with his arms for at least 10 seconds. Head is erect, back straight.

8.



Child walks alone at least five steps.

**CRITERIA TO VERIFY THAT THE CHILD HAS ACHIEVED EACH MOTOR MILESTONE (TO BE USED WITH THE ACCOMPANYING PICTURES OF MOTOR DEVELOPMENT).**

Number and name of motor milestone	Criteria
1. Pulling to sit.	1. Holds head steady in a straight position. 2. Child <u>carries</u> part of body weight forward.
2. Sitting without support for at least 10 seconds.	1. Sits straight. 2. Sits with head erect. 3. Does not use arms or hands to balance body or support position.
3. Crawling with stomach on floor, with sustained movement.	1. Moves forward or backward. 2. Uses arms and hands to help propel the child. 3. Sustains movement (at least three in a row).
4. Crawling with stomach off of floor, forward or backward.	1. Moves forward or backward. 2. Child pushes with legs. 3. Sustains movement (at least three in a row).
5. Standing with assistance.	1. Legs support most of the child's body weight. 2. Standing for at least ten seconds. 3. Caretaker or tester provides assistance.
6. Walking with assistance.	1. One leg and foot moves forward while the other supports part of the weight of the body. 2. Assistance is provided by caretakers or tester. 3. Takes at least five steps. 4. Head is erect, back straight.
7. Standing alone.	1. Legs support 100% of child's weight. 2. Head erect, back straight. 3. No contact with object or person. 4. Stands alone for at least ten seconds.
8. Walking alone.	1. One leg and foot moves forward while the other supports most of the weight of the body. 2. No contact with object or person. 3. Takes at least five steps.

## RESOURCE MATERIALS TAKE-HOME ASSIGNMENT

Respond to the following from the resource materials for learning sessions on infant and young child feeding practices:

1. How does breastfeeding help protect a mother against anemia?
2. Finish the phrase: *Breastfeed exclusively without. . .*
3. Name two common beliefs about colostrum.
  - 
  -
4. What is the proper position in which to breastfeed a baby?
5. Breastfed children do two things better than children who are not breastfed. What are they?
  - 
  -
6. State one strategy for promoting breastfeeding in the community that concerns:
  - Husbands:
  - Grandmothers:
  - Traditional Birth Attendants:
7. List two ways that a mother can practice "responsive" feeding.
  - 
  -
8. Complete the sentence: A mother with HIV who breastfeeds should do it exclusively because...
9. What do some mothers believe about breastfeeding when they (the mothers) are sick?
10. How are 4-6 months old babies? What are they able to do?
11. How should children be fed during and after an illness ?

## ANSWERS TO THE RESOURCE MATERIALS TAKE-HOME ASSIGNMENT

1. How does breastfeeding help protect a mother against anemia?  
*By delaying the return of her period. Blood loss is reduced and iron is conserved.*
2. Finish the phrase: Breastfeed exclusively without. . .  
*giving any other foods or liquids, not even water.*
3. Name two common beliefs about colostrum.
  - *Giving a baby colostrum may cause the baby to get sick.*
  - *The first milk (colostrum) is dirty.*
4. What is the proper position in which to breastfeed a baby?  
*The baby should be held close to the mother, facing the breast, with baby's ear, shoulder and hip in a straight line.*
5. Breastfed children do two things better than children who are not breastfed. What are they?
  - *They grow up to be stronger.*
  - *They do better in school.*
6. State one strategy for promoting breastfeeding in the community that concerns:
  - *Husbands—encourage them to make sure mother has enough time to breastfeed.*
  - *Grandmothers—older members of the Credit Association can talk to women their age to encourage them to support their children/grandchildren.*
  - *Traditional Birth Attendants—encourage them to have mothers start breastfeeding right after birth.*
7. List two ways that a mother can practice "responsive" feeding.
  - *Feed infants directly and assist older children when they feed themselves.*
  - *Offer favorite foods.*
  - *Experiment with different combinations, tastes and texture.*
  - *Talk to children while feeding them.*
  - *Feed slowly and patiently.*
  - *Do not force a child to eat.*
8. Complete the sentence: A mother with HIV who breastfeeds should do it exclusively because. . .  
*. adding other things may cause stomach infections that increase the risk of HIV transmission.*
9. What do some mothers believe about breastfeeding when they (the mothers) are sick?  
*That they can pass the illness to the baby through their breast milk.*
10. How are 4-6 months old babies? What are they able to do?  
*They can hold their heads straight. They start to be strong enough to really suckle. They start to nibble. They want to touch with their palms. They put everything they find in their mouths.*
11. How should children be fed during and after an illness ?
  - *During illness, breastfeed more frequently, increase fluid intake and offer the child appetizing, favorite foods. Encourage the child to eat.*
  - *After illness, try to feed children more often special foods and more than usual each time to avoid malnutrition. A good way to do this is to give them one extra meal each day for at least two weeks after they get better. Offer them appetizing, favorite foods. Encourage the child to eat more.*

## **GIVING AND RECEIVING FEEDBACK**

### **Giving Feedback:**

#### **1. Be specific**

Come up with specific examples.

Don't say: "You did not ask good open questions...."

Try instead: "When you asked the question—'Did you understand what I said?'—you might have said instead, 'What points, in what I just said, are still unclear?' This makes it an open question and encourages the participant to think about specific things they did not understand."

#### **2. Make a suggestion for an alternative practice or approach (see the example above).**

*For example, you might say: "When you showed the picture, the people in the back could not see it. Why not arrange beforehand with the health animator to carry it around the group - encouraging her to move to the back - while you are explaining it."*

#### **3. Be appreciative**

Feedback does not have to focus just on what did not go well. It should focus also on what people did well.

*For example, you might say: "I really like the way you paused a bit longer to give participants time to think about the question you asked."*

#### **4. Ask questions to understand first why the person might have done something that you felt was inappropriate.**

For example, you might say: "When you told the women to form groups, why did you tell each woman which group she was supposed to be in?"

### **Receiving Feedback:**

#### **1. Listen to the entire comment/suggestion.**

Try not to interrupt the one who is providing the feedback.

#### **2. Before responding, ask questions to make sure you understand clearly what the person is saying.**

Try to restate in your own words, or paraphrase what you have understood them to say.

#### **3. Try not to get defensive and justify your actions.**

Consider the recommendation and thank the person who made it. At times you simply need time to consider what was said. (If the one providing the feedback asks why you did something—see point 4 under "Giving Feedback"—it is appropriate to respond.)

#### **4. Be thankful for the input.**

Remember, when you are on your own in the field such input will not be available. Feedback is an opportunity to benefit from the experience of others.

#### **5. Help the one providing the input to be specific (see point 1 under "Giving Feedback").**

For example, you might say: "Could you give me an example of what you mean?"



## LEARNING SESSION OBSERVATION CHECKLIST

Date: \_\_\_\_\_

Health Agent/Colvol Name: \_\_\_\_\_ Supervisor Name: \_\_\_\_\_

Session Topic/Name and Number: \_\_\_\_\_

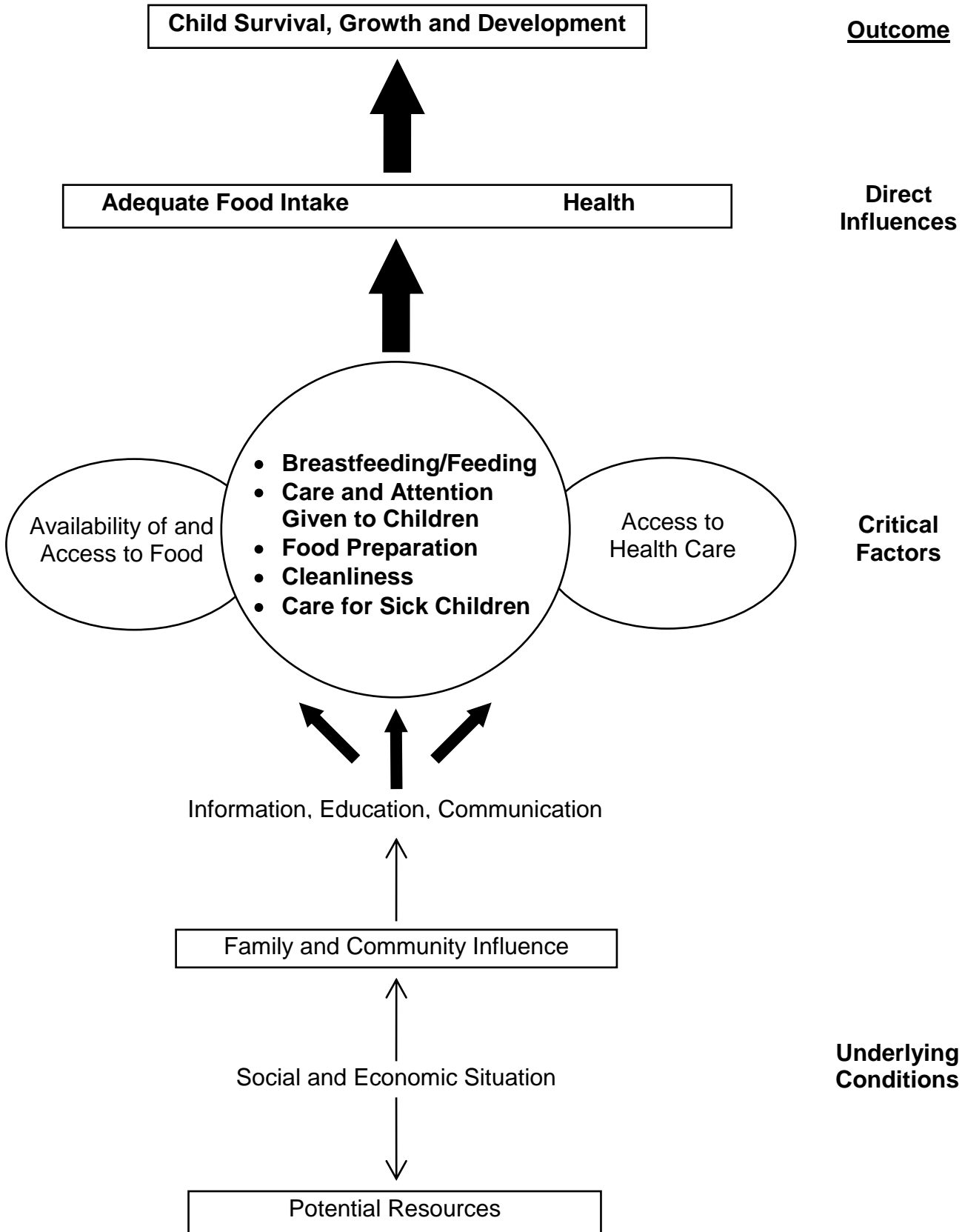
Name of Mothers' Club: \_\_\_\_\_ Locality: \_\_\_\_\_

<b>1. Technical Content</b>			
a. Communicated <u>all</u> technical information accurately	Y	N	
b. Responded to questions accurately	Y	N	N/A
c. Brought focus back to the promoted behavior when "inaccurate" information raised	Y	N	N/A
d. Acknowledged when questions were beyond his/her technical knowledge	Y	N	N/A
<b>2. Session Management and Organization</b>			
a. Completed all learning session steps	Y	N	
b. Completed all learning session steps in order	Y	N	
c. Completed the learning session within _____ minutes of recommended time	Y	N	
d. Had all materials (visuals, notes, props, etc.) ready <u>and</u> organized	Y	N	
<b>3. Facilitation and Teaching Skills</b>			
a. Used small groups as suggested—including size of group (pairs, threes, etc.)	Y	N	
b. Small-group management			
▪ Defined clearly the question/topic to be discussed	Y	N	
▪ Helped arrange participants to assure they faced each other	Y	N	
▪ Circulated around the room to clarify, help and encourage groups	Y	N	
▪ Asked for reports (sample or all groups) according to learning session guide	Y	N	
c. Open-ended questions			
▪ Used open-ended questions as indicated in the learning session guide	Y	N	
▪ Used open-ended questions to probe and encourage active discussion at other times—must give specific example _____	Y	N	
d. Spoke loudly and clearly	Y	N	
e. Visuals			
▪ Showed <u>all</u> visuals included in the learning session	Y	N	N/A
▪ Assured that all participants could see visuals (moved around the room, passed them around the room, used a member to circulate with them or asked for participants to assemble around a picture to see it better)	Y	N	N/A
f. Used other teaching techniques/facilitation skills as written in learning session guide (stories, demonstrations, role-plays, games)	Y	N	N/A
<b>4. Attitudes Displayed</b>			
a. Provided praise/affirmation to the participants—must give specific example _____	Y	N	
b. Demonstrated respect for the participants—must give specific example _____	Y	N	
c. Helped participants feel at ease with participating—must give specific example _____	Y	N	
d. Attempted to create a dialogue and/or limit "lecture style"—must give specific example _____	Y	N	

**Notes:**

1. N/A should only be used if the health agent/colvol did not have an opportunity to use or practice the element. Otherwise "Y" or "N" should be used in each case.
2. For "must give specific example"—if no specific example can be given "N" should be circled.

# HELPING CHILDREN GROW STRONG AND HEALTHY



## CHILD DEVELOPMENT AND FEEDING CHART SUMMARY

	0	6	9	12	24
Child Development	Various stages of child development				
Food Texture	Breast milk is appropriate	Breast milk plus other nutritious complementary foods pureed, mashed and soft like a gruel	Breast milk plus other nutritious complementary foods chunky, lumpy or chopped Increase the variety of foods fed, as the child gets older	Continue to feed nutritious foods plus small chunks of what the other family members are eating Increase the variety of foods fed, as the child gets older	
Breastfeeding and Feeding	Breastfeed only If the mother is going out, express breast milk	Breastfeed first, then feed other foods If the mother is going out, express breast milk		Feed other foods first, then breastfeed	
Participating in Feeding	Talk to children while breastfeeding	Feed infants directly, and feed slowly and patiently Talk to children during feeding, with eye to eye contact Encourage children to eat but do not force them Feed them in their own bowl Give them liquids with a little spoon out of a clean cup		Assist and supervise feeding Feed slowly and patiently Talk to children during feeding, with eye to eye contact Encourage children to eat but do not force them Feed them in their own bowl Children eat with family	
Frequency of Feeding	Day and night Whenever the child wants	Feed them nutritious or special meals 2-3 times per day Provide nutritious snacks 1-2 times per day	Feed them nutritious or special meals 3-4 times per day Provide nutritious snacks 1-2 times per day	Feed them nutritious or special meals 3-4 times per day Provide nutritious snacks 1-2 times per day	
Quantity of Food	Give five complete feeds, emptying one breast before offering the other	Each time you feed the child, give several small spoonfuls to equal 2-4 large spoonfuls until the child eats at least $\frac{1}{4}$ of a local cup (#7 <sup>5</sup> )	Each time you feed the child, give at least $\frac{1}{2}$ of a local cup (#7)	$\frac{1}{2}$ of a local cup (#7) or more at each meal - as the child gets older, give more food at each feeding	

<sup>5</sup> 1 local cup #7 is equal to 2 measuring cups U.S.

## THREE DIFFERENT WAYS TO DEFINE MALNUTRITION

**Stunting** means that children are too short for their age. Stunted children have had some food but not quite enough for a long time. Stunted children may also have had many illnesses over a long period.

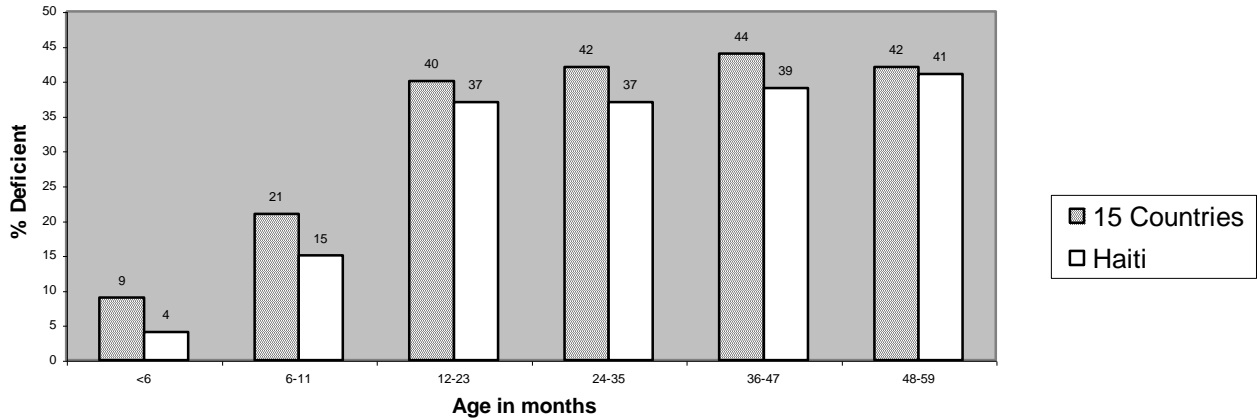
**Wasting** means that children do not weigh enough for their height. Wasting happens when a family or even a whole region does not have enough food for a short time, as in a famine, flood or war, or when a severe illness or epidemic occurs. Because it indicates a short-term problem it is less frequent than stunting in most populations.

**Underweight** means that children do not weigh enough for their age. Underweight can be explained by either stunting or wasting. It means that children do not weigh enough in general although it is not always clear why— is it because children are simply too short for their age or because they do not weigh enough for their height (even though they are the right height for their age)?

The measurement of children's weight for age is often used in growth monitoring programs when children's weights can be taken month by month as they get older and comparisons can be made easily with their previous weight.

## MALNUTRITION DATA GRAPHS

**Stunting (low height-for-age)**  
Prevalence in 15 countries compared to Haiti, by age

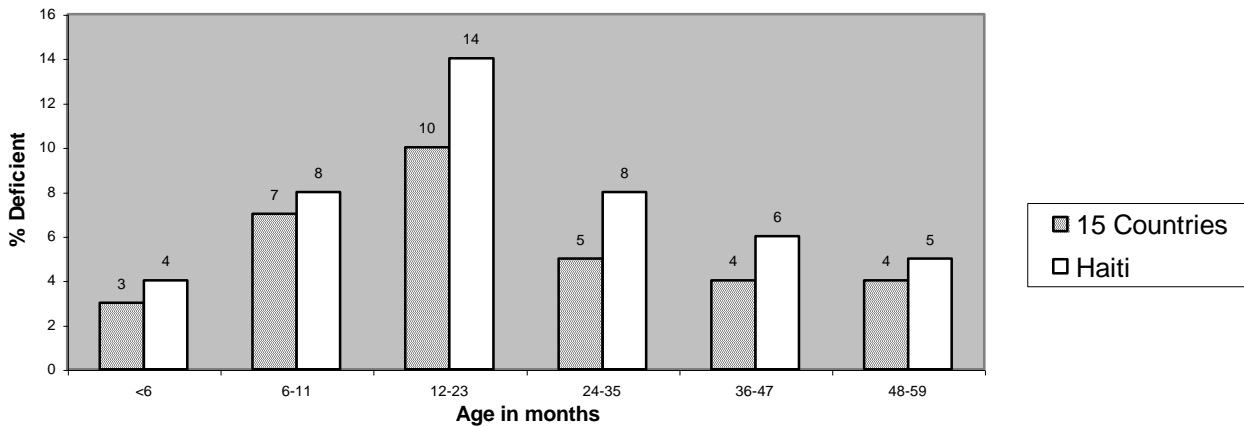


% deficient refers to the percentage of malnourished children below -2 Standard Deviation.

Source : Demographic and Health Survey, Haiti, 1995.

Note :All DHS countries with anthropometric data in the 1991-1995 surveys were included: Cameroon, Columbia, Dominican Republic, Egypt, Guatemala, Jordan, Madagascar, Malawi, Namibia, Niger, Pakistan, Peru, Tanzania, Philippines and Zambia.

**Wasting (low weight-for-height)**  
Prevalence in 15 countries compared to Haiti, by age

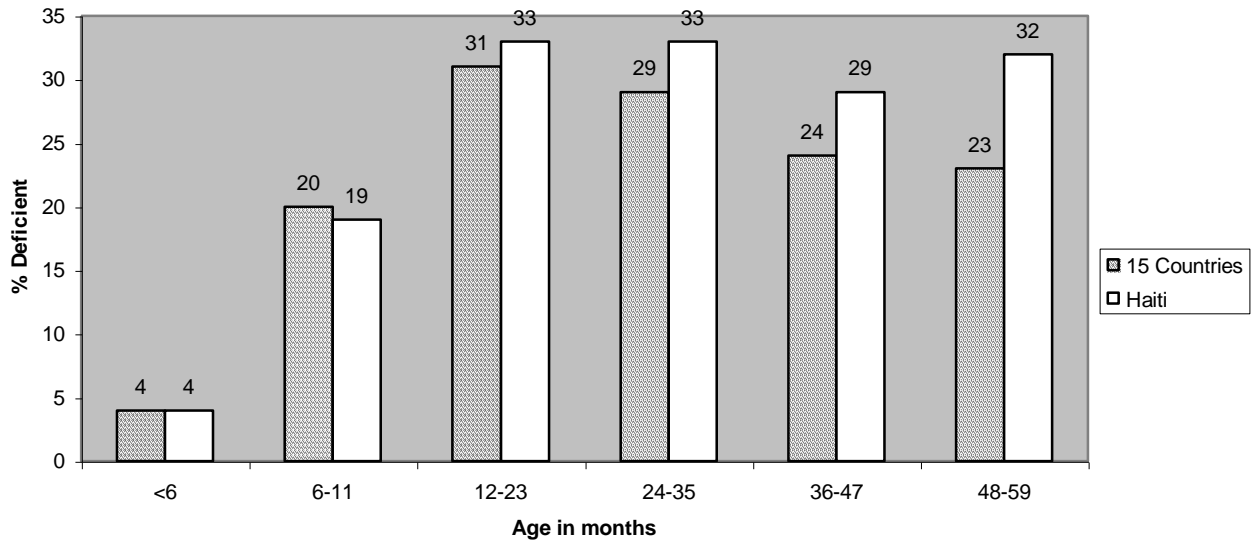


% deficient refers to the percentage of malnourished children below -2 Standard Deviation.

Source : Demographic and Health Survey, Haiti, 1995.

Note :All DHS countries with anthropometric data in the 1991-1995 surveys were included: Cameroon, Columbia, Dominican Republic, Egypt, Guatemala, Jordan, Madagascar, Malawi, Namibia, Niger, Pakistan, Peru, Tanzania, Philippines and Zambia.

**Underweight (low weight-for-age)  
Prevalence in 15 countries compared to Haiti, by age**



% deficient refers to the percentage of malnourished children below -2 Standard Deviation.

Source : Demographic and Health Survey, Haiti, 1995.

Note :All DHS countries with anthropometric data in the 1991-1995 surveys were included: Cameroon, Columbia, Dominican Republic, Egypt, Guatemala, Jordan, Madagascar, Malawi, Namibia, Niger, Pakistan, Peru, Tanzania, Philippines and Zambia.

## HOW IRON, VITAMIN A AND IODINE DEFICIENCIES AFFECT CHILDREN

How Iron, Vitamin A and Iodine Deficiencies Affect Children			
	Iron	Vitamin A	Iodine
<b>Why is this nutrient important?</b>	<ul style="list-style-type: none"> <li>▪ The body needs iron to make hemoglobin—a protein in red blood cells that carries oxygen to the brain, muscles, immune system and other parts of the body.</li> <li>▪ Without adequate oxygen the physical and mental capacity of individuals is reduced.</li> </ul>	<ul style="list-style-type: none"> <li>▪ The body's immune system cannot function well without adequate levels of vitamin A.</li> <li>▪ Important for eyesight.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Iodine is essential for the production of thyroxin—a hormone used to maintain body temperature, brain function, growth and reproduction.</li> </ul>
<b>What causes a deficiency?</b>	<ul style="list-style-type: none"> <li>▪ Too little iron in food eaten.</li> <li>▪ Poor iron absorption.</li> <li>▪ Increased need for iron of sick persons, pregnant and lactating women and young children.</li> <li>▪ Chronic blood loss caused by worms or malaria.</li> <li>▪ Can lead to anemia (inadequate hemoglobin in the blood).</li> </ul>	<ul style="list-style-type: none"> <li>▪ Too little vitamin A in food eaten.</li> <li>▪ Too little is absorbed (due to diarrhea).</li> <li>▪ It is used up more quickly (during illnesses with fevers—such as measles).</li> <li>▪ Increased need for vitamin A for pregnant and nursing mothers and for young children.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Iodine deficiency is most common in mountainous regions like the Central Plateau. Soil and water are iodine deficient, resulting in low levels of iodine in locally grown foods, vegetables or animal source foods.</li> </ul>
<b>What are the physical implications of deficiency in children?</b>	<ul style="list-style-type: none"> <li>▪ (Iron deficiency anemia).</li> <li>▪ Impaired learning.</li> <li>▪ Impaired development.</li> <li>▪ Lower height.</li> <li>▪ Weakened defense against infection.</li> <li>▪ Feel tired.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Damaged surfaces of the skin, eyes and mouth, the lining of the stomach and the respiratory system.</li> <li>▪ More infections that become more severe.</li> <li>▪ Can lead to blindness.</li> </ul>	<ul style="list-style-type: none"> <li>▪ (In fetus) Poor brain development and impaired ability to learn (cretinism).</li> <li>▪ Brain damage—affecting ability to walk, hear and learn.</li> <li>▪ Goiter - clinical manifestation of iodine deficiency.</li> </ul>
<b>What can be done?</b>	<ul style="list-style-type: none"> <li>▪ Nutritional sources according to their importance:               <ol style="list-style-type: none"> <li>1. Foods rich in iron: red meat, liver, fish</li> <li>2. Vegetables and dry beans (contain iron less bioavailable)                   <ul style="list-style-type: none"> <li>▪ The iron in vegetables and dry beans is less bioavailable than iron in meat and fish.</li> <li>▪ Vitamin C helps the body absorb more iron.</li> </ul> </li> <li>▪ Supplements may be necessary when there is an increased need, for example for pregnant and nursing mothers and for young children.</li> <li>▪ Look for fortified foods.</li> </ol> </li> </ul>	<ul style="list-style-type: none"> <li>▪ It may be easier to provide an adequate amount of vitamin A via food consumption than to provide adequate iron or iodine via food consumption.</li> <li>▪ Nutritional sources according to their importance:               <ol style="list-style-type: none"> <li>1. Eggs, liver, milk</li> <li>2. Mangos, yellow melons</li> <li>3. Pumpkin, carrots, yellow sweet potato</li> <li>4. Green leafy vegetables</li> </ol> <li>▪ Supplements may be necessary when there is an increased need, for example for pregnant and nursing mother and for young children.</li> </li></ul>	<ul style="list-style-type: none"> <li>▪ Ocean fish, but important quantities must be consumed every day to meet requirements.</li> <li>▪ Iodized salt may be the best option in places like the Central Plateau where soil does not contain enough iodine.</li> <li>▪ Note that iodine deficiency in the pregnant mother can cause cretinism but that cretinism can develop after birth too.</li> </ul>

## POST-TEST BEFORE THE WORKSHOPS ENDS

### First part: Breastfeeding

Question	Answer
1. How long after birth should a baby start breastfeeding? <i>(Fill in the blank.)</i>	_____ after birth.
2. What should a mother do with the "first milk" or colostrum? <i>(Circle the correct answer.)</i>	A. Throw it away and start breastfeeding when the real milk comes in. B. Give it to her baby by breastfeeding soon after birth.
3. Women with small breasts will produce less milk.	True                      False
4. How often should a baby breastfeed? <i>(Write the answer.)</i>	
5. If a mother thinks her baby is not getting enough breast milk, what should she do? <i>(Write the answer.)</i>	
6. What is the most common reason for a mother to have over-full, sore breasts? <i>(Write the answer.)</i>	
7. If the weather is very hot, infants under 6 months of age should be given water in addition to breast milk. <i>(Circle true or false.)</i>	True                      False
8. If a breastfeeding mother of an infant under 6 months of age becomes pregnant, she should stop breastfeeding. <i>(Circle true or false.)</i>	True                      False
9. If a mother needs to be away from her baby and the baby gets hungry, what should the baby be fed? <i>(Write the answer.)</i>	
10. If a 4-month-old baby becomes ill, the mother should stop breastfeeding him/her and give the baby other liquid and food until the baby feels better. <i>(Circle true or false.)</i>	True                      False
11. At what age should a baby first start to receive foods and liquids other than breast milk? <i>(Fill in the blank.)</i>	At _____ months of age.
12. Give two reasons a young baby should be exclusively breastfed. <i>(List two reasons.)</i>	1. 2.
13. A mother should leave expressed breast milk for her baby in a bottle. <i>(Circle true or false.)</i>	True                      False
14. Until about what age should a baby continue to be breastfed? <i>(Fill in the blank.)</i>	Until about the age of _____
15. Malnourished women can successfully breastfeed their children. <i>(Circle true or false.)</i>	True                      False
16. Frequent breastfeeding during the night as well as the day will increase milk production. <i>(Circle true or false.)</i>	True                      False



**Breastfeeding Post-Test  
ANSWER SHEET**

1. Immediately or a half-hour or one hour
2. B. Give it to her baby by breastfeeding soon after birth
3. False
4. "Whenever the baby wants, day and night" or "Whenever the baby is hungry," are correct. The answer should contain the idea of on-demand feeding, otherwise it should be considered incorrect.
5. "She should breastfeed more often" or "She should breastfeed more frequently."  
(Note: If the answer "She should eat and/or drink more" is given, count it correct only if the answer, "She should breastfeed more often" (or frequently) is also given.)
6. From not breastfeeding often enough
7. False
8. False
9. Mother's expressed breast milk or mother's milk
10. False
11. At 6 months of age
12. Reasons may include the following:
  - It protects the baby from illness.
  - It helps the baby grow better.
  - Breast milk contains all the food and liquid a baby needs for the first 6 months.
  - The mother is less likely to get pregnant.
  - It delays the return of the mother's period.
  - It helps the mother recover her previous weight faster.
  - It is clean, safe and/or convenient.
  - Breast milk is affordable.
  - It reduces health-care costs.
13. False
14. Until about the age of two years.
15. True
16. True

**POST-TEST BEFORE THE WORKSHOP ENDS**  
**Second part: Complementary Feeding**

Question	Answer	
1. Name one thing that can happen to children if they do not get enough iron (either in their diet or via iron supplements). <i>(Write one response)</i>		
2. Vitamin ____ helps the body to use iron better. <i>(Fill in the blank)</i>		
3. Vitamin A—a nutrient necessary to protect the body from illness—is found in what kinds of food? <i>(Write at least one response)</i>		
4. What seasoning is often fortified with iodine (a nutrient important for brain development)? <i>(Write your response)</i>		
5. Children can learn to adapt to new foods easily and should therefore begin to eat the same food as the rest of the family as soon as they begin to eat other foods besides breast milk. <i>(Circle True or False)</i>	True	False
6. When children <u>begin</u> to eat solid foods they should not be given breast milk since it makes them less hungry for the more nutritious solid food. <i>(Circle True or False)</i>	True	False
7. Different foods are required for different ages.	True	False
8. After an illness it is important to give children an extra meal per day for at least ____ weeks (after the illness has passed). <i>(Fill in the blank with a number)</i>		
9. State one common problem with many first complementary foods, as they are traditionally prepared. <i>(Write your response)</i>		
10. When children start eating other foods in addition to breast milk a variety of foods should be added all at once to their diets since they are ready to try many new things. <i>(Circle True or False)</i>	True	False
11. List some of the special foods a mother can prepare for her child to complement breast milk.		
12. A 1-year old child needs no assistance to eat, he/she can eat alone.	True	False
13. It is not a good idea to feed children an evening meal because they may inflate the child.	True	False
14. How many times per day a child 6-9 months old should eat?		
15. A 1-year old child should eat the same foods as the rest of the family.	True	False

## Complementary Feeding Post-Test ANSWER SHEET

1. Impaired learning  
Impaired development  
Lower height  
Weakened defense against infection  
Feel tired
2. Vitamin C
3. The following foods contain Vitamin A (ranked according to carotenoid bioavailability):  
Eggs, animal liver and milk  
Mangos, yellow melon  
Pumpkin, carrots, yellow sweet potatoes  
Green leafy vegetables
4. Salt
5. False
6. False
7. True
8. 2 weeks
9. Too watery  
Nutritional value is too limited (no variety or added energy)
10. False
11. Examples of special foods:

Enriched gruel (better than gruel made with wheat flour only)

Made with wheat flour, millet flour, or corn flour

- With black beans, sugar and some oil (roast the beans to reduce cooking time, start by pounding it, winnowing it to remove the skins, continue to pound it until it turns to flour).
- With peanuts/peanut butter, some sugar and some oil (roast the peanuts, peel and pound them).
- With dried, smoked herring or dried, salted herring (soak in water before using it)
- With cow or goat milk or breast milk
- With egg (beat one egg and add it to the gruel when it's almost cooked).

Other special foods:

- Like mashed plantain with pumpkin or other vegetables with herring sauce or egg sauce or fish sauce or bean puree (bean sauce) or liver sauce.
- Vegetable puree with cereals or tubers, grease and protein-rich foods.
- Dough made with the ingredients of the bouillon (mashed vegetables, plantain, crushed, mashed or torn pieces of meat, add some of the liquid of the bouillon to turn it into a "dough" - instead of passing the whole thing through a sieve).

12. False
13. False
14. Feed special meals 2-3 times per day - provide 1-2 times per day additional nutritious snacks
15. False (needs still special foods)

# MODULE ON INFANT AND CHILD FEEDING PRACTICES

(Preventive Program)

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*This module is based on the following two modules developed by Freedom From Hunger: "Improving Breastfeeding - Everyone Can Help" and "Infant and Child Feeding: Helping Young Children to Eat and Grow Well". The IFPRI/Cornell/World Vision team thanks Freedom From Hunger for their permission to adapt their materials.*

*January 2003*

## Introduction to the infant and young child feeding module

### Background Information on Breastfeeding

Breastfeeding is the ideal way for a mother to give her baby the best possible start in life. From the moment the baby is born through the first six months, breast milk is the best and only food or drink the baby needs. Studies have shown that infants who are given only breast milk for the first six months of life are much less likely to die from diarrhea and respiratory diseases than infants who are given other foods or are not breastfed.<sup>2</sup> Breast milk has all the nutrients infants need and is easy for them to digest.

Breast milk is always ready, clean and at the right temperature for the baby. Both the mother and the baby benefit from the close bond that is developed through breastfeeding. Giving only breast milk whenever the child wants it (on demand) for six months can effectively prevent pregnancy during those six months unless the mother begins her menstrual period.

Breast milk is still important even after the baby begins to eat other foods at about six months of age. Children should continue to be breastfed for up to two years of age and even older, while receiving nutritional and safe complementary foods.

### Background Information on Complementary Feeding

The period between 6 and 24 months is one of the most critical in the life of any child. It is during this period that problems of malnutrition and illness afflict many children around the world. These problems, which manifest themselves in stunting (low height for age), wasting (low weight for height), and underweight (low weight for age) not only affect children during this age period but can have negative consequences for their entire lives.

Malnourished children get sick more often and more severely. They are at greater risk of dying prematurely. They also do less well in school. Stunting especially is a problem for women who never have sufficient catch-up growth to overcome malnutrition during childhood. These women are at much greater risk of having pregnancy problems and underweight babies. Thus malnutrition in 6- to 24-month-olds creates a vicious cycle that can lead to underachievement and problems into adulthood and even in children of the next generation.

Children aged 6-24 months are highly vulnerable to malnutrition for several reasons. The foods they eat may be an inadequate source of energy and nutrients. They may be vulnerable because their mothers stopped breastfeeding them too soon or because they are not eating enough complementary foods in addition to breast milk. They may get sick

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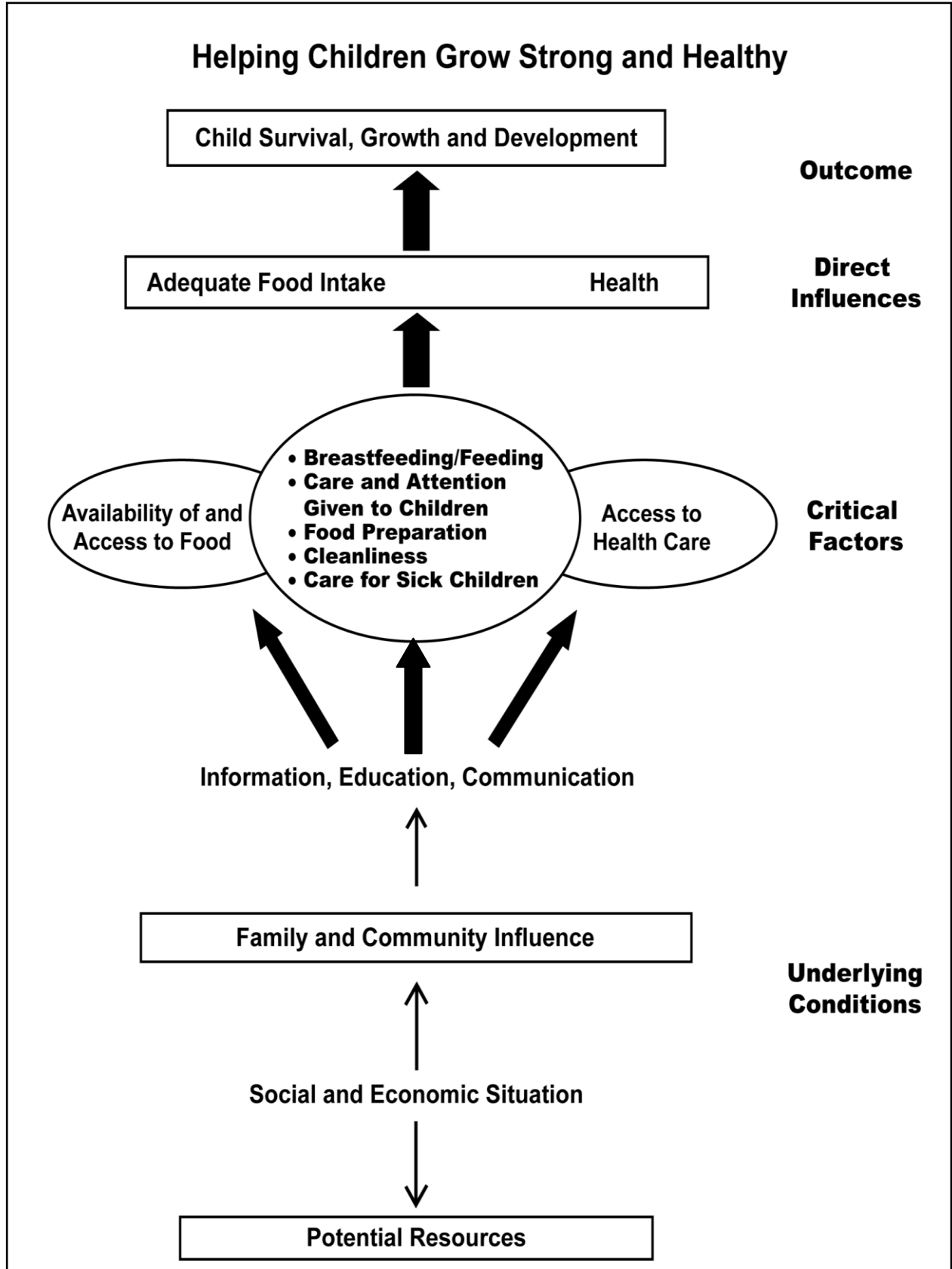
<sup>2</sup> Victoria, C. et al., "Infant Feedings and Deaths Due to Diarrhea: A Case Control Study," *American Journal of Epidemiology*. 129(5), 1989.

more often, which suppresses their appetites. They may not eat often enough or get adequate amounts at each meal.

The chart on the next page ("Helping Children Grow Strong and Healthy" from UNICEF) shows the many factors that contribute to child survival and appropriate growth and development. The diagram illustrates the "Underlying Conditions," listed at the bottom of the chart that contribute to how children will grow and develop. There are a number of factors at the level of "Critical Factors" that influence child growth and development beyond the availability of food and health services. For example, the center circle shows the importance of breastfeeding and feeding. This shows us the necessity for World Vision to integrate all of its activities in agriculture, education, microfinance, etc., in addition to the work of the health sector, so that food is available in the household and that children have access to the food, that children are well cared for, etc.

Note that in addition to feeding, there are factors such as care and attention given to children, food preparation, cleanliness and care of sick children that contribute directly to the adequacy of the diet consumed and the health of the children. Care and attention concerns the importance of spending time with the children, helping them learn to eat, encouraging them to eat and helping them to eat even when they are sick. This diagram, therefore, shows that factors besides what children are given to eat are important to their growth and development.

The learning sessions are not just about the kind and composition of food that should be fed to children 6-24 months, although this issue is dealt with in some detail. It is also about the physical development of children, how they need to learn to eat and the importance of giving them foods they can eat without difficulty. It is also about challenging caregivers to spend time with children to encourage them to eat well, to monitor the type and quantity of food they eat and assure they are getting food they need. The learning sessions also cover the importance of keeping food clean and assuring that it is prepared and stored in a hygienic manner. It also considers ways the food needs of children change over the period from 6-24 months and it discusses the importance of continued breastfeeding through the second year and beyond. Finally, it deals with the issue of malnutrition and how to help malnourished children recuperate.



## Overview of the Infant and Young Child Feeding Module

The overall purpose of the infant and young child feeding module is to discuss recommended infant and child feeding practices with participants, help them compare the recommendations to actual practices of women in their community, and plan ways they might help improve breastfeeding and child feeding practices in their community to assure good growth and health to children under 2 years of age. The module also encourages the participants to try new behaviors and evaluate ways to overcome barriers to trying these new behaviors.

To achieve this purpose you, the health agent, will facilitate 13 learning sessions. By the end of these 13 sessions participants will have accomplished the following:

1. Reviewed recommended breastfeeding practices and reasons they are important.
2. Described women's difficulties with trying the recommended practices.
3. Discussed the benefits of the LAM method and the requirements for this method to work for them as a birth spacing method.
4. Reviewed again recommended breastfeeding practices and the reasons it is valuable to continue to breastfeed children through 24 months and beyond.
5. Identified key feeding practices that should be in place at 24 months.
6. Described the process of how children from 6-24 months learn to eat.
7. Planned ways to help the baby to eat.
8. Prepared enriched gruel and other special complementary foods.
9. Listed clean/hygienic manners to prepare and store food.
10. Reviewed appropriate feeding practices during and after illness.
11. Analyzed the reasons for malnutrition, identified its symptoms and learned how to help children with malnutrition recuperate.
12. Discussed local breastfeeding and child feeding practices and compared them to the recommendations.
13. Helped you (the health agent) understand local practices about breastfeeding and child feeding so that together you can find ways to improve breastfeeding and child feeding in the community.
14. Planned individual activities for trying the recommendations and telling others about them.



We will realize these objectives in the 13 learning sessions of the module. The table below gives the title and purpose of each session.

Session Title	Purpose of the Session
1. The importance of good breastfeeding practices	Understand the importance of breastfeeding for children.
2. Good breastfeeding practices	Understand the importance of colostrum, good positioning and attachment during breastfeeding, and breastfeeding frequency.
3. Always promote breastfeeding	Encourage the women to share their experiences with exclusive breastfeeding and help them find solutions to problems encountered.
4. How to breastfeed better	Encourage the women to share their experiences with exclusive breastfeeding and help them find solutions to problems encountered.
5. LAM - Lactational Amenorrhea Method	Understand the three LAM requirements and all benefits of the method.
6. Start giving other rich foods to complement breast milk when children are 6 months old	Review the importance of breastfeeding and its continued importance when foods other than breast milk are added to children's diets.
7. Learning to eat: how to breastfeed and feed children less than 12 months old	Analyze stages in children's development and the implications of these stages for how children learn to eat other foods in addition to breast milk.
8. Preparing nutritious foods for children	Practice preparing nutritious foods such as enriched gruel and other special foods.
9. Helping children eat well in health and in sickness	Focus attention on how to successfully feed children who are just learning to eat and on how to feed them during and after an illness.
10. Variety of food combinations appropriate for children 6-12 months	Identify local foods that could be used to develop a varied diet for children (to assure adequate intake of micronutrients).
11. Protecting your food - protecting your children	Review how to avoid illness via appropriate food preparation, handling and storage.
12. Feeding children beyond 12 months of age	Analyze issues concerning feeding of children more than 12 months old, such as frequency and quantity (to assure adequate intake of micronutrients).
13. What we can do to combat malnutrition	Understand what malnutrition is and how to help children with malnutrition recuperate.

The learning sessions are numbered from 1 to 13. We will use those sessions for 2 different programs: preventive and recuperative. The presentation of the sessions follows a specific order according to the program.

In the preventive program there are "Mothers' Clubs for pregnant women", "Mothers' Clubs for lactating women", and "Mothers' Clubs for mothers of children 6-24 months of age". This means that we will follow the children from conception until they are 2 years old. It is very important to present the information to the mothers at what is likely to be the appropriate learning moment for each set of behaviors: when they are pregnant, when they are breastfeeding, until their children are 2 years old.

In the recuperative program we have "Mothers' Clubs for pregnant women", "Mothers' Clubs for lactating women", and "Mothers' Clubs for mothers of malnourished children". In the "Mothers' Clubs for pregnant women" and the "Mothers' Clubs for lactating women", the learning sessions are the same as in the preventive program until the child is 6 months old. All mothers with malnourished children 6 months to 5 years old will attend a special Mothers' Club for 9 months. In this they will mainly focus on the topic of malnutrition and the recuperation of malnourished children, with a special emphasis on how to prevent their children from getting malnourished again.

How will these activities be presented? For pregnant and lactating women, we will follow the same schedule in both programs (preventive and recuperative). The activities will start from the time the woman is about 7 months pregnant. This way, before she gives birth, she will have time to attend the first 2 sessions. After giving birth - we are now having lactating mothers - we will deal with Sessions 3 to 6. This is valid for both programs. At the age of 6 months, the session for the 2 programs is different. There are two Sessions #7, one designed for the use in the recuperative and one for the use in the preventive program.

In the preventive program, the "Mothers' Clubs for mothers of children 6-24 months of age" will continue with the sessions in the following order:

- Session 8-11 (P&R)<sup>3</sup>
- Session 12 (P)<sup>4</sup> and
- Session 13 (P)

In the recuperative program, the "Mothers' Clubs for mothers of malnourished children" will follow the sessions in the following order:

- Session 13 (R)<sup>5</sup>

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<sup>3</sup> (P&R) after the Session number implies that the session was designed for use in both the preventive and recuperative programs. The session can be found in folders "Learning sessions for use in the preventive program" & "Learning sessions for use in the recuperative program" on the CD-ROM

<sup>4</sup> A (P) after the Session number implies that the session was designed for use in the *preventive* program and can be found in the folder "Learning sessions for use in the preventive program" on the CD-ROM

<sup>5</sup> An (R) after the Session number implies that the session was designed for use in the *recuperative* program and can be found in the folder "Learning sessions for use in the recuperative program" on the CD-ROM.

- Sessions 8-10 (P&R)
- Session 12 (R)
- Session 1 (R), and
- Session 11 (P&R)

As there are objectives related to each session, we encourage the health agents and colvols to present the sessions in the order proposed for best results.

For "Mothers' Clubs for pregnant women" and "Mothers' Clubs for lactating women" in the preventive and recuperative programs and the "Mothers' Clubs for mothers of children 6-24 months of age", we advise the health agents to always organize a Club meeting with a colvol present. This is to assure as much as possible that the right information is addressed at the right time to the mothers. To make this possible, the participants should be divided in 2 sub-groups according to the month of pregnancy or the age of the infant/child. The health agent and the colvol can work each with one subgroup and choose the session that is appropriate for the women at that time. This is important because all the pregnant women from one area will be together, no matter how many months pregnant they are. This is the same for all lactating women and all mothers of children 6-24 months old (Note: The children's ages in the same Club can vary between 0 and 6 months).

Don't forget: the mothers should follow the sessions in the order proposed for best results.

In the prenatal and postnatal consultations, the health agents can try to see what parts of the sessions they can use in order to review some key points with the mothers.

- Before giving birth, they can use Steps 2 and 5 in Session 2 (for mothers in their 8<sup>th</sup> - 9<sup>th</sup> month of pregnancy)
- After giving birth, for 2-month old babies, they can use Step 5 in Session 3 and Step 2 in Session 3 for 3-month old babies.

### **Preparing for Each Session**

Each learning session guide that follows this introduction begins with a summary of the session's objectives (and content) and methods. Review this information carefully.

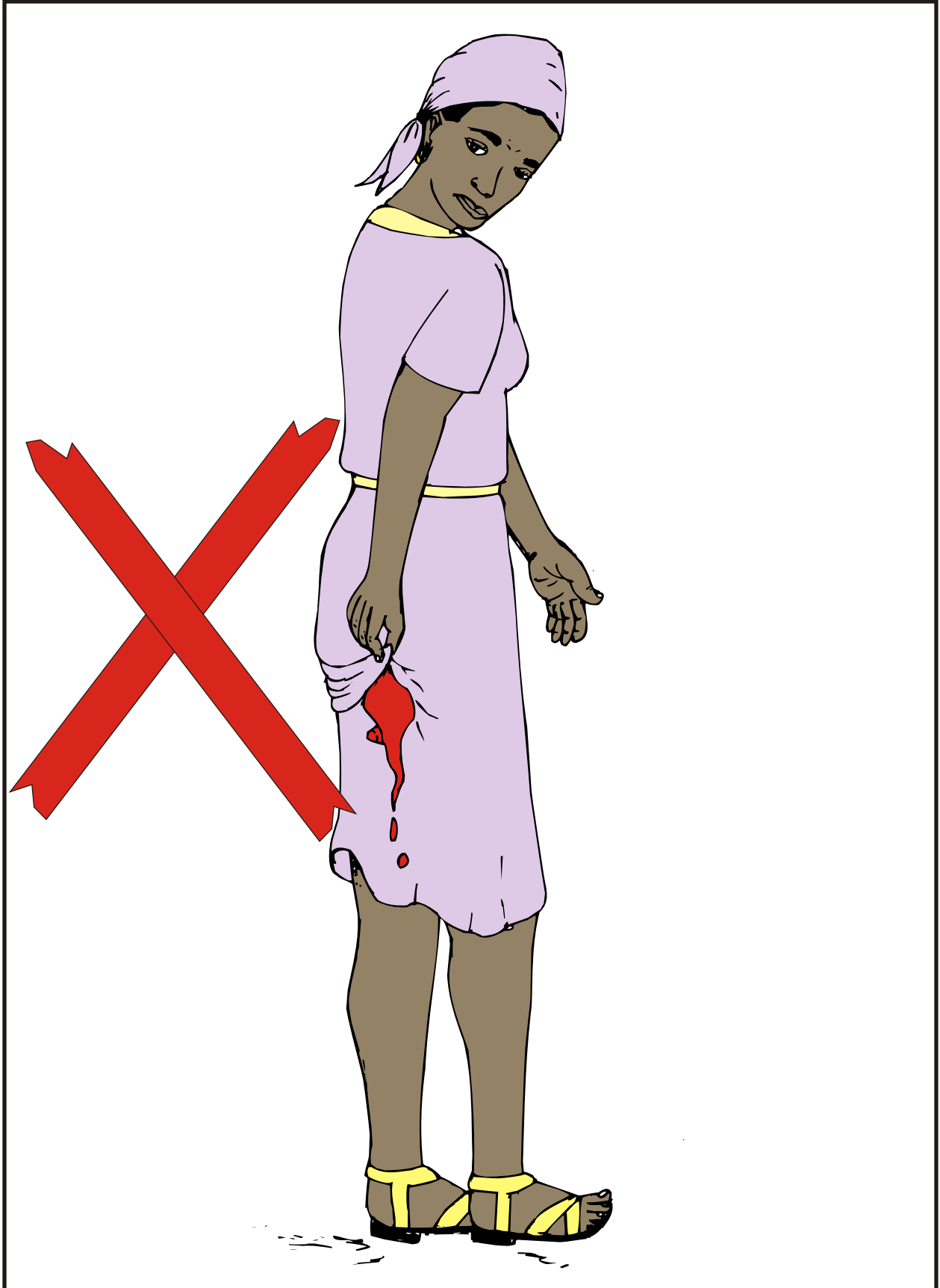
After the objectives and methods, you will find a list of items you should prepare before each session. Carefully read these lists because you will need to have these materials ready for the session. After this section, the steps for the session are listed. Please conduct the learning session following the steps provided. You should use your own words to explain each point, being careful to cover all steps in order if possible.

The box to the right is a reminder of some important principles and practices of adult learning to keep in mind as you lead each session. Remember that you, the health agent, do not have all the answers. The participants come to the learning sessions with a great deal of experience and have many things to add. It is important that all participants (including you) teach and learn.

**Important Principles to Remember:**

- Create a safe learning environment.
- Give feedback to the participants and praise them for their efforts.
- Think about ways of making the topic useful to all the participants present.
- Let the participants know that you are a learner with them.
- Use small groups (as suggested in the session guide). Small groups help involve all participants, build a sense of teamwork and create safety.
- Show respect by valuing the participants' knowledge and experience with the subject.
- Be sure that throughout the session there is an opportunity for thinking, acting and feeling.

The mother's menstrual period has not yet returned



DidocAris, Mars 2003

**Breastfeeding**  
(picture of Myriam with her first child)



**Infant and young child feeding**  
*Session 1: Importance of good breastfeeding practices*

**Breastfeeding**  
(picture of Myriam with her second child)



**Infant and young child feeding**  
*Session 1:* Importance of good breastfeeding practices

# Learning Activities to Review Important Principles and Practices of Adult Learning

## Purpose:

The purpose of this "primer" is to provide a series of learning activities for use in training of trainer sessions as well as in initial training sessions and refresher courses of health agents and voluntary health collaborators ("co/vo/s") on the use of the communication materials on infant and young child feeding. Trainers are responsible for leading learning activities of this primer with groups of learners who must understand the adult learning principles that underlie the materials they are using or going to use. They also need to be aware of these principles as they facilitate each activity. While the set of activities presented here is not a full collection of such activities, it does represent a set of principles and practices that are important for health agents/co/vo/s to consider in the delivery of the learning sessions on infant and young child feeding in Mothers' Clubs.

The trainers are encouraged to include many of these activities, as appropriate, in the training they carry out. Both the set of principles and practices and the learning activities presented here were drawn from the work of Jane Vella who in turn was inspired by adult educators such as Malcolm Knowles and Paulo Freire.

Activity A provides an opportunity for learners to explore what are some key principles and practices of adult learning based on their own experience as learners. From there, learning activities focus (in no particular order) on individual principles and practices that were raised in Activity A. Each activity includes the purpose, objectives, time needed, methods and preparation/materials needed. The learning activities found here are as follows:

Activity A: General Principles and Practices of Adult Learning	
Option 1 .....	4
Option 2 (How Adults Learn and How Children Learn).....	6
Activity B: The Principle of Engagement—Promoting It Through Small-Group Work.....	10
Activity C: Promoting Safety in a Learning Situation.....	12
Activity D: "Lavish Affirmation"—Remembering to Praise Learners .....	14
Activity E: Respect—The Prime Factor .....	16
Activity F: Monologue versus Dialogue (Limiting the "Banking" Approach to Education).....	18



Activity G: Relevance—What is Significant to Me Now.....22

Activity H: Cognitive, Affective and Psychomotor—Bringing  
Ideas, Feelings and Actions into the Learning Session..... 24

Activity I: Immediacy—Applying New Learning without Delay .....27

## Learning Activities to Review Important Principles and Practices of Adult Learning List of Handouts, Flip-Charts and Other Training Aids

ACTIVITY	HANDOUTS	FLIP-CHART	OTHER
A. General Principles and Practices of Adult Learning Option 1	<ul style="list-style-type: none"> <li>• Key Principles and Practices of Adult Learning (from flip-chart)</li> </ul>	<ul style="list-style-type: none"> <li>• Key Principles and Practices of Adult Learning</li> </ul>	<ul style="list-style-type: none"> <li>• Note cards or post-it notes</li> </ul>
A. General Principles and Practices of Adult Learning Option 2	<ul style="list-style-type: none"> <li>• Key Principles and Practices of Adult Learning (from flip-chart)</li> </ul>	<ul style="list-style-type: none"> <li>• Questions for Step 1: Key Questions for Learning as a Child and Key Questions for Learning as an Adult</li> <li>• Key Principles and Practices of Adult Learning</li> </ul>	
B. Engagement—Promoting it through Small-Group Work	<ul style="list-style-type: none"> <li>• Definition of Engagement</li> <li>• Keys to Managing Small-Group Work</li> </ul>	<ul style="list-style-type: none"> <li>• Definition of Engagement</li> <li>• Keys to Managing Small-Group Work</li> </ul>	
C. Promoting Safety in a Learning Situation		<ul style="list-style-type: none"> <li>• Blank flip-chart sheets for writing ideas entitled: What Makes you Feel Safe"</li> </ul>	<ul style="list-style-type: none"> <li>• Blank sheets of A4 or 8.5x11 paper and markers or pens</li> </ul>
D. Lavish Affirmation—Remembering to Praise Learners			<ul style="list-style-type: none"> <li>• Blank sheets of A4 or 8.5x11 paper and markers or pens</li> <li>• Sturdy tape for affixing paper on participants' backs</li> </ul>
E. Respect—The Prime Factor		<ul style="list-style-type: none"> <li>• Key Principles and Practices of Adult Learning from Activity A</li> <li>• Blank flip-chart for writing ideas entitled: How You Show Respect</li> </ul>	
F. Monologue Versus Dialogue (Limiting the Banking Approach to Education)	<ul style="list-style-type: none"> <li>• Monologue—adapted from Paulo Freire's <i>Pedagogy of the Oppressed</i>.</li> </ul>	<ul style="list-style-type: none"> <li>• Definitions of monologue and dialogue</li> <li>• Key Principles and Practices of Adult Learning from Activity A</li> </ul>	
G. Relevance—What is Significant to Me Now	<ul style="list-style-type: none"> <li>• Passage on Relevance—adapted from Jane Vella</li> </ul>	<ul style="list-style-type: none"> <li>• Questions for Step 2</li> </ul>	
H. Cognitive, Affective and Psychomotor (CAP)—Bringing Ideas, Feelings and Actions into the Learning Session		<ul style="list-style-type: none"> <li>• The Three Learning Domains drawing</li> </ul>	<ul style="list-style-type: none"> <li>• Blank sheets of A4 or 8.5x11 paper and markers or pens</li> </ul>
I. Immediacy—Applying New Learning without Delay	<ul style="list-style-type: none"> <li>• Immediacy—adapted from Jane Vella</li> </ul>		

## ACTIVITY A: GENERAL PRINCIPLES AND PRACTICES OF ADULT LEARNING (OPTION 1)

Note to the Trainer: This activity provides a general review of adult learning principles. Some of the principles in this activity are dealt with in more detail in later activities. Therefore, if you decide to use this activity it is probably best to do it before the other activities in this primer.

### **PURPOSE:**

To stimulate participants to consider important principles and practices of how adults learn, drawing on their own experience as learners.

### **OBJECTIVES:**

By the end of this activity, participants will have:

1. Listed key principles and practices of adult education from their own experience.
2. Compared these principles and practices with those of adult educators.

### **TIME:**

30 minutes

### **METHODS:**

Paired discussions, posting ideas, presentation by trainer, large-group discussion

### **PREPARATIONS/MATERIALS:**

1. Note cards or post-it notes for people to write ideas on and tape to stick them on the wall.
2. A list of key principles and practices of adult education on a flip-chart and as a handout in the Toolkit (see Step 2).

## **STEPS**

### **1. Paired Discussion of Factors That Create a Good Learning Environment - 15 minutes**

Ask the participants to break into pairs and briefly describe a really good learning experience they have had as an adult. Encourage them to analyze the situation by asking themselves what about the experience made it so good. Tell them they will have 5-8 minutes to discuss and share with each other.

After each person has had a chance to describe their best learning experience with their partner, ask them to write one or two key things that made their experiences

good on a note card or post-it note and post it on the wall (or elsewhere). They should place only one idea per card and they should say it in one or just a few words.

Encourage them to be as specific as possible. For example, if someone says a key factor was that the training was participatory, ask him/her to describe what made the experience participatory.

Move around the room to encourage people to be as precise as possible and to answer any questions.

## 2. Large-Group Discussion Comparing Experience With "Experts" List - 15 minutes

Hang the following flip-chart and summarize the key principles and practices of adult education next to the place where they have posted their factors,

Group theirs as appropriate, and ask them to compare what they wrote with what adult education specialists consider to be key. Ask them what strikes them about their responses compared to what the "experts" say. Take a sample of responses and ask if any other important factors are missing.

### **Key Principles and Practices of Adult Learning—How an Adult Learner Learns Best** (see also the listing in the next Option)

Learner feels respected and feels like an equal (respect).

Learner needs to receive praise for even small attempts (affirmation).

Learner learns best by drawing on his/her own knowledge and experience (relevance).

Learning must allow the learner to enter into a dialogue with the teacher and with other learners (dialogue).

Learner must get involved through discussion, small groups, and learning from peers (engagement).

Learning must meet the real-life needs of the adult—jobs, family, etc. (relevance).

Learner must be able to apply the new learning immediately (immediacy).

Learner remembers more when visuals are used to support the verbal; adults remember best when they practice the new skill (20/40/80).

Learning should involve feelings and doing as well as thinking (affective, psychomotor and cognitive).

Learner needs to feel that their ideas and contributions will be valued—that they will not be ridiculed or belittled (safety).

Distribute a copy of the Key Principles and close by telling them that over the course of the training you will be looking at a number of these principles and practices in more detail and that you would like to encourage them to consider how they might apply them in the learning sessions they facilitate.

**ACTIVITY A: GENERAL PRINCIPLES AND PRACTICES OF ADULT LEARNING  
(OPTION 2: How Children Learn and How Adults Learn)**

Note to the Trainer: This activity provides a general review of adult learning principles. Some of the principles in this activity are dealt with in more detail in later activities. Therefore, if you decide to use this activity (either as a review or because you have never done this type), it is probably best to do it before the other activities in this primer.

**PURPOSE:**

To evaluate the differences between how adults and children learn and review some important principles of adult learning.

**OBJECTIVES:**

By the end of this activity, participants will have:

1. Described, from their own experiences, characteristics of how adults and children learn.
2. Compared and contrasted these characteristics.
3. Identified and analyzed some key principles of how adults learn.

**TIME:**

45 minutes

**METHODS:**

Personal reflection, paired discussions, group discussions, trainer presentation

**PREPARATIONS/MATERIALS:**

1. Prepare a flip-chart and a handout with a summary of the "Key Principles and Practices of Adult Learning."
2. Prepare a flip-chart with questions for personal reflection.

**STEPS**

1. **Individual Reflections on How Participants Learned as Children and as Adults -**  
10 minutes

Tell the participants they are going to work individually to think about something that was learned as a child and then something that was learned as an adult.

Tell the respondents the following and post these questions on the following flip-chart:

### **Key Questions for Learning as a Child**

Think about something you learned at school as a child. Answer these questions:

- Why did you learn it (what motivated you to learn it)?
- How did you learn it?
- Who helped you learn it?
- How would you describe your relationship with the person who helped you to learn it?

After a couple of minutes, move on to the next set of questions (post them)

### **Key Questions for Learning as an Adult**

Think about something you learned as an adult—for example, how to drive a motorcycle, how to fill out forms for this job, how to apply for a job, how repair a piece of equipment, how to use a computer, etc. Answer these questions:

- Why did you learn it (what motivated you to learn it)?
- How did you learn it?
- Who helped you learn it?
- How would you describe your relationship with the person who helped you learn it?

## **2. Paired and Large-Group Discussions to Share Results - 10 minutes**

Invite participants to turn to the next person and describe what they have been thinking about. They should begin to compare the adult with the childhood experience.

In a large group, ask for volunteers to respond:

*Think about the stories you are sharing and tell the large group the response you had to one or more of the questions about something you learned as a child.*

Note the responses on a flip-chart.

After you have 6-8 responses, ask for volunteers to respond:

*Think about the stories you are sharing and tell the large group the response you had to one or more of the questions about something you learned as an adult.*

Note the responses on a flip-chart.

**3. Paired and Large-Group Discussion to Identify Key Principles of Adult Learning -**  
10 minutes

Have participants work in the same pair and tell them the following:

*Compare these two lists (learning as a child and learning as an adult) and identify what is different between the two. Based on the differences, make a list of characteristics of how adults learn.*

Ask for volunteers to share their discussion and make a list on a flip-chart entitled: "Characteristics of How Adults Learn"

**4. Presentation of Key Principles and Practices of Adult Learning -**  
15 minutes

Present a flip-chart summary of the "Key Principles and Practices of Adult Learning"—see Trainer's Toolkit.

<b>Key Principles and Practices of Adult Learning</b>	
<b>Principle</b>	<b>Description</b>
<b>Respect</b>	Learners feel respected and feel like equals.
<b>Affirmation</b>	Learners need to receive praise for even small attempts.
<b>Relevance</b>	Learners learn best by drawing on their own knowledge and experience. Learning must meet the real-life needs of the adult—jobs, family, etc.
<b>Dialogue</b>	Learning must be two-way to allow the learner to enter into a dialogue with the teacher.
<b>Engagement</b>	Learners must get involved through discussion, small groups and learning from peers.
<b>Immediacy</b>	Learners must be able to apply the new learning immediately.
<b>20/40/80 Rule</b>	Learners remember more when visuals are used to support the verbal presentation and best when they practice the new skill. We remember 20 percent of what we hear, 40 percent of what we hear and see, and 80 percent of what we hear, see and do.
<b>Thinking, Feeling, Acting</b>	Learning should involve thinking and emotions as well as doing.
<b>Safety</b>	Learners need to feel that their ideas and contributions will be valued—that they will not be ridiculed or belittled.

Ask participants to compare it to the list of characteristics that they identified and congratulate them on the work they did to identify these principles from their own experiences.

Ask what questions participants have.

Tell them that you will be discussing some of these principles in more detail in other activities.



## ACTIVITY B: ENGAGEMENT—PROMOTING IT THROUGH SMALL-GROUP WORK

### **PURPOSE:**

To challenge participants to think about how small groups promote engagement and how to manage them.

### **OBJECTIVES:**

By the end of this activity, participants will have:

1. Listed the advantages of small-group work and described how using small groups is related to the principle of engagement.
2. Identified practical ways to make small-group work more efficient and effective.

### **TIME:**

25 minutes

### **METHODS:**

Presentation by trainer, small- and large-group discussions

### **PREPARATIONS/MATERIALS:**

1. Flip-chart and handouts with definition of "Engagement" by Jane Vella.
2. Flip-chart and handouts of "Keys to Managing Small-Group Work"

## **STEPS**

1. **Presentation on the Principle of Engagement** - 5 minutes

Post and have a volunteer read the following definition of engagement from Jane Vella's book *Training through Dialogue*

### **Definition of Engagement**

The principle of engagement is that adults must be fully involved in "doing" what they are learning, not merely listening to someone else talk about it. Our education sessions must be done so that the learners are actually doing something with the information—as a means of learning it.

## 2. Small-Group Discussion on the Principle of Engagement - 10 minutes

Invite the participants to form small groups of 3-4 people and discuss the following questions for about 5 minutes:

*In a learning event (training or educational session), what can happen in small-group work that cannot happen in the larger group? How is this related to the principle of engagement?*

Bring the participants back together and ask one group to volunteer one idea. Note it on a flip-chart and go to the next group for a different idea. Continue until all ideas are on a large sheet. Some ideas they may raise include:

### **Some Key Advantages to Small-Group Work Over Large-Group Work**

- Builds solidarity
- Provides safety
- Allows a greater number of women to discuss/speak out on a topic
- More effectively uses limited time
- Allows for greater individual engagement

## 3. Presentation on How to Make Small Groups Work Better - 10 minutes

Present a flip-chart summary of Keys to Managing Small-Group Work and provide the same information in a handout for each participant.

Ask participants to share what strikes them in the list and then add other keys to the list. Encourage them to keep the modified list with them as a reference.

### **Keys to Managing Small-Group Work**

- Be sure to clearly define the activity and "product" of the small-group work. Assure that everyone understands the group size before breaking into groups. Instructions may be given after groups have formed.
- Make sure that participants move physically so they can face each other and hear each other—encourage quick physical movement.
- Use groups of different sizes—use pairs, groups of three and "Solidarity Groups".
- Move around while discussions are occurring to assure understanding, answer questions and note key points of discussion. You may even want to encourage some groups to share specific points you think are key with the larger group when the time comes.
- It is not always necessary to have each group present. Take a sample from among the groups.
- Avoid having each individual member of a group report to a larger group—ask groups to assign one person to report.
- If you find there is confusion, stop all groups and clarify the activity.

## ACTIVITY C: PROMOTING SAFETY IN A LEARNING SITUATION

### PURPOSE:

To help participants to think about the principle of safety and how to create a safe learning environment for members in the group.

### OBJECTIVES:

By the end of this activity, participants will have:

1. Drawn a picture and shared with each other some examples of what safety means to them.
2. Developed their own personal list of how they will promote a safe place for learning for the groups with which they work.

### TIME:

30 minutes

### METHODS:

Drawing and posting pictures, large-group discussion, personal decisions

### PREPARATIONS/MATERIALS:

1. Blank sheets of paper (8½" x 11" or A4 size) and markers available for the participants.
2. Large sheet of flip-chart paper for writing responses.

## STEPS

### 1. Presentation Reviewing the Principle of Safety - 2 minutes

Recall for participants that adult educators have found that adults learn best when they feel safe in a learning setting. Tell them that you are going to carry out an activity that will help them think about this important principle of adult learning.

### 2. Personal Reflection/Drawing: "What Safety Means to Me" - 13 minutes

Invite participants to draw a simple picture of something that represents safety to them in their life (not in a learning session, but in their life in general). It can be anything. It may be helpful to start by posting your own (quickly drawn) picture. For example:

*A picture of a plane on the ground represents safety to me because it means I am closer to home.*



After a few minutes ask them to post their pictures on the wall. Ask them to gather around the pictures they have posted. Tell them that anyone who would like to share what they have drawn may do so.

### **3. Paired Discussion of What Safety Means in a Learning Situation - 5 minutes**

Ask the participants to find a partner and discuss the following:

*Now think about the learning situations in which you have participated.  
What things made you feel safe or unsafe in these situations?*

After a few minutes ask for volunteers to share the information they discussed. Note down summaries of the key points on a large sheet of paper.

### **4. Personal Reflection on Creating Safety in the Learning Situation - 10 minutes**

Ask the participants to consider the list and think about the learning situations that they lead. Ask them to develop, based on what is written on the chart and their own thoughts, a list of "safety rules" that they will try to apply in the learning sessions they facilitate.

Tell them that the list will be their personal list but that they can share it with you or others if they would like to get input or suggestions.

Ask for volunteers who would be willing to share elements of their list.

## ACTIVITY D: LAVISH AFFIRMATION—REMEMBERING TO PRAISE LEARNERS

Note to the Trainer: This activity implies some level of familiarity among participants; thus it may be best to do it later in a training activity or early on if participants have gotten to know each other through other training events or through working together.

### PURPOSE:

To help participants "feel" the power of affirmation and consider how to more consistently provide it to their groups.

### OBJECTIVES:

By the end of this activity, participants will have:

1. Practiced giving and receiving praise.
2. Related their feelings about receiving praise to what praise might mean to participants in groups or meetings.
3. Listed appropriate ways to give praise during group learning sessions.

### TIME:

20 minutes

### METHODS:

Words-of-affirmation activity, paired and large-group discussions

### PREPARATIONS/MATERIALS:

1. Blank sheets of paper (8½" x 11" or A4 size) available for the participants
2. Sturdy tape to fix the paper to their backs.

## STEPS

### 1. Group Activity to Practice Giving and Receiving Praise - 10 minutes

Summarize the following:

*We want to take a few minutes to consider the importance of praising people for the contributions that they make in learning events. Praise is one way of showing respect and motivating the adult learner to participate more fully. We all like to receive praise and feel that our contributions are important to the trainer and others.*

Have participants do the following:

*Take each piece of paper and write the numbers 1-4, leaving plenty of space between each number. Help each other tape these papers to your backs.*

*Move about the room; find people you know and write one thing on their back that you appreciate about the person or the person's contributions either during this learning event or during the time you have worked together. Be as specific as possible.*

*Write on four different people's papers and have four different people write on yours. No person can have more than four things on their list and everyone should have four by the time the activity is done.*

*All words should be written anonymously and those writing them can start with any number on the list in order to maintain that anonymity.*

Ask what questions they have about the activity.

After about 5 minutes ask the participants to remove their papers from their backs and spend a few minutes reading what others have written. Ask for some volunteers to describe the following for the group:

*How do the comments make you feel? What thoughts go through your mind?*

## **2. Paired and Large-Group Discussion to Consider How to Provide Praise in Learning Sessions - 10 minutes**

Tell participants to form pairs and consider the adult learners in the groups with which they work. Ask them to discuss with their partner the following:

*Thinking about how you feel when you receive praise, how do you think participants in your groups might feel when they receive praise?*

Ask for some volunteers to share their thoughts on this question, then ask them to discuss the following question:

*What are some appropriate ways and times that you can praise the members during a group meeting or learning session?*

Ask for volunteers to share their discussion with the entire group.

Note their responses on a flip-chart and encourage them to remember their ideas for showing praise to group members.

## ACTIVITY E: RESPECT—THE PRIME FACTOR

Note to the Trainer: Two alternative ways of covering this subject are presented here—see Step 2.

### **PURPOSE:**

To consider how people show respect to each other and how to show respect to group members.

### **OBJECTIVES:**

By the end of this activity, participants will have:

1. Demonstrated how people show respect to each other, or articulated how a group member might perceive respect in a meeting.
2. Defined ways that they can use to show respect to the adult learners in groups they lead.
3. Developed ideas for dealing with "technically incorrect" responses by participants.

### **TIME:**

35 minutes for Option 1 and 30 for Option 2

### **METHODS:**

Role-plays (Option 1), individual reflection (Option 2), large-group discussions, trainer presentation

### **PREPARATIONS/MATERIALS:**

1. If you have done Activity A (Option 1 or 2) of this Primer, post the flip-chart summary of "Key Principles and Practices of Adult Learning."

## **STEPS**

### **1. Presentation on the Importance of Respect (Options 1 and 2) - 5 minutes**

State the following (while indicating the definition of respect on the flip-chart presentation from Activity A if you did it):

*Respect of adult learners goes to the very nature of the teacher/learner interaction. Some adult-education specialists refer to respect as the most important principle of adult learning. This activity is designed to help you reflect on how health agents/colvols show respect to a group of learners.*

## 2. Paired Discussions/Preparations of a Short Skit (Option 1) - 20 minutes

Invite participants to choose a partner and develop a short role-play that demonstrates how people here might show respect toward each other. They should be ready to present it to the rest of the group in 5 minutes.

Ask for one pair to perform their role-play. Ask participants to describe the following:  
*How was respect shown in the role-play?*

Allow the presenters to add their thoughts before going on to the next group. Repeat the process until as many groups as possible have presented.

## 2. Individual Reflection and Sharing of What Respect Means (Option 2) - 15 minutes

Have each participant think about the following:

*Imagine you are a member of one of the groups with which you work. If you could tell the teacher/trainer one thing that s/he can do to show you respect, what would it be?*

Ask for volunteers to share their thoughts. They should speak as members of a group.

## 3. Large-Group Discussion on How to Show Respect at Group Meetings (Options 1 and 2) - 10 minutes

Ask for volunteers to respond to the following:

*Based on what you have just shared, how might you, as a facilitator/teacher, show respect during different parts of the meeting, including the opening, the learning session, the closing, etc?*

List their responses on a flip-chart. Encourage participants to keep the list and try to apply it in their work.

Ask for volunteers to respond to the following:

*We want to show respect but at times participants make suggestions or contribute ideas that are technically wrong or incorrect. How can we respond and show respect so that others do not try the suggestions or accept the information as correct?*

Thank participants for their ideas on how to deal with this difficult issue.



**ACTIVITY F: MONOLOGUE VERSUS DIALOGUE**  
**(Limiting the "Banking" Approach to Education)**

**PURPOSE:**

To contrast monologue and dialogue in a learning environment and evaluate how to create dialogue in learning sessions.

**OBJECTIVES:**

By the end of this activity, participants will have:

1. Defined how dialogue would look in a learning session.
2. Listed characteristics of monologue according to Paulo Freire.
3. Developed an analogy for dialogue just as Freire developed one for monologue.

**TIME:**

40 minutes

**METHODS:**

Small- and large-group discussion, presentation by trainer, critical reading

**PREPARATIONS/MATERIALS:**

1. Handouts of the excerpt entitled "Monologue" adapted from Paulo Freire's *Pedagogy of the Oppressed*<sup>1</sup> for each participant.
2. Flip-chart with a brief definition of monologue and dialogue.
3. If you have done Activity A (Option 1 or 2) of this primer, post the flip-chart summary of "Key Principles and Practices of Adult Learning."

**STEPS**

**1. Presentation of Monologue and Dialogue - 10 minutes**

Review the principle of dialogue from the flip-chart entitled "Key Principles and Practices of Adult Learning" (if Activity A, Option 1 or 2 was done). Post the following definitions of monologue and dialogue and summarize them:

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<sup>1</sup> Freire, Paulo, *Pedagogy of the Oppressed*, Continuum, New York, 1997.

### Definition of Monologue and Dialogue

Monologue literally means "speak alone." It also refers to a long speech that monopolizes the conversation.

Dialogue literally means to "speak across or between" or "a word between"—implying two or more speakers. It refers to a conversation between two or more persons.

Ask for volunteers to respond to the following question:

*Given the definition of dialogue, what would dialogue look like in a learning session?  
In other words, if you walked into a learning situation in which dialogue was happening, what would it look like?*

Make sure that the idea of conversation between field agent and members and conversation among members is raised. If not, make sure that both types of dialogue are included.

## 2. Individual Reading and Group Discussion on Monologue - 15 minutes

Distribute copies of "Monologue" to the participants and ask them to read it carefully. Ask them to underline or highlight parts that particularly strike them. Tell them that this is how Paulo Freire (an adult learning specialist) describes monologue.

### Excerpt on Monologue<sup>2</sup>

Monologue (with the teacher as the speaker) leads the students to mechanically memorize the narrated content. Worse yet, it turns them into "containers," into "receptacles" to be "filled" by the teacher. The more completely the teacher fills the receptacles, the better a teacher she/he is. The more meekly the receptacles permit themselves to be filled the better students they are. [...]

Education thus becomes an act of depositing, in which the students are the depositories and the teacher is the depositor. Instead of communicating, the teacher issues communiqués and makes deposits which the students patiently receive, memorize, and repeat. This is the "banking" concept of education, in which the scope of action allowed to the students extends only as far as receiving, filing and storing the deposits. [...]

In the banking concept of education, knowledge is a gift bestowed by those who consider themselves knowledgeable (the teacher) upon those whom they consider to know nothing (the student). [...]

Adult education must begin with the solution of the teacher-student contradiction [...] so that both are [...] teachers and students (*dialogue*).

After they have finished reading this description, ask for volunteers to answer the following:

*What impressed you about what Freire said?*

*According to Freire, what are the characteristics of monologue education?*

Be sure that the following is summarized in response to the second question:

#### Characteristics of Monologue

- The teacher deposits ideas into the "minds" of the students.
- Students take the deposits, file them away and repeat them back when asked.
- Students are passive receptacles.
- Teachers only make deposits.
- Students are allowed to speak in monologue education, but only to feed back what has been deposited.

<sup>2</sup> Adapted from Paulo Freire's *Pedagogy of the Oppressed*



### 3. Small-Group Discussion to Develop an Analogy for Dialogue - 10 minutes

Ask the participants to get with 2 to 3 other people. Summarize the following:

*Freire described monologue as the "banking approach" to education. We have seen the definition of both monologue and dialogue. Freire did not describe dialogue with an image the way he did monologue. Your activity, in your groups, is to think of an image to help describe dialogue. Do not forget that dialogue describes a type of education that involves sharing information not only between teacher and students but among students as well.*

After about 5 minutes ask for groups to volunteer to share their "image" of dialogue education.

### 4. Large-Group Discussion on How to Create Dialogue in the Education Sessions - 5 minutes

Ask for volunteers to describe ways they might apply the information discussed here in the education learning sessions they are facilitating.

Close by summarizing the following:

*Using dialogue does not mean that you cannot make a presentation or give a short lecture to participants. However, using dialogue means that each time you present something you must also give participants the opportunity to think about it, evaluate it, ask questions about it and discuss it among themselves and with you. In dialogue, you never simply ask people to repeat to you what you have presented; rather, you provide them with the opportunity to do something with it.*

## ACTIVITY 6: RELEVANCE—WHAT IS SIGNIFICANT TO ME NOW

### Important Note to the Trainer

This activity assumes that participants have already reviewed or prepared to present a health or business topic learning session. It requires participants to analyze one or more learning sessions—either the one that they are preparing to present or those presented by others—and to respond to questions about the session. Therefore it is necessary to use and order this activity in such a way that participants will have already interacted with the learning sessions.

#### **PURPOSE:**

To encourage participants to think explicitly about how to make learning sessions more relevant to the learners.

#### **OBJECTIVES:**

By the end of this activity, participants will have:

1. Analyzed the relevance of the learning session topics to participants
2. Suggested ways to make learning session topics more relevant to participants.

#### **TIME:**

25 minutes

#### **METHODS:**

Individual reading, team discussions and large-group discussion

#### **PREPARATIONS/MATERIALS:**

1. A handout of the quote from Jane Vella on relevance for each participant.
2. A flip-chart of questions for Step 2 on.

### **STEPS**

#### **1. Individual Reading and Group Discussion About Relevance - 10 minutes**

Distribute the brief handout on relevance from a book by Jane Vella. Ask participants to read it and underline or highlight the parts of it that seem most important to them:

### Passage on Relevance

"Adults will learn faster and more permanently that which is significant to them and to their present lives. The trainer's activity often is not to change what we wish to teach but to make it relevant by connecting the content to the issues important to the learner . . . . The important question is how is this new knowledge and how are these new skills and attitudes relevant to the learning needs of these adults? . . . . If adults do not see the relevance of content no matter how crucial that content is to the teacher the learners quickly determine that they do not need to know it."

—Jane Vella [1995], *Training Through Dialogue*

Ask for volunteers to share what they consider to be the key points here.

## 2. Team Discussions on Relevance in the Session Being Presented - 15 minutes

Invite participants to get into their presentation teams (teams that prepare to present a session in a training) and discuss the following:

### Relevance Discussion

*Think about the members in the groups you lead. In what ways is the topic in your learning session relevant or not relevant to them?*

*How does the learning session as written try to make it relevant to them?*

*What can you do to make the topic or information more relevant—more useful to them right now?*

Have volunteers from each group remind everyone of the specific topic covered in the session they will present. Then the team representative should summarize the discussion about relevance.

Explore making changes to individual learning sessions identified by the discussion—especially ways to make it more relevant.

## ACTIVITY H: COGNITIVE, AFFECTIVE AND PSYCHOMOTOR (CAP)—BRINGING IDEAS, FEELINGS AND ACTIONS INTO THE LEARNING SESSION

### Important Note to the Trainer

This activity assumes that participants have already reviewed or prepared to present a health or business topic learning session. It requires participants to analyze one or more learning sessions—either the one that they are preparing to present or those presented by others—and to respond to questions about the session. Therefore, it is necessary to use and order this activity in such a way that participants will have already interacted with the learning sessions.

#### **PURPOSE:**

To experience how thinking, feeling and acting (CAP) can combine in a learning session to create a more powerful learning experience.

#### **OBJECTIVES:**

By the end of the activity, participants will have:

1. Practiced CAP in a learning activity.
2. Described how this concept applies to the learning sessions they lead.

#### **TIME:**

30 minutes

#### **METHODS:**

Presentation, paired discussions, drawing "sign posts," presentation team analysis of CAP

#### **PREPARATIONS/MATERIALS:**

1. Pieces of paper ( $8\frac{1}{2} \times 11$  or A4) and markers or pens available to the participants.
2. A flip-chart of the three learning domains (see Step 1).

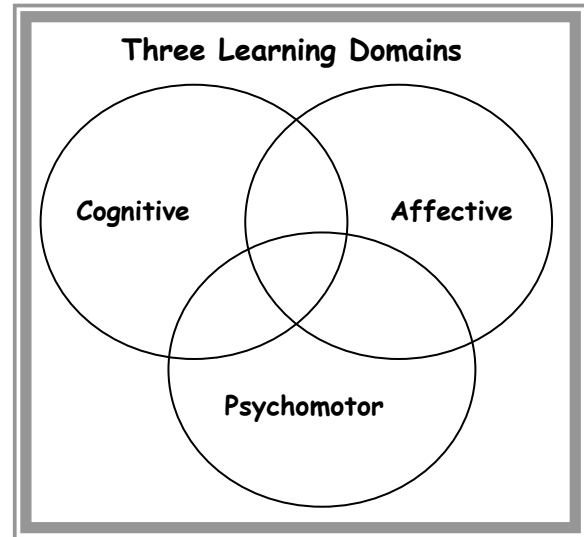
### **STEPS**

1. **Presentation on Cognitive, Affective and Psychomotor Learning Domains -5 minutes**

Post the "Three Learning Domains" flip-chart and summarize the following on ideas, feelings and actions:



*When adults learn they think, feel and "do". To promote good learning, learning activities need to be arranged so that the learner gets an opportunity to think about ideas, express feelings about the ideas and do something with the ideas. Too often formal education focuses only on ideas. We know that the best learning needs more than just the study of ideas and the sharing of information. The deepest learning takes place when the learner's feelings are excited.*



## 2. Paired Discussion on Experiences in Facilitating Learning Session - 10 minutes

Tell participants you are going to use thinking, feeling and acting all in one activity. Ask the participants to break into pairs and discuss the following:

*Think about the best and worst experience you have had so far in facilitating learning session. Reflecting on the good and/or the bad, what advice would you give to someone who is going to become a facilitator about delivering the learning sessions?*

After discussing for a few minutes, ask the participants to take lessons learned from these experiences to quickly draw a "sign post" (like Stop, Yield, Rough Road, etc.) that gives directions (advice) to "drivers" who are on the road to facilitating learning sessions. Remind them that a road sign must communicate a maximum amount of information in a very limited space because people are speeding past rapidly.

Ask them to post their signs on the wall and give them an opportunity to share what they have posted.

Invite them to describe the use of the adult education principle of CAP in what they just did.

Point out that in a learning session more emphasis may be put on one or another of these three but that in every learning session all three should be considered.

Ask them what questions or comments they have about CAP.

Ask what other examples of CAP they have experienced during this training.

### 3. Presentation Team Discussions About CAP in the Learning Sessions - 15 minutes

Ask them to get into their presentation groups and analyze the learning session for evidence that members are being asked to think, feel and act. Ask them to consider the following:

*What parts of your learning session might elicit strong feelings on the part of the members? What parts require them to do some action or movement? How might these parts be enhanced?*

Ask for each team to provide feedback on these questions in a large group and explore making any enhancements suggested by the group to the learning sessions.

## ACTIVITY I: IMMEDIACY—APPLYING NEW LEARNING WITHOUT DELAY

### Important Note to the Trainer

This activity assumes that participants have already reviewed or prepared to present a health or business topic learning session. It requires participants to analyze one or more learning sessions—either the one that they are preparing to present or those presented by others—and respond to questions about the session. Therefore, it is necessary to use and sequence this activity in such a way that participants will have already interacted with the learning sessions.

#### **PURPOSE:**

To stimulate participants to think about the importance of immediacy and critically analyze in what ways it is (or is not) built into learning sessions.

#### **OBJECTIVES:**

By the end of this activity, participants will have:

1. Described a personal learning situation that exemplifies immediacy for them.
2. Analyzed learning sessions they are responsible to facilitate to determine if/how immediacy is built into them.

#### **TIME:**

30 minutes

#### **METHODS:**

Individual reading, paired and large-group discussions

#### **PREPARATIONS/MATERIALS:**

1. Handouts from Jane Vella on immediacy.

### **STEPS**

#### **1. Individual Reading on Immediacy - 10 minutes**

Ask participants to read the following handout of the excerpt on Immediacy from Jane Vella's book *Training Through Dialogue* and underline what strikes them in the definition.

### **Selection on Immediacy**

Most recent research recognizes that adult learners need to see the immediate usefulness of new learnings: the skills, knowledge or attitudes they are working to acquire. Most adults do not have time to waste. We want to spend our time studying that which will make a difference now... we want to see something in hand as soon as possible... A question we can offer at the end of each learning session is: "How can you use this new skill most effectively?"... they decide on the significance and application of the new skill.

—Jane Vella (1994) *Learning to Listen, Learning to Teach*

Ask for volunteers to share what impressed them.

### **2. Paired Discussion on a Key Learning Experience - 5 minutes**

Ask participants to join another person to discuss, based on what they have just read, a personal learning experience they have had in which the principle of immediacy was practiced.

After several minutes, ask for volunteers among the pairs to share what they have discussed.

### **3. Presentation Team Discussions on Immediacy in Learning Sessions - 15 minutes**

Have participants get into their presentation teams and discuss the following:

*How do you see immediacy being implemented in your learning session?*

*If you do not see it, what might you add or change in the learning session to promote greater immediacy?*

After several minutes ask for each group to share its findings. If the group makes recommendations on how to make a learning session more immediate for participants note the suggestion and integrate it, if possible into the session guide.

# **Process Used to Design an Integrated Health and Nutrition Program to Prevent Child Malnutrition in Rural Haiti**

IFPRI-Cornell University - World Vision-Haiti Team

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## ACRONYMS USED

ADP	Area Development Program
BCC	Behavior Change Communication
BF	Breastfeeding
CAFEM	<i>Centre d'Appui et de Formation En Management</i>
CF	Complementary Feeding
EBF	Exclusive Breastfeeding
FANTA	Food and Nutrition Technical Assistance
FFH	Freedom from Hunger
HAZ	Height-for-Age Z-Score
HIV	Human Immunodeficiency Virus
IFPRI	International Food Policy Research Institute
PVO	Private Voluntary Organization
MCH	Maternal and Child Health
MSP	Ministère de la Santé Publique et de Planification (Ministry of Health)
SD	Standard Deviation
SFB	Soy-Fortified Bulgur
USAID	United States Agency for International Development
WAZ	Weight-for-Age Z-Score
WHZ	Weight-for-Height Z-Score
WSB	Wheat-Soy Blend
WV	World Vision



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## EXECUTIVE SUMMARY

This report describes the process undertaken by the IFPRI-Cornell research and planning team in Haiti to assist World Vision in the design of a program aimed at the prevention of childhood malnutrition in the Central Plateau. It also describes the implementation plan for this preventive program and offers some reflections on the process.

The preventive program combines a food aid component targeted to pregnant and lactating women and all children 6-23 months of age, a Behavior Change Communication (BCC) component and a preventive health care component. The latter includes immunization, prenatal care, growth monitoring, nutrition education and counseling, micronutrient supplementation, and deworming.

The program development process described in this report is part of a larger collaborative project between IFPRI, Cornell University and World Vision Haiti (and funded by FANTA through its cooperative agreement with USAID). The overall goal of this project is to compare the impact and cost-effectiveness of the preventive approach described in this report with the traditional recuperative approach, which targets children once they have become malnourished.

### **Design of the Preventive Food Aid Component**

The design of the food aid component of the program was based on current knowledge regarding optimal age of enrollment and duration of supplementation, and the programmatic resources available to World Vision-Haiti. Based on these considerations, the following decisions were made:

- 1) Children will be enrolled in the program between 6-18 months of age. This age range was selected because research suggests that this is the age of maximum response to supplementation.
- 2) Beneficiaries will continue to receive food supplements up to the age of 23 months, thus ensuring that even those who enter the program as late as at 18 months of age will receive 6 months of supplementation.
- 3) Each household will receive one indirect ration of food supplements, even if there is more than one direct beneficiary in the household.

### **Design of the BCC component**

The BCC component of the preventive program was designed in two phases, a research phase and a development phase.

The research phase consisted of three steps:

- 1) *Review of existing communication materials:* A review of BCC program materials and manuals used in Haiti was conducted to identify potential materials for use in the World Vision-Haiti BCC program.

- 2) *A preliminary qualitative study:* A short qualitative study was conducted to gather basic information on infant feeding and care practices in the project area. This information was used both to design the baseline survey instruments for the program evaluation and to design a larger formative research study that was used to develop the final BCC program.
- 3) *A more in-depth formative research study:* This study gathered data on infant and young child feeding and care and also included a recipe trials component that was used to test the acceptability and feasibility of enhancing the nutritional characteristics of traditional recipes using local and donated foods. In addition, it included some observations of current World Vision program activities, which were used to identify suitable program venues for the BCC program.

The data from (2) and (3) above were used to assess the adequacy of current infant and young child feeding practices and to identify and develop programmatic actions to improve non-optimal practices. This was achieved through the program development phase, which consisted of the following steps:

- 1) *Identification of priority programmatic actions for the BCC program:* Following the formative research study, the results were presented to key stakeholders in World Vision-Haiti and various programmatic options for the BCC program and supporting activities were assessed.
- 2) *Development of the BCC strategy:* Once the behaviors to be promoted through the BCC component had been selected, a BCC strategy was developed, taking into account the existing program structure and the available delivery points for different activities.
- 3) *Development of BCC materials and training plans:* BCC materials and training plans were developed in collaboration with World Vision and with an adult education training firm.
- 4) *Training of World Vision staff:* World Vision staff was trained in the technical aspects of infant and young child feeding and care as well as in the use of the newly developed communication materials using adult education techniques.
- 5) *Development of implementation plan and schedule:* A round of discussions was held with World Vision program staff to finalize the implementation schedules for the BCC activities at different program delivery points.

## **Program implementation**

The World Vision program reaches its beneficiaries through five major points of contact: (1) *Rally Posts*, where beneficiaries are identified and health education, growth monitoring and preventive health care are provided; (2) *Mothers' Clubs*, where beneficiary mothers and children come together in a small group setting to discuss issues related to infant and young child feeding, hygiene, family planning or HIV/AIDS; (3) *Pre- and postnatal consultations*, where pregnant and lactating women receive preventive health care and education; (4) *Food distribution points*,

where beneficiaries receive their food rations for the month; and (5) *Home visits*, where beneficiary households with a newborn infant, a severely malnourished child, or a child with growth faltering are visited by the World Vision health personnel.

The Mothers' Clubs will be the main delivery point for the newly developed BCC strategy. A few modifications have also been made to strengthen the quality of the education provided at the Rally Posts. All other service delivery points will be used as secondary sites to strengthen the BCC and reinforce the key messages. Strong emphasis was put on reorganizing the Mothers' Clubs to ensure a timely delivery of relevant messages to mothers, based on their physiological status (pregnant or lactating) and/or the age of their infant. Mothers who enter the Clubs during pregnancy will have the opportunity to attend up to 27 monthly sessions (5 during pregnancy, 3 during early lactation and 19 with their 6-23-month-old child).

### **Next steps**

The next *research* step will be a first round of operations research to assess the quality of implementation and of service delivery, and to identify operational constraints, which may require immediate attention. This first "trouble-shooting" round will be carried out in July and August of 2003. It will be followed by a second round in 2004, which will focus on identifying operational factors that may be responsible for some of the differences (or lack thereof) in the impact and cost-effectiveness of the two approaches being compared in the overall evaluation – i.e. the preventive and the recuperative models.

Future *program development* steps will involve the planning of supporting activities that could support the BCC program and better enable program participants to adopt recommended behavior changes. In general these will involve making fairly small adjustments and additions to the existing program structure such as setting up fathers' Clubs, or grandmothers' Clubs or organizing activities to engage midwives in the BCC strategy. Other options that may require more technical assistance and collaboration with other organizations, and possibly more funding will also be considered. These include provision of microcredit programs to increase resource availability within households and communities, promotion of food-based interventions to increase availability and access to micronutrient rich animal foods and fresh fruits and vegetables, or other activities such as childcare support to working mothers and more intensive use of mass media communication methods to strengthen the BCC strategy.

### **Reflections on the program development process and conclusions**

Our experience suggests that a program planning process that involves all the research and planning steps described here, as well as the *de novo* development of a full set of communication and training materials, would take considerably longer if it was conducted primarily by program staff involved in the daily management and administration of such a complex program. We feel, however, that these preparatory activities are essential for the design of effective interventions. The research process in particular, is essential to ensure that the BCC strategy targets practices that are amenable to change and that other program components are put in place to help relieve some of the identified constraints to behavior change.

Another point to be noted about the program planning process described here is that it was undertaken *after* World Vision's five-year program cycle had been established and as such, was limited by the lack of flexibility to include interventions that were outside of the current programmatic mandate. However, the process itself is generalizable and could be used at the proposal stage to plan future program funding cycles. This will help ensure that constraints to behavior change are addressed through appropriate programmatic interventions, even if these may be outside of the usual scope of activity of the implementing agency.

In conclusion, we highly recommend the use of a systematic research and development process such as the one described here for program planning. To facilitate this process, however, we suggest that program planners carefully assess the human, technical, and time resources required to implement these activities and factor them in their funding request. The rewards in terms of impact and cost-effectiveness of such carefully designed programs, which effectively address the specific needs of its targeted population, should largely compensate for this initial investment.



# 1. INTRODUCTION

## 1.1 Background

This report describes the process undertaken by the IFPRI-Cornell University team in Haiti to assist World Vision in the design of a program aimed at the prevention of childhood malnutrition in the Central Plateau. The preventive program combines a food aid component targeted to pregnant and lactating women and all children 6-23 months of age, a Behavior Change Communication (BCC) component and a preventive health care component. The latter includes immunization, prenatal care, growth monitoring, nutrition education and counseling, micronutrient supplementation, and deworming.

As part of its technical assistance, the IFPRI-Cornell team assisted World Vision in designing and implementing a fully developed preventive model that will be compared with the recuperative model that World Vision-Haiti is also implementing. The shift to a preventive program required adjustments in educational activities that emphasize prevention of growth faltering, as well as in the organization of the food aid component of the program to ensure that the right messages reach their targeted audience at the right time.

The technical assistance and program development process is part of a larger evaluation being conducted by IFPRI and Cornell University in collaboration with World Vision-Haiti to compare two models for delivering integrated food and nutrition programs with a take-home food ration component. The two models to be implemented by World Vision-Haiti, are: 1) the traditional *recuperative* approach, whereby children under 5 years of age are targeted to receive food supplements, nutrition counseling and follow-up when they are identified as being underweight for their age; and 2) the *preventive* approach, which targets food supplements and other preventive interventions to all children below 2 years of age, irrespective of their nutritional status.

## 1.2 Structure of the report

This report is structured as follows. The scientific rationale for an integrated preventive child health and nutrition program is described in Section 2, outlining both the technical basis for the food aid component and the behaviors promoted through the BCC component. Section 3 presents the program development process, focusing on the development and design of the BCC component of the program. The implementation plan for the preventive program with details of the services provided at all program delivery points is described in Section 4, which is followed by a short description of the next steps in research and program implementation (Section 5). The document concludes with some reflections and conclusions regarding the process used to develop this integrated preventive child health and nutrition program (Section 6).



## **2. SCIENTIFIC RATIONALE FOR A PREVENTIVE INTEGRATED CHILD HEALTH PROGRAM MODEL**

This section presents the scientific rationale for developing an integrated preventive child health program that focuses on children under the age of 24 months. It presents the technical basis for targeting food supplements to children under 24 months and the rationale for the feeding and care behaviors that will be promoted through the preventive program.

### **2.1 Rationale for targeting food supplements to children under 24 months**

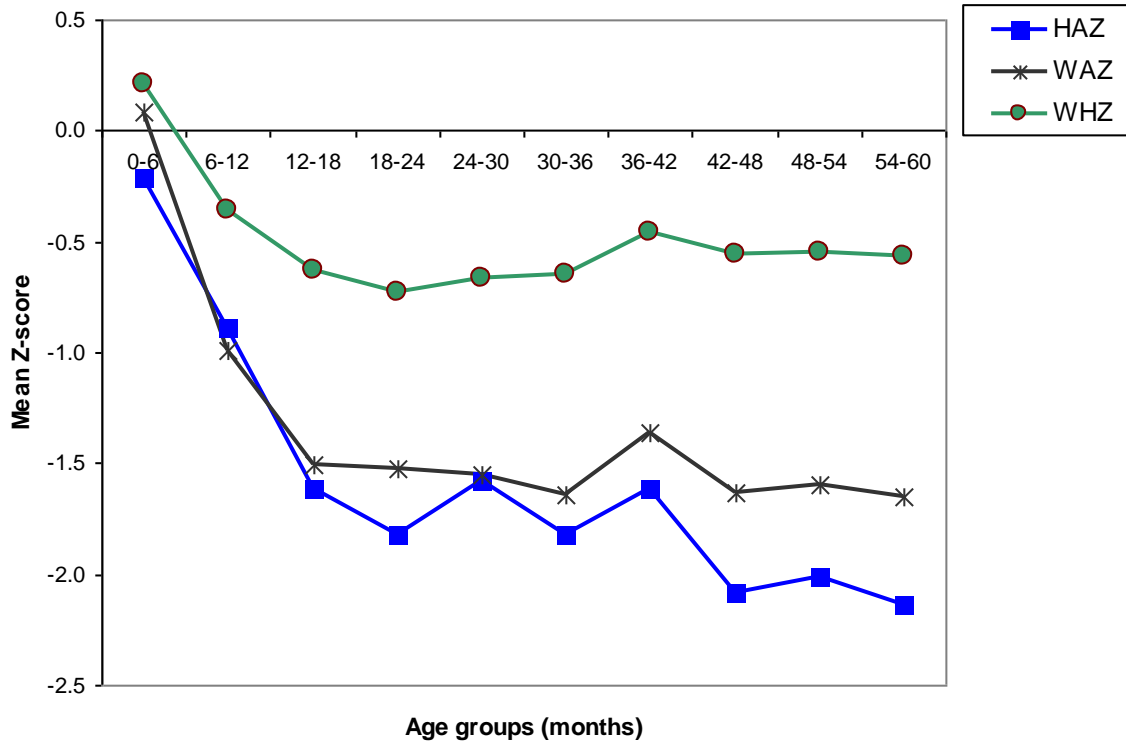
The rationale for targeting food supplements to children under 24 months is based primarily on current knowledge related to the patterns of growth of young children and on the factors that influence the impact of food supplementation on the growth of young children. A brief overview of these issues is presented below.

#### ***2.1.1 Patterns of child growth in Haiti and other developing countries***

Recent national-level data from Haiti show that approximately one-third of children less than three years of age in Haiti have low height-for-age ( $<-2$  SD with respect to reference data) and more than two-thirds of children are anemic (EMMUS-III 2001). Growth curves using data from the Demographic and Health Survey from 1995 in Haiti (see Figure 1) show a pattern of growth similar to the one observed in most developing countries around the world, where mean height-for-age (and weight-for-age) decline almost linearly from birth to approximately 18 months, after which they tend to stabilize at a low level (Ruel 2001). Mean WAZ follow similar age trends as HAZ, a pattern also observed in Latin American and eastern and southern Africa.

These growth patterns clearly show that children under two years of age are most vulnerable to growth faltering. This age range is therefore the period when interventions to prevent the rapid decline in nutritional status are most needed. As will be highlighted in the following section, this period is also the time of greatest potential response to nutrition interventions.

**Figure 1: Mean weight-for-height (WHZ), weight-for-age (WAZ) and height-for-age (HAZ) of rural children in Haiti (EMMUS-II 1995)**



### ***2.1.2 Factors that influence the impact of food supplementation on child growth and faltering***

A recent review of complementary feeding studies and programs (Caulfield, Huffman, and Piwoz 1999) shows that improving children’s food intake through well-controlled supplementation studies resulted in an overall impact on growth that ranged from 0.25 to 0.46 Z-scores for weight-for-age and 0.04 to 0.35 Z-scores for height-for-age. Further research from randomized trials have demonstrated that the impact of supplementary feeding on child growth as well as recovery from growth faltering is determined by factors such as the timing of the intervention (child age at the time of the supplementation) and by the duration of supplementation. A brief overview of relevant findings on factors that influence the impact of supplementation on child growth is presented below.

#### ***2.1.2.1 Effect of timing of supplementation interventions on overall growth impact***

Schroeder et al. (1995) have shown that in rural Guatemala, the greatest impact of food supplementation was achieved among children in their first and second years of life, and that no impact was found from three to seven years of age. In a different study setting, urban Colombia, Lutter et al. (1990) demonstrated that within the first 24 months, the greatest response to supplementation was seen in infants between 9 and 12 months of age, the peak period of diarrheal morbidity in this population. Finally, observational research from the Nutrition Collaborative CRSP in Mexico, Kenya, and Egypt has also shown that improved diets after the age of 18 months were not associated with better nutritional status (Allen 1994).

Thus, evidence suggests that maximum benefits from improving dietary intake, including through programs that provide food supplements, will be most effective in preventing malnutrition in the period of approximately 6-24 months of age. This is not surprising, because this is the period of maximum expected growth velocity and also the period of greatest risks of growth faltering due to inappropriate complementary feeding practices and increased risks of infectious diseases rates, especially diarrhea.

#### *2.1.2.2 Effect of timing of supplementation interventions on faltering and recovery rates*

While it is important to examine the overall impact of supplementation at different child ages, it is also useful to understand through longitudinal analysis how supplementation affects the rates of growth faltering and the rates of recovery from faltering. Only two studies, both using the Guatemala longitudinal supplementation study conducted in the seventies in four rural communities, have examined the differential impact of supplementation on faltering and recovery rates in weight-for-height (WHZ) (Rivera and Habicht 1996, 2002).

The analyses confirm that the impact of supplementation on the prevention of faltering (maintaining a weight/length category during a specific supplementation period) is age-dependent. The authors found a much larger impact on the *prevention* of faltering in WHZ among children who were 6 to 24 months old at the time of the intervention (Rivera and Habicht 2002). In this age group, the faltering rates among those receiving the food supplementation intervention was 0.19 in contrast to 0.45 among nonsupplemented children, a difference of 0.26, which was due to the supplementation. The much smaller difference of 0.08 for the same comparison among children between 24 and 48 months of age was not significant.

*Recovery* from faltering was also found to be age dependent. Among 6-24-month-old children who had received the supplementation for 12 months, the rates of recovery from faltering was 0.78 for supplemented children and only 0.41 for those without the supplement, a difference of 0.37, which was due to the supplementation. Again there was no effect among the 24-48-month-old children.

#### *2.1.2.3 Effect of the duration of supplementation*

There is limited research on the optimal duration of food supplementation needed for maximal impact. The only information available that we are aware of comes from analyses of the Guatemala longitudinal trial (Rivera and Habicht 1996). In this context, although 59 percent of infants had recovered from faltering in WHZ within 3 months of supplementation, greater impacts were achieved with 12 months of supplementation, reaching almost 80 percent of children. These data suggest that longer durations of supplementation (6-12 months) are likely to have more impact than shorter durations (3 months).

Taken together with the current data on patterns of infant growth in countries like Haiti, the research on the impact of food supplementation on child growth indicates that in fact, children are most likely to benefit from food supplementation if they receive it well before they are 24 months of age. Also, they should receive food supplements for at least six months in order to reap the full benefits in terms of improved growth and prevention of growth faltering.

These findings suggest that a preventive model of food supplementation, targeted to all children between 6 and 24 months, is likely to have an overall positive impact on the prevalence of undernutrition in poor communities.

An important prerequisite for the applicability of the findings presented above, however, is that similar levels of supplementation as in previous studies be achieved. In the Guatemala longitudinal study, benefits were obtained when the supplement contributed at least 10 percent of daily energy requirements. This is likely to happen with the World Vision program, because it provides significant amounts of food both through a direct ration to the child (providing 1,325 kcal/day) and through an indirect ration for his/her household (an estimated additional 1,063 kcal/day/person for family members)<sup>1</sup> (World Vision-Haiti 2001).

## **2.2 Technical basis for behaviors promoted through the BCC component of the preventive program**

In addition to providing *food* to children under the age of 24 months, it is also important to ensure that these foods are *fed* appropriately to these young children and that other aspects of feeding and care be also addressed. The key aspects of care and feeding to address in the vulnerable period of 0-23 months of age are breastfeeding, complementary feeding, and other preventive and curative health-related practices like good hygiene, timely immunization, appropriate home health care, and care-seeking during illness.

The World Vision program will provide caregivers in the program area with knowledge about these various aspects of care, particularly care during feeding, using a behavior change communication (BCC) intervention that works in conjunction with the food distribution component of the program. The IFPRI-Cornell team assisted World Vision-Haiti with the necessary technical support to develop this BCC strategy, focusing mainly on infant and young child feeding practices (breastfeeding and complementary feeding). Previous reviews of the communications program used by World Vision-Haiti had found that these aspects of infant care during the first few years of life were not addressed as thoroughly as some of the other aspects of child health.

This section briefly presents the current recommendations for the feeding of infants and young children under the age of 24 months. The technical basis for the feeding recommendations are not described here. However, they can be found in detail in a recent article in the *Food and Nutrition Bulletin* (Dewey and Brown 2003).

### ***2.2.1 Current infant feeding recommendations***

The behaviors promoted through the BCC component of the preventive program are grounded in the current recommendations for infant and young child feeding for each of the three age groups: 6-8, 9-11, and 12-23 months. The recommendations are derived from a recent document entitled: “Guiding Principles for Complementary Feeding of the Breastfed Child”

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<sup>1</sup> The indirect ration is calculated to meet the average caloric deficit of a household of average size and composition. The average caloric deficit is estimated to be 10-20 percent in the target areas (World Vision-Haiti 2001, p. 16).

(PAHO/WHO 2003), and provide guidelines for appropriate feeding of breastfed infants from 0-23 months of age in developing countries. The following specific dimensions of infant feeding are covered in these guidelines (see Annex 1 for summary of “Guiding Principles”):

- *Duration of exclusive breastfeeding and age of introduction of complementary foods:* Practice exclusive breastfeeding from birth to 6 months of age, and introduce complementary foods at 6 months of age while continuing to breastfeed.
- *Maintenance of breastfeeding:* Continue frequent, on-demand breastfeeding until 2 years of age or beyond.
- *Responsive feeding:* Practice responsive feeding, applying the principles of psychosocial care.
- *Safe preparation and storage of complementary foods:* Practice good hygiene and proper food handling.
- *Amount of complementary foods needed:* Start at 6 months with small amounts of food and increase the quantity as the child gets older, while maintaining frequent breastfeeding.
- *Food consistency:* Gradually increase food consistency and variety, as the infant gets older, adapting to the infant’s requirements and abilities.
- *Meal frequency and energy density:* For the average healthy breastfed infant, meals of complementary foods should be provided 2-3 times per day at 6-8 months of age and 3-4 times per day at 9-11 and 12-23 months of age.
- *Nutrient content of complementary foods:* Feed a variety of foods to ensure that nutrient needs are met. Meat, poultry, fish, or eggs should be eaten daily, or as often as possible. Vitamin A-rich fruits and vegetables should be eaten daily.
- *Use of vitamin-mineral supplements or fortified products for infant and mother:* Use fortified complementary foods or vitamin-mineral supplements for the infant, as needed.
- *Feeding during and after illness:* Increase fluid intake during illness, including more frequent breastfeeding, and encourage the child to eat soft, varied, appetizing, favorite foods.

It should be noted that the Guiding Principles do not provide guidelines for special situations of infant feeding, such as feeding of non-breastfed children, feeding during recuperation from severe malnutrition, or the feeding of infants born to HIV-positive mothers.





### 3. PROGRAM DEVELOPMENT PROCESS

This section describes the process used to develop the preventive program, with a focus on the development of the BCC strategy. The preventive health care components (i.e., immunization, vitamin A supplementation and deworming aspects) are not described here as the protocols for implementing these components were already in place.

#### 3.1 Design of the preventive food aid component

The design of the food aid component of the program was based on the technical knowledge related to the effectiveness of providing food supplements to young children and the programmatic resources available to World Vision-Haiti. Discussions were held with key staff at World Vision-Haiti to present the technical rationale to them, and ascertain how the food aid component of the program could be structured to maximize the effectiveness of the food supplement and, at the same time, remain within the resource capacities of the program. Thus, issues such as the timing of enrollment of beneficiaries in the program, duration of supplementation, and provision of indirect rations to the beneficiary households were discussed. The decisions that were made are as follows:

- 1) Beneficiary children could be enrolled in the program beginning at 6 months of age, and up to 18 months of age. This age range was determined as the most appropriate for initiating supplementation, based on available literature on the topic.
- 2) Beneficiaries would continue to receive food supplements up to the age of 23 months, thus ensuring that even those who entered the program only at 18 months of age would receive six months of supplementation. The research on the duration of supplementation shows that longer durations of supplementation are associated with greater benefits, and it was decided that the program should aim to provide at least six months of supplementation.
- 3) Finally, it was decided that each household would receive one indirect ration of food supplements, even if the household included more than one direct beneficiary.<sup>2</sup>

Further implementation details of the food aid program are presented in Section 4.

#### 3.2 Development and design of the BCC component

The BCC component of the full preventive program was designed in two major phases, a research phase and a development phase.

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<sup>2</sup> Both program models (preventive and recuperative) also target food aid and preventive health care to pregnant and lactating women. Thus, it is possible that a single household might include a pregnant or lactating beneficiary in addition to the child beneficiary in the preventive or recuperative category.

### *Research phase*

The research phase itself consisted of three steps:

- 1) *Review of existing communication materials:* A review of BCC program materials and manuals used in Haiti was conducted to identify potential materials for use in the World Vision-Haiti BCC program.
- 2) *A preliminary qualitative study:* A short qualitative study was conducted that gathered basic information on infant feeding and care practices in the evaluation area. This information was used both to design the baseline survey instrument for the program evaluation as well as to design a larger formative research study that was used to develop the BCC program.
- 3) *A more in-depth formative research study:* This study gathered data on infant and young child feeding and care and also included a recipe trials component that was used to develop enriched complementary foods to be promoted in the BCC program, using local and donated foods. In addition, it included some observations of current World Vision program activities, which were used to identify suitable program venues for the BCC program.

### *Program development phase*

The data from Steps (2) and (3) in the research phase were used to assess the adequacy of infant and young child feeding practices and to identify and develop programmatic actions to improve non-optimal practices. This was done through a rigorous program development phase, which consisted of the following steps:

- 1) *Identification of priority programmatic actions for the BCC program:* Following the formative research study, the results of the study were presented to key stakeholders in World Vision-Haiti using a program planning decision tool developed by the IFPRI-Cornell team. This facilitated the assessment of different programmatic options for the BCC program and supporting activities.
- 2) *Development of the BCC strategy:* Once the behaviors to be promoted through the BCC component had been selected, a BCC strategy was developed, taking into account the existing program structure and the available delivery points for different activities.
- 3) *Development of BCC materials and training plans:* BCC materials and training plans were developed in collaboration with World Vision and an adult education training firm.
- 4) *Training of World Vision staff:* World Vision staff was trained in the technical aspects of infant and young child feeding and care as well as in the use of the newly developed communication materials using adult education techniques.

- 5) *Development of implementation plan and schedule:* A round of discussions was held with World Vision program staff to finalize the implementation schedules for the BCC activities at different program points.

This section summarizes each of the steps used to develop the BCC program, and focuses on how the formative research results were used to inform the program development process. The research results used to guide the program development phase are only presented briefly because they have already been described in detail in previous reports (see Menon et al. 2001, 2002a, 2002b).

### ***3.2.1 Research phase***

#### *3.2.1.1 Review of program communications materials*

The first review of program communication materials commonly used by PVOs in Haiti was initiated in November-December 2001 and has been reported previously (Menon et al. 2001). The purpose was to gather information on the existing nutrition and health education models currently used in Haiti. The two guides used by different PVOs in Haiti were: 1) the Ministry of Health Guide (MSPP guide) produced in 1991, and 2) the CARE International guide produced in 1996. The health and nutrition topics that are covered in the two main health and nutrition education guides were compared to the currently recommended best practices for child health and nutrition at specific ages.

It was found that both guides covered breastfeeding practices and practices related to the prevention and treatment of childhood illnesses quite extensively. Messages related to complementary feeding practices, however, were minimal and psychosocial care was generally absent from both education packages. Messages related to complementary feeding focused mainly on nutrient density and dietary diversity and did not address feeding frequency or portion size. The CARE guide included a few messages related to hygiene during food handling and preparation, as well as one message related to assistance and supervision during child feeding. The MSPP guide did not cover these topics.

This first review revealed that in order to address the recommended best practices for infant and young child feeding up to two years, the program development team would have to look further to identify more materials or to develop new materials based on the planned formative research.

#### *3.2.1.2 Rapid qualitative study*

As a first step in the formative research process, a rapid qualitative study was conducted in January 2002 in the Central Plateau to gather information on general patterns of infant and child feeding practices. The data were used to guide the development of the baseline quantitative survey for the evaluation and to design the formative research required for the development of the BCC strategy (Menon et al. 2002a). Interviews with key informants and with young mothers were carried out to investigate the following topics: maternal knowledge, attitudes and practices regarding child feeding, maternal dietary restrictions during lactation, and maternal time, workload, and childcare arrangements.

Overall, the results suggested that the current infant and child feeding patterns departed substantially from international feeding recommendations, especially with regard to the recommendations to exclusively breastfeed up to 6 months of age, and to complement breast milk with frequent feeding of energy- and micronutrient-dense complementary foods after 6 months of age. This first phase of research raised a number of questions related to infant feeding that were further investigated in the next stage of formative research. These include issues related to the factors that motivate the early introduction of foods and liquids in children's diets, the nutrient composition and mode of feeding of the early complementary foods, the timing and patterns of feeding young children during the day, and the rationale for those behaviors. Findings regarding maternal diet during lactation also revealed that dietary restrictions were widespread. This suggested that additional research was needed to better understand the extent to which mothers adhered to these restrictions and to determine whether they were likely to result in nutrient deficiencies among lactating mothers.

### *3.2.1.3 Formative research study*

A more extensive formative research study was undertaken between May and August 2002 to gather in-depth information on current infant feeding practices, conduct recipe trials to develop improved complementary foods, and to understand current World Vision program activities in the Central Plateau of Haiti (Menon et al. 2002b). Several data collection techniques were used, including individual and group interviews with mothers of young infants, grandmothers, fathers, and World Vision program staff. Participatory group recipe trials were conducted to develop recipes for enriched complementary foods and to discuss their feasibility, acceptability, and affordability under real-life conditions in the program areas. Finally, observations of World Vision's program activities were conducted in the Central Plateau area as well as on the island of La Gonâve to understand the implementation of current program activities and to explore the feasibility of enhancing current educational activities.

#### *Infant and young child feeding practices*

The formative research provided information that allowed us to characterize typical infant and young child feeding practices in rural Haiti and to understand the rationale for these behaviors. Specific factors likely to either facilitate or constrain adoption of optimal practices were also identified for each specific dimension of child feeding practices studied. Results of the formative research are described in Menon et al. 2002b, and a discussion on how the information was used for program planning is presented in a subsequent section of the present report.

#### *Development of enriched complementary foods*

In addition to the data gathered through the formative research interviews, a series of participatory recipe trials were conducted with groups of local women. The purpose of the recipe trials was to develop recipes for enriched complementary foods that could be promoted through the BCC program. The recipe trials confirmed that traditional complementary foods are low in micronutrient-density, although they are generally of adequate energy density. The process also demonstrated that it was feasible for the recipe trial participants to create a number of improved recipes using traditional preparation methods, local or donated ingredients, and adding locally available nutrient-dense foods such as fish, eggs, beans, and vitamin A-rich foods.

### *Exploring the potential of different program points for the delivery of a BCC program*

Three main program delivery points are used by World Vision in their program and the formative research study gathered information on each one of these delivery points: 1) the Rally Posts (where growth monitoring, immunization, and health education activities are held); 2) the food distribution points (where food commodities are distributed); and 3) the Mothers' Clubs (group meetings held in the communities and used primarily for discussions on health education topics). Observations were carried out at these three delivery points to improve our understanding of current health and nutrition education program activities and to identify focal points for introducing our preventive BCC intervention.

Observations at the **Rally Posts** indicated that while the Rally Posts may be a promising entry point for the BCC program, some aspects of program implementation would have to be modified to improve their potential for effective communication with participants. First, the timing of the education session would have to be reconsidered to accommodate the majority of participants. Second, health agents would have to be trained on the use of communication techniques to improve their skills and interest in this area, and they would have to be provided with appropriate material to communicate more effectively. Finally, the time allocation of health agents would also have to be shifted to allow more time for communication and counseling, and less to weighing, charting, and reporting children's weights.

The **food distribution points** were identified as the least promising delivery point for the BCC intervention because of their crowded, busy, and distracting environment. However, the structured progression of beneficiaries through the food distribution system could facilitate the incorporation of a system to distribute brochures, counseling cards, or handouts to beneficiaries based on their child's current age and health status. The venue could also be used to inform program beneficiaries about the proper use of donated commodities and their potential use for preparing enriched complementary foods.

The **Mothers' Clubs** were seen to be the best forum for group communication and discussions, and thus a promising "main" venue for the BCC program. However, here too, it would be important to modify current teaching and communication approaches to ensure effective learning and behavior change communication. Specific modifications that could help the process include training health agents and *colvols* in the principles of adult learning, providing visual communication material, and training health agents in providing the group with local and contextual examples to accompany the theoretical aspects of the topics discussed. Also, in addition to the usual classroom-like activities, the sessions could be used to facilitate innovative activities such as participatory recipe trials. The venue could also possibly be used to set in place mechanisms that can *support* behavior change, like peer groups to encourage and support exclusive breastfeeding.

### ***3.2.2 Program development phase: The use of formative research results for program planning***

#### *3.2.2.1 Identification of priority programmatic actions for the BCC Program*

Priority programmatic actions for the BCC program were identified through discussions with World Vision staff at all levels. These discussions were held through a series of workshops involving decisionmakers and program staff within World Vision-Haiti, as well as the U.S. Agency for International Development (USAID) and other private voluntary organizations (PVOs) working in the area of child nutrition in Haiti. The workshop discussions focused on prioritizing behaviors to be promoted through the BCC program, as well as on reviewing the design and the technical and operational aspects of the BCC strategy.

The selection of priority actions for the BCC program was facilitated greatly by the use of a decision tool that summarized and organized the formative research results in the form of a matrix (presented in Annex 2). The matrix compares current practices in the program areas to best practices, as summarized in the Guiding Principles (PAHO/WHO 2003), and presented in Annex 1. The matrix also summarizes results of the formative research regarding facilitating factors and constraints that could influence the ability of program participants to adopt recommended practices. For details about the results, see Menon et al. 2002b.

As a next step to the results matrix, we developed a “program-planning matrix” that examined the programmatic actions that would be necessary to address each specific constraint or facilitating factor (see Annex 3). The consideration of feasible programmatic actions (presented in the second column) was based primarily on the existing World Vision program infrastructure and capacity (human, financial, technical). However, future needs and other supporting programs (particularly to support the BCC program) were also considered and these are presented in the third column of Annex 3. The program planning discussions held with World Vision-Haiti focused on identifying modifiable behaviors, constraints, and facilitating factors that could be addressed within the current programmatic options available to them. Program options that would require new program resources or infrastructure were also discussed.

#### *3.2.2.2 Development of a BCC strategy*

Following the formative research process and the discussion of the results with World Vision-Haiti, the BCC strategy was developed. This was done using a “BCC strategy planning matrix,” which outlines the various aspects that need to be addressed in order to ensure that the behavioral change objectives defined through the program planning discussions are achieved. The matrix is presented in Annex 4. It identifies, for each age-specific set of behaviors to promote, the following aspects:

- ❖ *Who* needs to be targeted in order to ensure that the desired feeding behavior is achieved. For example, in order to ensure that breastfeeding is initiated appropriately, it is important to target older women and midwives in addition to pregnant women.
- ❖ *When* the communication related to a specific behavior has to reach the identified audience in order to maximize its effectiveness. For instance, communications

related to appropriate initiation of breastfeeding should reach the audience *before* a pregnant woman gives birth, since many of the appropriate behaviors are important to initiate in the few hours following childbirth.

- ❖ *Where* the communications has to take place in order to reach the desired audience at the right time. For example, behaviors related to initiation of breastfeeding would have to be promoted at prenatal consultations and Mothers' Clubs for pregnant women.
- ❖ *How* specific behaviors should be promoted at the different program venues and for different program audiences. For example, the prenatal consultations should consist of individual counseling while the Mothers' Clubs for pregnant women would use small group communications that include discussions and problem solving.
- ❖ *What* is needed to ensure that the communication strategies identified for each type of behavior, program venue, and participant are implemented appropriately. For example, prenatal and postnatal counseling staff would have to be trained in individual counseling methods, while the staff running a Mothers' Club for pregnant women would have to be trained in group communication methods. Both would also have to be trained in the technical content of the material. Further, all these activities necessitate the development of appropriate training and resource materials for staff.

### 3.2.2.3 Development of BCC materials and training plans

Following the identification of the BCC strategies to be used at the different program venues, program communication materials were developed for use in the BCC program. Since the Mothers' Clubs were identified as the most promising main venue for the BCC, the material development process focused on materials to be used at the Mothers' Clubs. Further, WV was already in the process of developing other simple materials for use at the Rally Posts.

The materials developed for use in the Mothers' Clubs focus mainly on infant and young child feeding practices since this was the weakest component of the BCC program. Moreover, these behaviors were considered the most important to address in a program whose goal was to *prevent* malnutrition among children 0-24 months old. Other World Vision materials are available that cover other aspects of health care and care during illness for infants and children. Details about the development of the communication materials have been reported previously (Loechl et al. 2003). All the communication and training materials have been translated from Creole into English and are available on a CD-ROM.<sup>3</sup>

The development of the BCC materials to be used in the preventive program consisted of five steps:

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<sup>3</sup> The materials can be requested by email. Contact: Cornelia Loechl, IFPRI, 2033 K Street, N.W. Washington, D.C. 20006; c.loechl@cgiar.org

- a) A second review of program communication materials used in Haiti.
- b) Pretesting and adaptation of newly developed messages.
- c) Adaptation of BCC sessions based on the formative research and WV program context.
- d) Testing and adaptation of visual aids for BCC.
- e) Adaptation of BCC training guides.

*(a) Second review of program communication materials in use in Haiti*

In conjunction with the formative research process, a review of two additional sets of behavior change communication materials related to infant feeding in Haiti (other than those described in Section 3.2.1) was conducted to identify newly developed local materials that could potentially be adapted for use in the World Vision program. These materials were 1) the CONCERN Guide on nutrition produced in 2001, and 2) the modules on breastfeeding and young child feeding of Freedom from Hunger (FFH) produced in 2001 and used in conjunction with the FFH Credit for Education program. The first step of review consisted in comparing the health and nutrition topics covered to the currently recommended best practices for child health and nutrition at specific ages, as described previously.

Both sets of materials addressed breastfeeding practices. In addition to the topics covered in the MSPP and CARE guides, they also covered some aspects of responsive feeding and portion size. Furthermore, the FFH materials included messages related to feeding frequency, psychosocial care, and good hygiene practices during food handling. Both guides laid out complementary feeding practices for specific age groups and the FFH sessions used the same age ranges specified in the “Guiding Principles” document, i.e., 6-8 months, 9-11 months, and 12-23 months old.

In a second step, the specific content, the communication methods used, and the length and structure of the sessions were analyzed. The sessions used by FFH were highly detailed and comprehensive. For instance, the breastfeeding module of FFH consisted of seven learning sessions, and the young child feeding module included eight sessions. Also, each learning session included a set of explicit instructions to the fieldworker, accompanied by activities for them to carry out with the group of participants in order to achieve the objectives of the learning session. The learning sessions were accompanied by visual materials, a chart on child development and feeding, and a set of images to illustrate stories and specific feeding recommendations. Finally, the materials were intended for use with a communication strategy that was participatory and incorporated the principles of adult learning as well as of trials of improved practices.

The materials developed by FFH for their Credit with Education program in Haiti were identified as the most appropriate for adaptation and permission was obtained from FFH to use their materials.



*(b) Pretesting of newly developed messages*

A first step in the adaptation of the FFH materials and the development of new materials was the pretesting of new messages developed based on the formative research. Following this, the pretested messages were incorporated into the communication materials.

The behaviors to promote were reformulated into messages to be included in the communication materials. Some of these messages have been used successfully in Haiti by FFH and other organizations and did not require adaptation. For a few behaviors, which were not fully addressed in the FFH materials, the IFPRI-Cornell team developed new messages. These were based on the results of the formative research and on the current Guiding Principles for infant feeding. They focus on the feeding and care of children under 24 months of age and are presented in Annex 5.

All of the new or modified existing messages were pretested before being finalized. The pretest process consisted of four individual and two focus group discussions in the areas where the BCC program will be implemented. For each item, the interviews gathered information on participant comprehension, the believability of the message, the perceived importance and benefit of the actions implied in the message, and whether the participant would consider changing their behavior after hearing the message (see Box 1).

**Box 1: Questions addressed in the pretest of new messages**

- **Comprehension of the message:** *What do you understand?; What is the message asking to do?; According to you, is there a better way to phrase the message?; If yes, how should the message be phrased?*
- **Believability:** *What do you think of the message?; Do you believe what it says?; Do you agree with what the message says?; Do you think your neighbor would agree with what the message says?, If no, why not?; To whom do you think it is addressed and why?; Do you believe it is possible to do what the message says?; If no, why not?*
- **Perceived importance and benefit:** *What do you think about the importance of this message?; What do you think might be a benefit of doing what the message says?; How frequently do you think you will have to do what the message says to experience beneficial effects?*
- **Behavior change intent:** *Are you going to change your behavior after having heard this message?, If yes, what are you going to do?; How often do you think you would be able to do what the message says?; Why?*

Annex 6 presents the messages that had to be modified based on the pretest interviews, as well as the modified messages and the reason for the modification. For most messages, problems occurred only at the comprehension level. Once the messages were understood, believability was good in general. An exception was the message regarding drinking water while

breastfeeding: The interviewed mothers perfectly understood the content of the message but had difficulties to imagine that one could drink water without eating although they admitted that their lips become dry when the child feeds for a longer time and that they would then automatically ask for water. For all messages, the mothers perceived the importance of the actions implied and were ready to try these at home.

Along with the pretest of the messages, we also investigated how best to phrase certain words in Creole (e.g., “snacks,” “enriched gruel,” etc.). Further, a list of commonly used and possessed local measuring utensils was obtained in order to be able to develop appropriate communications about the quantities of foods to be fed to children in different age groups.

(c) *Adaptation of BCC sessions based on the formative research and WV program context*

Based on the results of the pretest exercise and the current infant feeding guidelines outlined in Section 2.2.1, the content of FFH materials was adapted in collaboration with the *Centre d’Appui et de Formation En Management* (CAFEM), a local service provider for FFH in Haiti.

The adaptation of the FFH materials also took into account findings from the formative research conducted by the team in 2002 (Section 3.2.1). The summary matrix from the formative research (Annex 2) was used to adapt the FFH learning sessions for use in the World Vision program areas by addressing specific *modifiable* constraints to adopting recommended practices. For example, the formative research had revealed that exclusive breastfeeding is rarely practiced because mothers typically have to leave home for long hours to work or to attend to other household responsibilities, as early as within the first two months following birth. Mothers usually leave the infant at home with a substitute caretaker and leave behind a variety of liquids and gruels to be fed to the child in their absence. The recommended practice of using expressed breast milk was found to be acceptable for most mothers in our formative research study. However, the practice itself was constrained by a lack of understanding of how exactly to express and store breast milk. This information was used to include training on the expression and storage of breast milk in the adapted sessions. The materials for the learning session now include demonstrations of expression of breast milk, and printed instructions on how to express breast milk. In addition, the sessions on exclusive breastfeeding address many of the problems that breastfeeding mothers reported in the formative research.

The materials were also adapted to the programmatic context of World Vision as this differed considerably from the context of the Credit with Education program that FFH had used them in. For instance, the Credit with Education sessions are based on weekly group meetings, while World Vision program participants meet only once a month in the Mothers’ Clubs. Changes made to accommodate the program context include:

- 1) Adapting the order of the topics to the preventive perspective of the program, taking into consideration the notion that critical pieces of information should reach mothers at what is likely to be the most appropriate learning moment for each set of behavior. The schedule of the sessions was designed to be age-specific.

- 2) Extending the length of the learning sessions from about 30 minutes to about an hour for each session, but maintaining the same structure as with the FFH learning sessions.

Slight changes in the wording in Creole were also made during the various training sessions of the World Vision MCH staff.

*(d) Testing and adaptation of visual aids for BCC*

The instructions for conducting a learning session are accompanied by visual materials. For several of the learning sessions, a large-format, laminated chart on child growth, development, and feeding is used to facilitate discussion of infant and child feeding recommendations in relation to the physical development of a child (Child Development and Feeding chart on the CD-ROM of communication materials). It shows that children learn how to eat just as they learn how to sit, crawl, and walk. Each row represents a different theme related to infant and child feeding, covering issues of food texture, breastfeeding and feeding, participating in feeding, frequency of feeding, and recommended quantities of food. The child development and feeding chart can be attached to a wall or a tree.

In addition to the child development and feeding chart, a series of images is used to support verbal presentations of the health agents and *colvols*. The images present scenes to illustrate stories and specific feeding recommendations regarding exclusive breastfeeding, maintenance of breastfeeding, introduction of complementary foods, food variety, responsive feeding, and prevention of diarrhea. Some of them are enlargements of specific boxes on the child development and feeding chart.

These visual materials developed by Freedom from Hunger were adapted in collaboration with *DidacArts*, a local firm that specializes in producing visual materials for health and nutrition topics. The materials were adapted to ensure that the technical information was up-to-date and relevant, and also to ensure that the materials would be culturally relevant and accepted.

*Technical adaptation:* The technical adaptations included taking into account the current infant feeding guidelines regarding feeding frequency and separation of meals and snacks, using local measures for showing the amount of food that should be fed at each feeding, and the inclusion and adaptation of visual instructions developed by La Leche League of Guatemala showing manual breast milk extraction techniques.<sup>4</sup>

*Adaptation to cultural context:* The adaptation of the visual materials to the cultural context of rural Haiti was done by pretesting the visual materials in the program areas in three stages:

Stage 1: Two focus group discussions were conducted in the program areas where participants were shown parts of the child development and feeding chart as well as four other images and asked to comment on their perceptions related to these images. The goal was to

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<sup>4</sup> Reference: Breastfeeding manual for breastfeeding advocates and mother-to-mother support groups, La Leche League of Guatemala.

ensure that the physical appearance of the people in the images would match that of the rural people, and thus ensure that mothers would identify themselves with the figures.

Stage 2: A second pretest included the following materials, modified based on the results of Stage 1: the child development and feeding chart, 17 images of the FFH modules and one new image that presents visual instructions on how to express breast milk. This pretest was conducted in project localities different from those used in Stage 1. Four individuals (mothers and fathers) were interviewed, and four focus groups were conducted, two with mothers and fathers of children less than two years old and two with World Vision health agents.

The questions addressed in the second pretest are presented in Box 2.

**Box 2: Questions addressed in the pretest of visual aids**

- What do you see in this picture? How does the picture make you feel?
- What are the people in this scene doing? Why are they doing this? What will the things that the people are doing in the scene lead to in the long term?
- Do the people in the picture look like somebody you know? Why?
- Is there anything in the picture you don't like? Why?
- How would you like to improve the picture?
- *Additional question for the health agents*: How would you use the picture?

The visual materials were modified to 1) adapt the images to the context of the target group in the Central Plateau; 2) help people understand the pictures and their messages more clearly, and 3) ensure that the persons or actions in the image would be those of a role model. Not all images needed to be modified.

Stage 3: Some of the images were modified slightly during the training sessions of the health agents and *colvols*.

*(e) Adaptation of BCC training guides*

The Freedom from Hunger training materials include manuals and resource materials for training of trainers as well as for training of field staff. For the WV staff, the trainers' guide and toolkit for the module on infant and young child feeding practices were adapted to reflect the changes in the content of the learning sessions. For example, a session on cooking and tasting recipes for enriched complementary foods was added to the training sessions. In addition, the schedule of learning sessions was created specifically to address the needs of the World Vision program. The manual on adult learning principles and practices, which is used along with the training materials on infant and young child feeding, needed only slight adaptations in terminology (for example, changing "fieldworkers" to "health agents/*colvols*").

Both training manuals were used for the training of trainers (Stage 2) and the training of field staff described in the next section. The guide for training in the use of adult learning principles is not included in the training manuals developed for World Vision-Haiti because only certified trainers facilitate this type of training.

#### *3.2.2.4 Training of program staff*

The contact between the program and participants is established through health agents and *colvols* (program volunteers). Health agents are World Vision employees and receive a monthly salary. *Colvols* are community volunteers who assist the health agents in their duties. They receive a small monthly incentive from World Vision. Both health agents and *colvols* are supervised by nurses who work under the supervision of the regional health coordinator in Hinche. The national health coordinator for World Vision is based in Port-au-Prince and oversees the activities in all the program areas of World Vision in Haiti. The organizational structure of the program is presented in Annex 7.

The formative research conducted by the IFPRI-Cornell research team in 2002 suggested that although the WV health agents and *colvols* were highly motivated to transfer skills and knowledge related to child health to the participants in the Mothers' Clubs, they were constrained by a lack of training in appropriate methods of adult education. The Mothers' Club sessions were didactic and rarely based on the real life experiences of the rural Haitian mothers. In contrast, the Freedom from Hunger approach uses methods of communication that are grounded in principles of adult learning (presented in Annex 8).

Using this approach to teaching and learning, program staff learn how to create a training environment where people feel safe and respected, how to facilitate group discussions, offer open-ended questions, create dialogue, animate role plays, and build on the ideas of the participants. Thus, it was decided that the WV program, particularly the Mothers' Club sessions, would use the same approach used by FFH and that WV program staff would be trained in the use of these communication methods in addition to being trained in the technical issues related to infant and young child feeding and care.

The training of World Vision staff was done in two steps, both of which covered the technical aspects of infant and young child feeding and the principles of adult learning. First, the supervisory-level staff were trained in a "training of trainers" session, followed by the training of field staff in World Vision. The training has been described in detail in a previous report (Loechl et al. 2003) and is presented very briefly here.

#### *Training of Trainers*

The training of trainers was done in two stages.

Stage 1: Training in the use of adult learning principles for effective communication: In the first stage of training, all MCH staff above the level of health agents and *colvols* (i.e., the MCH National Coordinator, Regional Coordinators, and field supervisory staff) were trained in the use of adult learning principles for communication. The workshop lasted for five days. The two CAFEM trainers who facilitated the transfer of training skills and knowledge are associates

of the Global Learning Partners, Inc.,<sup>5</sup> a firm that has designed a series of three training courses to strengthen skills on the principles and practices of adult learning.

Stage 2: Training in the use of the new communication materials on infant and young child feeding: In the second step, the same staff was trained over a period of six days on the use of the adapted communication materials on infant and young child feeding. This training workshop was facilitated by one of the CAFEM trainers who conducted the Stage 1 training. In addition, two of the World Vision supervisory staff participated as facilitators of the training and assisted the CAFEM trainer.

#### *Training of field staff*

Training of field staff (i.e., health agents and *colvols*) was conducted through a six-day workshop, which was similar to Stage 2 of the training of trainers described above. The training was conducted by a group of five World Vision supervisors who had previously been trained in the Training for Trainers workshops. The health agents and *colvols* were trained in the use of the infant and young child learning sessions, and the use of the technical content of the sessions was linked to the principles and practices of adult education.

#### *3.2.2.5 Development of implementation plan*

The implementation plan for the BCC activities at different program points was developed and finalized through a round of discussions held with World Vision program staff. A first outline of the implementation plan was developed together with the national MCH coordinator for World Vision. This plan was further complemented through several meetings with the regional MCH coordinator and the field supervisory staff in Hinche.

Some of the changes to the BCC program included reorganizing existing Mothers' Clubs and forming new ones based on the program-specific criteria for club attendance (i.e., separate clubs for pregnant and lactating mothers, and for mothers of children 6-23 months old). Further, the protocols for activities at the other service delivery points were revised to introduce new BCC activities or to improve the existing BCC activities. Details of the changes and the current implementation plan are presented in the next section.

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<sup>5</sup> The Global Learning Partners, Inc., is a Canadian adult-education training firm whose goal is to enable adult educators around the world to design and use dialogue in their education programs. Their courses are based on the teaching/learning approach of Dr. Jane Vella (Vella 2002). The firm has developed a network of organizations and individuals, referred to as the Global Learning Partners (see website: [www.globalelearning.com](http://www.globalelearning.com)).

## 4. IMPLEMENTATION PLAN FOR THE PREVENTIVE PROGRAM

This section presents the implementation plan for the preventive program and provides details of the services that will be offered at the five major points of contact between program staff and participants. These are: (1) *Rally Posts*, where beneficiaries are identified and health education, growth monitoring, and preventive health care are provided; (2) *Mothers' Clubs*, where beneficiary mothers and children come together in a small group setting to discuss issues related to infant and young child feeding, hygiene, family planning, or HIV/AIDS; (3) *Pre- and postnatal consultations*, where pregnant and lactating women receive preventive health care and education; (4) *Food distribution points*, where beneficiaries receive their food rations for the month; and (5) *Home visits*, where beneficiary households with a newborn infant, a severely malnourished child, or a child with growth faltering are visited by the World Vision health staff.

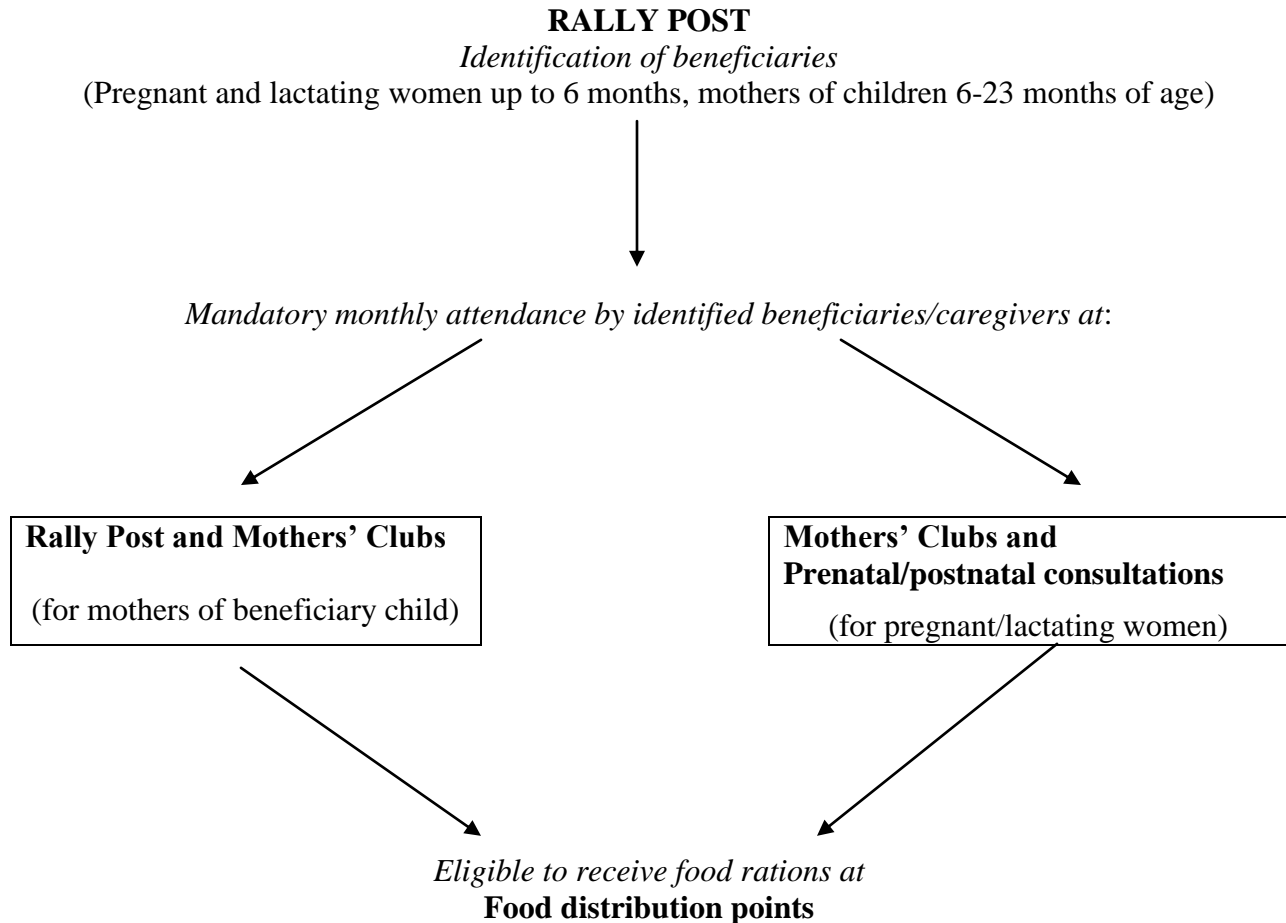
### 4.1 Recruitment of program beneficiaries

The main beneficiaries in the preventive MCH program are *all* children between 6 and 24 months of age who reside in the program areas, as well as pregnant and lactating mothers (until their infant is 6 months old). The Rally Post is the entry point for MCH beneficiaries, and is used to refer them to the appropriate program services. New beneficiaries are identified at the Rally Posts every month; 6-18 month old children are admitted into the program on a monthly basis, whereas pregnant and lactating women can enter the program only every four months. The upper age limit for admitting children into the preventive program is 18 months, to ensure that all children in the program receive food aid and other services for at least six months (up to 23 months of age).

For mothers of children 6-23 months old, monthly attendance at the Rally Post and at Mothers' Clubs is mandatory to be eligible to receive the food donations offered by the program. Pregnant and lactating women have to participate in Mothers' Clubs and pre- and postnatal consultations to have access to the food distribution, which takes place once a month (see Figure 2).

For ethical and humanitarian reasons, World Vision has decided that severely malnourished children who were older than the age range permitted in the preventive program (i.e. children aged 24-59 months) would still be eligible to participate in the preventive program. These children (classified as M3 according to the Gomez classification) are identified through the regular growth monitoring activities done at the Rally Posts. The services provided for the severely malnourished children in this age group include (1) distribution of food rations for nine months, (2) two meetings for the mothers where issues related to malnutrition and recuperation are discussed, and (3) home visits by health agents during the first weeks after identification.

**Figure 2: Beneficiary requirements for participation in the World Vision MCH program**



## 4.2 Rally Posts

Rally Posts are open to all pregnant women, mothers with children less than 5 years of age and women 15 to 49 years old in the communities attended. Services provided include health and nutrition education, growth monitoring of children under 5 years of age, immunization, vitamin A supplementation, deworming, free distribution of ORS and information about the family planning component.<sup>6</sup> The monthly weighing and attendance at the Rally Post is mandatory for caretakers of children 6-23 months of age who are MCH beneficiaries. Either the mother or another caretaker can take the child to the Rally Post.

The formative research study had revealed that a number of participants could not benefit from the education sessions conducted at the Rally Post because they arrived late, and the education session was usually carried out at the beginning of the session. Based on the

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<sup>6</sup> World Vision offers hormone pills and three monthly injections. Women can receive these services administered by WV nurses at mobile clinics, in health centers during pre- and postnatal consultations, or at Area Development Program clinics.



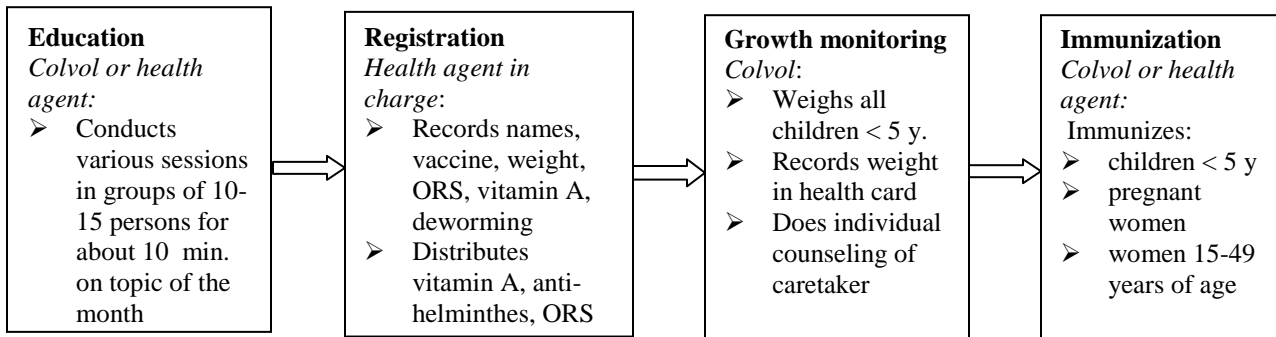
discussions of these results, it was decided that multiple education sessions would be held at the Rally Posts to facilitate attendance even by those participants who have to travel long distances to arrive at the Rally Posts. Thus, it is now expected that all Rally Post participants will be able to attend an education session.

Rally Post meetings are held on a monthly basis in each community and are managed by the health agent responsible for the locality. The health agent is usually assisted by at least two other health agents and two *colvols*. The sequence of activities at the Rally Post is usually as follows (also see Figure 3 below):

- 1) The education session is the first activity carried out at the Rally Post. The sessions run for about 10 minutes, depending on the topic. Since a large variety of topics have to be covered, World Vision sets up a calendar of monthly topics to be covered. The health agent or *colvol* conducts several sessions on the same topic during the day with groups of 10-15 persons to cover all participants.
- 2) After the education session, the health agent registers attendance of each beneficiary. The health agent determines the type of vaccines to be administered, and whether the beneficiary is due to receive a dose of vitamin A or deworming tablets. The health agent also updates the health cards with the information on immunization and vitamin A supplementation, and for food aid beneficiaries, he/she signs attendance on the beneficiary ration card. This same health agent also does the distribution of vitamin A (every six months for children less than 5 years of age), anti-helminths tablets (every six months to children 2-5 years of age), and oral rehydration salts (ORS) sachets (three sachets per month per household).
- 3) The next activity at the Rally Post is growth monitoring. Each child is weighed and the weight is recorded on the growth chart printed in the health card kept by the caretaker. If the child is M2 or M3 for weight-for-age according to the Gomez classification, it is expected that the mother will receive brief counseling about feeding practices and prevention of childhood illnesses.
- 4) After growth monitoring, children are directed to receive their immunizations. Children receive vaccinations based on their age and previous immunization history (previously verified by the health agent in Step 2 above).

According to the new program implementation plan, the education activities at the Rally Posts will use communication materials different from the ones described in Section 3.2.2, which will be used at the Mothers' Clubs. World Vision is planning to develop short learning sessions structured in the same way as the sessions on infant and young child feeding practices, but on topics such as immunization, pre- and post-natal care, preparation of child delivery, diet for pregnant and lactating mothers, weaning techniques, description of kwashiorkor and marasmus, hygiene and environment, diarrhea and preparation of oral rehydration salt, acute respiratory infections, family planning, and HIV prevention.

**Figure 3: Flow of activities at the Rally Post**



### 4.3 Mothers' Clubs

The formative research revealed that the Clubs are an ideal setting for effective BCC activities since they are located close to mothers' homes (usually a maximum of about 15 minutes' walk) and include only a small group of mothers, resulting in minimal distraction (especially compared to the Rally Posts ambiance). Thus, the World Vision program will use Mothers' Clubs as the primary venue for BCC activities. The Clubs will bring women together in small group settings (15-20 mothers) to discuss issues related to health, hygiene, nutrition, or the environment. Health agents or *colvols* (or both) will facilitate the meetings, which will be held at least once a month.

The formative research showed that while the Mothers' Clubs were an ideal setting for BCC activities, there were many aspects of the Club sessions that needed to be modified to ensure that the BCC would, in fact, be systematic and effective. Among other things, the Clubs were reorganized to include groups of mothers of a particular physiological state and/or child age (e.g. separate clubs were now to be organized for pregnant mothers, lactating mothers and mothers of children 6-23 months old). Furthermore, the schedule of sessions at each of the clubs was re-organized to be age-specific and to address behaviors at the best learning moment (see Annex 9 for Mothers' Clubs schedules). For instance, according to the new schedule, women will be exposed to materials and advice about the initiation of breastfeeding and exclusive breastfeeding as early as during pregnancy, and the messages will be reinforced throughout the first few months of lactation. Similarly, a session on introducing lactating women to complementary feeding is held when infants are four months old, and a follow-up session on nutritious complementary food is held when infants are five months old. This is intended to prepare them for appropriate complementary feeding when the infants are six months old.

Observations of the Mothers' Club sessions during the formative research phase showed a clear need for training the field staff in appropriate methods of communicating with adults. The observations had also shown that the field staff was not equipped with visual aids to enhance communications. Based on this, appropriate visual communication materials were developed that could be used with the different learning sessions on infant and young child feeding. Other activities at the Mothers' Clubs use other communication materials, such as an album of images with key messages related to the other aspects of maternal and child health like immunization,

preparation of child delivery, diet for pregnant and lactating mothers, hygiene and environment, HIV prevention, etc.

The Mothers' Clubs have now been organized in such a way that in the preventive program, it is expected that women will begin attending Mothers' Clubs when they are pregnant, continue to attend the clubs throughout their first six months of lactation and finally, as mothers of children 6-23 months of age, until their child reaches 2 years of age. Thus, a mother who starts attending the clubs during pregnancy could attend for up to 27 sessions. New Mothers' Clubs for pregnant and lactating women are formed only every four months, because too few pregnant and lactating women are identified each month. The mothers are required to attend the Mothers' Clubs themselves and cannot send another family member to use this service. This is different from the Rally Posts or food distribution points, where substitute caretakers are allowed to attend instead of the mother.

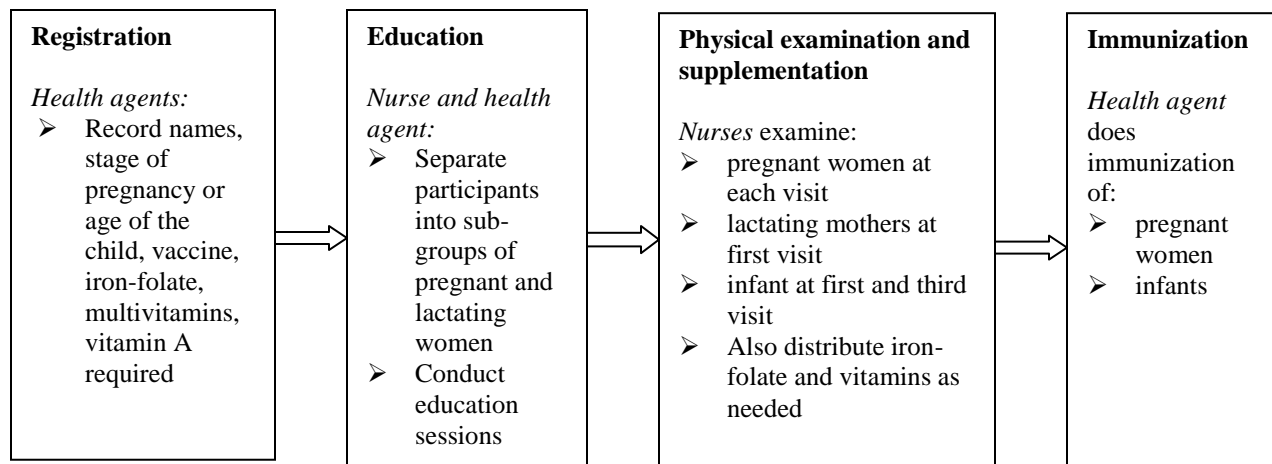
During the discussions about reorganization and formation of new Mothers' Clubs, the World Vision staff was particularly keen on ensuring that the Mothers' Clubs would be as homogenous as possible in terms of children's age and/or stage of pregnancy or lactation. However, other criteria such as distance from the mothers' homes and ensuring at least a minimum of 15 participants per club had to be taken into consideration. The resulting organization of the clubs reflects a compromise between these three factors, i.e., stage of pregnancy/child age, distance from mothers' homes, and ensuring that each club has at least 15 members. In situations where a club might consist of a relatively heterogeneous group, e.g., where there are women with children of different ages, it has been decided that both the health agent and the *colvol* will facilitate the Mother's Club meeting and they will split the group into two subgroups to provide relevant and timely messages to mothers based on their specific needs.

#### **4.4 Pre- and postnatal consultations**

Pre- and postnatal consultations are held together on the same day, about once a month. They are conducted mainly by the supervisor nurses in collaboration with the health agents of the localities covered. Consultations usually take place in health centers, although mobile clinics are also used for remote areas. For pregnant and lactating women, three prenatal and three postnatal visits are mandatory in order to receive food rations. The flow of activities conducted at these consultations is illustrated below (see Figure 4).

The discussions of the formative research results suggested that the pre- and postnatal consultations were a good venue to reinforce some of the issues discussed at the Mothers' Clubs. However, education and counseling was previously not a systematic part of the pre- and postnatal consultations. This has now been systematized to ensure that education sessions will be held at every pre- and postnatal consultation. Furthermore, the education sessions at the consultations will be held separately for pregnant and for lactating women, and will be facilitated by different health agents where possible. This will ensure that the women receive information targeted to their physiological state in a timely fashion. World Vision is also planning to reorganize the consultations so that those for pregnant and lactating women are held at different times during the day or on different days.

**Figure 4: Flow of activities at pre- and postnatal consultations**



The sequence of activities at the pre- and postnatal consultations is usually as follows (also see Figure 4 above):

- 1) All women are asked to arrive at the health center at the same time on the day the consultation is held. Upon arrival, they are registered for the consultation by the health agents. At this time, the health agents record the names of the women, their stage of pregnancy (or age of their child). They also note what vaccinations and supplements (e.g., iron-folate, multivitamins, vitamin A) are required for each woman.
- 2) The registration is followed by a short education session, usually between 10-30 minutes long. Under the revised implementation plan, the nurse and the health agents will conduct the education sessions separately for pregnant and lactating women. If possible, pregnant women will be further split into two groups according to their stage of pregnancy (first and second trimester, last trimester), while lactating mothers will be separated according to the age of their child. Another session will be held later during the day for mothers who arrive later.

The schedule for the education session at the prenatal and postnatal consultations is provided in Annex 10. The focus of the education for the prenatal consultations is on danger signs in pregnancy, preparing for labor and delivery, and initiation of breastfeeding. The focus of the education during the postnatal visits on the other hand is on diet during lactation, and to encourage mothers to continue exclusive breastfeeding, at a time when they are particularly vulnerable to introducing other liquids and semi-solid foods to their infants. Some of the communication materials and learning sessions developed for infant and young child feeding will also be used during the education at the pre- and postnatal consultations. For other topics discussed during the pre- and postnatal visits, other communication materials, such as an album of images with key messages related to the other aspects of maternal and child health, will be used.

- 3) After the education session, the nurse conducts physical examination of women and children. She or a health agent distributes iron-folate tablets to pregnant women and multivitamins to lactating mothers at each of the visits. If a mother has not received a dose of vitamin A at the first postnatal home visit by her local health agent or *colvol*, a vitamin A capsule (100,000 IU) is be given to her at her first postnatal consultation.
- 4) The final activity at the consultations is the administration of vaccines to either the pregnant women and/or the children, if necessary. Pregnant women or newborn infants may have already received their immunization at the Rally Post, in which case they do not receive them at the consultation.

The prenatal consultations are held once a month, and women in their second and third trimesters are expected to attend at least three of the monthly consultations before they deliver their infant. The three mandatory postnatal consultations take place at the following time intervals:

- 1) 0-30 days after delivery: the mother is expected to come with her newborn infant to the health center for physical examination of herself and the child;
- 2) 30-60 days after delivery: the mother is expected to come for the education session;
- 3) 90-120 days after delivery: the mother is expected to bring her child with her for a physical examination.

#### 4.5 Food distribution

The distribution of food aid commodities to the MCH beneficiaries of the World Vision program occurs on a monthly basis at special distribution points. Beneficiaries from several localities are often scheduled to receive their food rations at a central distribution point on the same day. There is a total of 10 central food distribution points covering 50 Rally Posts in the area included in the evaluation (including preventive and recuperative program communities). Unlike at the Mothers' Clubs, a beneficiary can designate another family member to collect the food ration by handing over the beneficiary card to this person.

The beneficiary households receive both direct and indirect rations. The amounts and commodities vary with respect to the beneficiary category (see Table 1). Even if a household has two direct beneficiaries participating in the program, only one indirect ration is provided.

**Table 1: Composition of direct and indirect food rations, per beneficiary category**

Type of commodity	Children 6-23 months of age		Pregnant and lactating women	
	Direct ration (quantity in kg)	Indirect ration (quantity in kg)	Direct ration (quantity in kg)	Indirect ration (quantity in kg)
WSB	8			
SFB		10	5	5
Lentils		2.5	2	2
Vegetable oil	2		1.5	1.5

The sequence of activities at the food distribution points is as follows:

- 1) Eligibility of the beneficiary is verified by food monitors and health agents mainly based on the information in the beneficiary card. This card contains information about the beneficiaries (direct and indirect) and indicates the attendance by the beneficiary at the other MCH activities (i.e., Mothers' Clubs, Rally Posts, and pre- and postnatal consultations) that are mandatory to receive the food rations.
- 2) Once the eligibility of the beneficiary is verified, they proceed to collect the different rations, based on their beneficiary category. A team of trained beneficiaries assists the World Vision staff during the distribution and is responsible for opening food sacks, measuring out appropriate amounts of each of the commodities, and handing over the food to beneficiaries. Rations for women and child beneficiaries are distributed separately at the distribution point, even though the distribution of food rations for preventive and recuperative program communities can occur at the same distribution point.
- 3) Finally, once a ration has been received by a beneficiary (or the designee), the ration received and the card are checked by the World Vision food monitor. In some cases, the food monitors reweigh the ration to verify that the right amounts have been received by the beneficiary. Once this final check is complete, the food monitor signs the beneficiary card to indicate that the right ration has been delivered to that beneficiary.

The formative research showed that the food distribution points were the least conducive for carrying out BCC activities like education sessions since they were crowded, noisy and distracting. However, World Vision is planning to use the food distribution points for complementary BCC activities. Some possible activities include recipe demonstrations using the food aid commodities and distribution of recipe booklets containing recipes for improved complementary foods using food aid commodities and other local ingredients to enrich traditional recipes. This would re-emphasize the key messages regarding the use of enriched complementary foods to improve the quality of the diet of 6-23-month-old children.

#### **4.6 Home visits**

In addition to the MCH services mentioned above, the World Vision program also includes a system of home visits targeted to special beneficiaries. These home visits are carried out by health agents and *colvols*, and are targeted mainly to:

- Families with a severely malnourished child under 5 years of age identified at the Rally Post: These families are visited twice during the week following the identification and a third time after two weeks. The focus of the home visit is on identifying ways to recuperate the severely malnourished child.

- Mothers of newborn infants: These mothers are visited the week after delivery to counsel them about exclusive breastfeeding, to administer a vitamin A capsule to the mother, and to refer them to the postnatal consultations;
- Children with growth faltering during two months; and
- Mothers who failed to attend program activities (Mothers' Club or pre- or postnatal consultations or Rally Post) for two months.

The system of home visits to special beneficiaries existed previously, and was not modified as a result of the formative research study. However, the formative research did reveal that there was no counseling material available for health agents and *colvols* to use during their home visits. Additionally it was found that the staff was not trained on how to conduct individual counseling effectively. Thus, World Vision is planning to develop counseling cards that address each of the special situations described above, and that provide guidance for the health agent on how to structure the individual counseling during the home visit. Until these materials are developed, however, health agents are encouraged to use different steps of the learning activities designed for the Mothers' Clubs.





## 5. NEXT STEPS

### 5.1 Future research steps

The next *research* step will be a first round of operations research to collect information about how the program implementation works and how the package of interventions is delivered to the intended beneficiaries. The emphasis will be on: (1) assessing the effectiveness of implementation and identifying key operational constraints; (2) evaluating the quality of delivery of the intervention (for example, quality of attention provided by the local staff, attitude towards participants, quality of the food distributed, quality of the education provided, etc.); and (3) exploring the perceptions of different stakeholders toward the program with a special focus on their perception regarding its effectiveness and the quality of attention.

The implementation of the new BCC program started only in May 2003. Thus, the first round of operations research will be designed to be primarily a “troubleshooting” exercise, since data collection on the operational issues will commence just two months after the program was fully implemented. This operations research phase will be used to generate possible solutions to factors that impede smooth implementation of the program services. A second round of operations research, planned for 2004, will focus more on identifying programmatic factors that might contribute to differences (or lack thereof) in impact and cost-effectiveness between the preventive and recuperative program models at the end of the evaluation.

### 5.2 Future programmatic steps

The planning of additional or complementary programmatic activities will include consideration of programmatic actions that will support the BCC program and better enable program participants to adopt recommended infant and young child feeding practices. Some of these possible supporting programmatic actions are presented in the third column of the matrix in Annex 3, and can be implemented without making major adjustments and additions to the existing program structure. For example:

- Setting up fathers’ clubs to reach fathers and sensitize them to issues, such as the need for lactating women to have support from them and the nutritional needs of young children.
- Setting up activities to engage other caregivers (like grandmothers) in the behavior change communications arm of the project. This will ensure that the entire household is targeted for improvements in knowledge, not just mothers, and also ensures that other caregivers feel valued by the program.
- Setting up activities to engage midwives in the behavior change communications arm of the project. This will ensure that breastfeeding is initiated appropriately and that mothers receive support for exclusive breastfeeding.
- Increasing the intensity of the BCC program by having more than one Mothers’ Club meeting a month.

Other options, which have been identified through the formative research but would require more technical assistance, collaboration with other organizations, and possibly more funding, include the following:

- Provision of microcredit programs to increase resource availability within households and communities, particularly through income generation projects that allow breastfeeding women to stay home and earn an income.
- Promotion of food-based interventions to increase the production and intake of micronutrient-rich animal foods and fresh fruits and vegetables; explore the possibility of using some preservation techniques such as solar drying to extend the life of micronutrient-rich fruits and vegetables beyond their season of high availability.
- Initiation and support of community childcare initiatives to assist working parents with their childcare responsibilities. This type of initiative may also become a source of income for those mothers who would run the day care centers. Other initiatives could include identifying a safe spot in markets where other adults could take care of young infants when mothers are attending to their markets. This would facilitate exclusive breastfeeding among market women with young infants.
- Use of effective mass media communication methods such as posters or radio messages that reach the entire community to support behavior change towards the recommended infant and young child feeding practices.

There are clearly other programming needs related to basic, underlying constraints that cannot be addressed in the short term through the current World Vision program structure. These involve the constraints of overall rural poverty, lack of water and sanitation facilities, poor roads, and a lack of public transportation. These are general community and rural development issues that need concerted support from the Haitian government and/or other multisectoral collaborators. They have been included in this list so as to ensure that these underlying constraints are recognized both in the process of future program development as well in later program evaluations.

## 6. REFLECTIONS ON THE PROCESS AND CONCLUSIONS

This report has described the process used to design a program to prevent undernutrition among children under 2 years of age. A few reflections regarding the resources required for this process and its effectiveness are shared in this concluding section.

*Duration of research and development phases:* The entire process from planning to full implementation of the program took approximately one year. Given the various steps of research and development, this is, in fact, not an unduly long period of time. The research phase was expedited because the research team worked full-time on conducting the formative research and analyzing the data from the study. The research team worked closely with World Vision staff in the development phase, which itself was aided considerably by the availability of well-developed materials for communication and training from Freedom from Hunger that could be adapted to the World Vision programmatic needs. Our experience suggests that a program planning process that involves all the research and planning steps described here, as well as the de novo development of a full set of communication and training materials, would take considerably longer if it was conducted primarily by program staff involved in the daily management and administration of such a complex program.

*Technical and human resources:* The program planning process was facilitated by a team of IFPRI-Cornell researchers who were not directly involved in the day-to-day running of World Vision program activities, and therefore were able to devote a large amount of time to the research and program development activities. The research team consisted of a full-time postdoctoral researcher, assisted by a full-time data collection staff member, a quarter-time postdoctoral researcher, and two other senior researchers who had considerable program planning experience. The team was experienced in the use of the formative research methods and in the analysis of the data from the formative research process, thus facilitating the overall research process. These human and technical resources are not usually available in most program contexts, and although research consultants can be hired to conduct formative research, the cost of hiring such personnel is high and would need to be built into program planning budgets in advance.

*Timing of the program planning process:* The program planning process described here was undertaken *after* World Vision's five-year program cycle had been established and, as such, was limited by the lack of flexibility to include interventions that were outside of the programmatic mandate described in the five-year plan. However, the process itself is generalizable and could be used at the proposal stage to plan future program funding cycles. This will help ensure that constraints to behavior change are addressed through appropriate programmatic interventions, even if these may be outside of the usual scope of activity of the implementing agency.

Programs of the kind described in this report are usually expected to start implementation a few months after funding is received from donor agencies. This leaves little time and limited resources to carry out the type of research and development activities undertaken by our team in collaboration with World Vision. We feel, however, that these preparatory activities are essential for the design of effective interventions. The research process, in particular, is essential to ensure that the BCC strategy addresses practices that are amenable to change and that other

program components are put in place to help relieve some of the identified constraints to behavior change.

In conclusion, we highly recommend the use of a systematic research and development process such as the one described here for program planning. To facilitate this process, however, we suggest that program planners carefully assess the human, technical, and time resources required to implement these activities and factor them in their funding request. The rewards in terms of impact and cost-effectiveness of carefully designed programs, which effectively address the specific needs of its targeted population, should largely compensate for these initial investments.

## REFERENCES

- Allen, L. H. "Nutritional Influences in Linear Growth." *European Journal of Clinical Nutrition* 48 (1994) (Suppl. 1): S75-S89.
- Caulfield, L. E., S. L. Huffman, and E. G. Piwoz. *Interventions to Improve Complementary Food Intakes of Six-to-Twelve-Month-Old Infants in Developing Countries. Impact on Growth, Prevalence of Malnutrition and Potential Contribution to Child Survival.* Linkages Project. Washington, D.C.: Academy for Educational Development, 1999.
- Dewey, K. G., and K. H. Brown. "Update on Technical Issues Concerning Complementary Feeding of Young Children in Developing Countries and Implications for Intervention Programs." *Food and Nutrition Bulletin* 24 (2003) (1): 5-28.
- EMMUS-II (Enquête Mortalité Morbidité et Utilisation des Services) 1994/95. Institut Haitien de l'Enfance, Demographic and Health Surveys, Macro International Inc., Calverton, Md., U.S.A., 1995.
- EMMUS-III (Enquête Mortalité Morbidité et Utilisation des Services) 2000. Ministère de la Santé Publique et de la Population (MSPP), Institut Haitien de l'Enfance, ORC Macro, Calverton, Md., U.S.A., 2001.
- Loechl, C., P. Menon, G. Pelto, and M. Ruel. *Behavior Change Communication to Improve Infant and Young Child Feeding Practices in Rural Haiti: Training and Communication Materials.* A report submitted to the Food and Nutrition Technical Assistance Project, Academy for Educational Development, Washington, D.C., 2003.
- Lutter, C. K., J. O. Mora, J.-P. Habicht, K. M. Rasmussen, D. S. Robson, and M. G. Herrera. "Age-Specific Responsiveness of Weight and Length to Nutritional Supplementation." *American Journal of Clinical Nutrition* 51 (1990) (3): 359-64.
- Menon, Purnima, Marie Ruel, Gretel Pelto, and Jean-Pierre Habicht. *Review of Health and Nutrition Education Messages and Delivery System Currently Used in Haiti, and Recommendations for Further Research.* A report submitted to the Food and Nutrition Technical Assistance Project, Academy for Educational Development, Washington, D.C., 2001.
- Menon, Purnima, Marie Ruel, Gretel Pelto, Yves-Francois Pierre, Elisabeth Metellus, and Arsene Ferrus. *A Qualitative Study of the Patterns of Infant Feeding and Care in the Hinche Area of Plateau Central.* A report submitted to the Food and Nutrition Technical Assistance Project, Academy for Educational Development, Washington, D.C., 2002a.

- Menon, Purnima, Cornelia Loechl, Gretel Pelto, and Marie Ruel. *Development of a Behavior Change Communications Program to Prevent Malnutrition in the Central Plateau of Haiti: Results and Challenges from a Formative Research Study*. A report submitted to the Food and Nutrition Technical Assistance Project, Academy for Educational Development, Washington, D.C., 2002b.
- PAHO/WHO (Pan American Health Organization/World Health Organization). *Guiding Principles for Complementary Feeding of the Breastfed Child*. Pan American Health Organization/World Health Organization, Washington, D.C., 2003.
- Ruel, M. T. “The Natural History of Growth Failure: Importance of Intrauterine and Postnatal Periods.” In *Nutrition and Growth*, edited by R. Martorell and F. Haschke, 123-158. Nestlé Nutrition Workshop Series, Pediatric Program, Vol. 47. Philadelphia: Nestec Ltd., Vevey/Lippincott Williams & Wilkins, 2001.
- Rivera, J. A., and J.-P. Habicht. “The Recovery of Guatemalan Children with Mild to Moderate Wasting: Factors Enhancing the Impact of Supplementary Feeding.” *American Journal of Public Health* 86 (1996) (10): 1430-1434.
- Rivera, J. A., and J.-P. Habicht. “Effect of Supplementary Feeding on the Prevention of Mild to Moderate Wasting in Conditions of Endemic Malnutrition.” *Bulletin of the World Health Organization* 80 (2002) (12): 926-32.
- Schroeder, D. G., R. Martorell, J. A. Rivera, M. T. Ruel, and J.-P. Habicht. “Age Differences in the Impact of Nutritional Supplementation on Growth.” *Journal of Nutrition* 125 (1995): 1051S-1059S.
- Vella, Jane. *Learning to Listen, Learning to Teach: The Power of Dialogue in Educating Adults*. San Francisco, Calif.: Jossey-Bass, 2002.
- World Vision-Haiti. *Development Activity Program*. Proposal submitted to the U.S. Agency for International Development (USAID) Mission, April 23, 2001.

## ANNEXES

- 1. Summary of guiding principles on infant and young child feeding**
- 2. Infant and child feeding practices in Haiti compared to best practices, and constraints and opportunities for behavior change in Central Plateau (reproduced from: Menon et al. 2002b)**
- 3. Identification of programmatic options to address the constraints to infant feeding, and to support facilitating factors**
- 4. BCC strategy matrix for a BCC program to prevent malnutrition among children between 0-24 months**
- 5. Existing and newly designed messages**
- 6. Modification of messages following pretest**
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- 9. Schedules of learning sessions and topics at Mothers' Clubs**
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## 1. Summary of guiding principles on infant and young child feeding

- 1. DURATION OF EXCLUSIVE BREASTFEEDING AND AGE OF INTRODUCTION OF COMPLEMENTARY FOODS.** Practice exclusive breastfeeding from birth to 6 months of age, and introduce complementary foods at 6 months of age (180 days) while continuing to breastfeed.
- 2. MAINTENANCE OF BREASTFEEDING.** Continue frequent, on-demand breastfeeding until 2 years of age or beyond.
- 3. RESPONSIVE FEEDING.** Practice responsive feeding, applying the principles of psychosocial care. Specifically, a) feed infants directly and assist older children when they feed themselves, being sensitive to their hunger and satiety cues; b) feed slowly and patiently, and encourage children to eat, but do not force them; c) if children refuse many foods, experiment with different food combinations, tastes, textures, and methods of encouragement; e) minimize distractions during meals if the child loses interest easily; f) remember that feeding times are periods of learning and love—talk to children during feeding, with eye to eye contact.
- 4. SAFE PREPARATION AND STORAGE OF COMPLEMENTARY FOODS.** Practice good hygiene and proper food handling by a) washing caregivers' and children's hands before food preparation and eating, b) storing foods safely and serving foods immediately after preparation, c) using clean utensils to prepare and serve food, d) using clean cups and bowls when feeding children, and e) avoiding the use of feeding bottles, which are difficult to keep clean.
- 5. AMOUNT OF COMPLEMENTARY FOOD NEEDED.** Start at 6 months of age with small amounts of food and increase the quantity as the child gets older, while maintaining frequent breastfeeding. The energy needs from complementary foods for infants with "average" breast milk intake in developing countries are approximately 200 kcal per day at 6-8 months of age, 300 kcal per day at 9-11 months of age, and 550 kcal per day at 12-23 months of age. In industrialized countries these estimates differ somewhat (130, 310, and 580 kcal/d at 6-8, 9-11, and 12-23 months, respectively) because of differences in average breast milk intake.
- 6. FOOD CONSISTENCY.** Gradually increase food consistency and variety as the infant gets older, adapting to the infant's requirements and abilities. Infants can eat pureed, mashed, and semi-solid foods beginning at 6 months. By 8 months most infants can also eat "finger foods" (snacks that can be eaten by children alone). By 12 months, most children can eat the same types of foods as consumed by the rest of the family (keeping in mind the need for nutrient-dense foods, as explained in #8 below). Avoid foods that may cause choking (i.e., items that have a shape and/or consistency that may cause them to become lodged in the trachea, such as nuts, grapes, raw carrots).
- 7. MEAL FREQUENCY AND ENERGY DENSITY.** Increase the number of times that the child is fed complementary foods as he/she gets older. The appropriate number of feedings depends on the energy density of the local foods and the usual amounts consumed at each feeding. For the average healthy breastfed infant, meals of complementary foods should be provided 2-3 times per day at 6-8 months of age and 3-4 times per day at 9-11 and 12-23 months of age, with additional nutritious snacks (such as a piece of fruit or bread or chapatti with nut paste) offered 1-2 times per day, as desired. Snacks are defined as foods eaten between meals—usually self-fed, convenient and easy to prepare. If energy density or amount of food per meal is low, or the child is no longer breastfed, more frequent meals may be required.
- 8. NUTRIENT CONTENT OF COMPLEMENTARY FOODS.** Feed a variety of foods to ensure that nutrient needs are met. Meat, poultry, fish, or eggs should be eaten daily, or as often as possible. Vegetarian diets cannot meet nutrient needs at this age unless nutrient supplements or fortified products are used (see #9 below). Vitamin A-rich fruits and vegetables should be eaten daily. Provide diets with adequate fat content. Avoid giving drinks with low nutrient value, such as tea, coffee, and sugary drinks such as soda. Limit the amount of juice offered so as to avoid displacing more nutrient-rich foods.
- 9. USE OF VITAMIN-MINERAL SUPPLEMENTS OR FORTIFIED PRODUCTS FOR INFANT AND MOTHER.** Use fortified complementary foods or vitamin-mineral supplements for the infant, as needed. In some populations, breastfeeding mothers may also need vitamin-mineral supplements or fortified products, both for their own health and to ensure normal concentrations of certain nutrients (particularly vitamins) in their breast milk. [Such products may also be beneficial for pre-pregnant and pregnant women.]
- 10. FEEDING DURING AND AFTER ILLNESS.** Increase fluid intake during illness, including more frequent breastfeeding, and encourage the child to eat soft, varied, appetizing, favorite foods. After illness, give food more often than usual and encourage the child to eat more.

Source: PAHO/WHO 2003.

**2. Infant and child feeding practices in Haiti compared to best practices, and constraints and opportunities for behavior change in Central Plateau (reproduced from: Menon et al. 2002b)**

Goals	Practices to promote	Practices in Haiti	Facilitating conditions for behavior change	Issues that may affect capacity for behavior change
<b>A. INFANT FEEDING FROM 0-5 MONTHS OF AGE</b>				
<b>Exclusive Breastfeeding (BF)</b>				
<ul style="list-style-type: none"> <li>➤ <b>Ensure exclusive BF</b></li> <li>➤ <b>Prevent bacterial contamination</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ Early initiation of exclusive BF (EBF)</li> <li>➤ Feeding of colostrum</li> <li>➤ BF on demand</li> <li>➤ Avoidance of pre- and post-lacteal feeds</li> <li>➤ Using expressed breast milk if needed</li> <li>➤ Avoidance of baby-bottles</li> </ul>	<p><i>Positive:</i></p> <ul style="list-style-type: none"> <li>➤ BF widely practiced</li> <li>➤ Reported to be mostly on demand</li> </ul> <p><i>Non optimal:</i></p> <ul style="list-style-type: none"> <li>➤ Pre-lacteals and post-lacteal liquids and gruels widely used</li> <li>➤ Complementary liquids and foods introduced at a <u>very young age</u></li> <li>➤ Widespread use of baby bottles</li> </ul> <p><i>Not enough information:</i></p> <ul style="list-style-type: none"> <li>➤ Timing of initiation of BF</li> <li>➤ Colostrum use</li> </ul>	<ul style="list-style-type: none"> <li>❖ Experienced, successful positive deviant mothers (who EBF) exist in communities</li> <li>❖ Positive deviant mothers had received information from health agents, media, health center staff</li> <li>❖ EBF moms report it is cheaper to EBF and child is healthier</li> <li>❖ No objection to use of expressed breast milk – some mothers do it; but training needed</li> </ul>	<ul style="list-style-type: none"> <li>➤ Water-based liquids and teas given to treat colic (<i>gaz</i>)</li> <li>➤ Gruels given because mothers need to leave home for work or other activities</li> <li>➤ Mothers' time and employment constraints</li> <li>➤ Mothers feel weak and depleted when EBF</li> <li>➤ Concept of <i>let cho</i> (prevents mothers from breastfeeding, but seems to be only in the short term)</li> <li>➤ Use of expressed breast milk is rare, milk expression unknown in some areas</li> </ul>
<b>B. FEEDING PRACTICES FOR INFANTS AND YOUNG CHILDREN 6-23 MONTHS OF AGE</b>				
<b>Continued breastfeeding</b>				
<ul style="list-style-type: none"> <li>➤ <b>Ensure sustained, frequent, on demand BF up to 24 months of age and beyond</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ Continue to BF frequently and on demand</li> <li>➤ Using expressed breast milk if needed</li> <li>➤ Avoidance of baby-bottles</li> </ul>	<p><i>Positive:</i></p> <ul style="list-style-type: none"> <li>➤ Mothers traditionally continue to BF up to 24 months of age</li> </ul> <p><i>Non-optimal:</i></p> <ul style="list-style-type: none"> <li>➤ Widespread use of baby bottles</li> </ul> <p><i>Not enough information:</i></p> <ul style="list-style-type: none"> <li>➤ Mothers may not always BF on demand because of need to leave home for work or other tasks</li> <li>➤ Children whose mothers are frequently absent may not receive sufficient nutrients from breast milk</li> </ul>	<ul style="list-style-type: none"> <li>❖ No objection to expression of breast milk, but training needed</li> </ul>	<p>No need for behavior change, but continue promotion of continued BF up to 24 months and beyond</p> <p><i>Potential constraints to frequent, on demand BF:</i></p> <ul style="list-style-type: none"> <li>➤ Mothers do need to leave home to work and/or go to markets</li> <li>➤ Milk expression rarely practiced, unknown in some areas</li> </ul>

Goals	Practices to promote	Practices in Haiti	Facilitating conditions for behavior change	Issues that may affect capacity for behavior change
<b>Complementary Foods</b>				
<ul style="list-style-type: none"> <li>➤ <b>Provide foods to complement breast milk and to allow adequate intake of energy and micronutrients</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ Feed child special energy- and nutrient-dense foods of appropriate texture and consistency for age</li> <li>➤ From 6 months on, gradually increase amounts and quantity of foods as child gets older</li> <li>➤ Increase number of times child is fed CF as he/she gets older (at least 2-3 times/d for 6-8 mo old; 3-4 times/d for 9-24 mo old)</li> <li>➤ Feed a variety of foods (gradually increase variety with age); animal foods should be eaten daily, or as often as possible</li> </ul>	<p><i>Non optimal:</i></p> <ul style="list-style-type: none"> <li>➤ Complementary foods (CF) of low energy and very low nutrient-density</li> <li>➤ Variety of foods seems low; animal foods consumed infrequently and in small amounts; low intake of vitamin A fruits and vegetables</li> <li>➤ Frequency of feeding is low (2-3 times/d) and does not seem to increase with age</li> <li>➤ Evening meal not fed to young children</li> <li>➤ No “special” complementary food for child; gruels are consumed by all family members</li> </ul>	<ul style="list-style-type: none"> <li>❖ No cultural barriers to feeding young children animal foods</li> <li>❖ Mothers know that eggs, liver are good for child</li> <li>❖ Mothers usually feed child when they are present</li> <li>❖ Mothers leave prepared food for child when they have to leave</li> <li>❖ Good recognition of importance of fluid replacement during diarrhea</li> </ul>	<ul style="list-style-type: none"> <li>➤ Lack of availability and access to food, especially animal foods and micronutrient-rich fruits and vegetables</li> <li>➤ Overall poverty, lack of economic resources</li> <li>➤ Poor access to water, sanitation, health services</li> <li>➤ Time constraints of caregivers to prepare “special foods”</li> <li>➤ Belief that evening meal causes indigestion</li> <li>➤ Lack of recognition of importance of high feeding frequency for young children</li> <li>➤ Belief that children are ready for family foods and family meal patterns by 12 months of age</li> <li>➤ Some cultural barriers to feeding young children specific fruits/vegetables</li> </ul>
<b>Feeding during diarrhea</b>				
<ul style="list-style-type: none"> <li>➤ <b>Continue to BF and feed CF to child during diarrhea; ensure fluid replacement</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ Increase fluid intake during illness, including more frequent breastfeeding, and encourage the child to eat soft, varied, appetizing, favorite foods</li> <li>➤ After illness, give food more often than usual and encourage the child to eat more</li> </ul>	<p><i>Positive practices:</i></p> <ul style="list-style-type: none"> <li>➤ Mothers continue to BF and give liquids when child has diarrhea</li> </ul> <p><i>Non-optimal practices</i></p> <ul style="list-style-type: none"> <li>➤ Mothers reduce feeding of CF during diarrhea</li> </ul>	<ul style="list-style-type: none"> <li>❖ Knowledge about fluid replacement can be used to introduce issues of encouraging consumption of food during and after an episode of illness and providing special foods for recuperation</li> </ul>	

Goals	Practices to promote	Practices in Haiti	Facilitating conditions for behavior change	Issues that may affect capacity for behavior change
<b>Responsive feeding</b>				
<ul style="list-style-type: none"> <li>➤ <b>Practice responsive feeding, applying the principles of psychosocial care</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ Feeding with a balance between giving assistance and encouraging self feeding, as appropriate to the child's level of development</li> <li>➤ Feeding with positive verbal encouragement, without verbal or physical coercion</li> <li>➤ Feeding with age-appropriate, as well as culturally appropriate, eating utensils</li> <li>➤ Feeding in a protected and comfortable environment</li> <li>➤ Feeding in response to early hunger cues</li> <li>➤ Feeding by an individual with whom the child has a positive emotional relationships and who is aware of and sensitive to the child's individual characteristics, including his or her changing physical and emotional states</li> </ul>	<p><i>Positive practices</i></p> <ul style="list-style-type: none"> <li>➤ Child is usually fed in a separate bowl or plate rather than common plate</li> <li>➤ Fathers seem involved in childcare and feeding</li> </ul> <p><i>Insufficient information at this point on:</i> Psychosocial care (needs to be assessed through observations, which was beyond the scope of the present study)</p>	<ul style="list-style-type: none"> <li>❖ Some aspects of responsive feeding are already practiced (e.g., feeding in a separate bowl, involving fathers in care)</li> </ul>	

### 3. Identification of programmatic options to address the constraints to infant feeding, and to support facilitating factors

Constraints/facilitators to appropriate infant feeding:	Program options within current structure and delivery system:  (BCC, food donations and other interventions delivered by World Vision program at Rally Posts, food delivery points and Mothers' Clubs)	Program options that will require NEW program structure or complementary interventions:
<b>A. INFANT FEEDING FROM 0-5 MONTHS OF AGE</b>		
<b>Exclusive breastfeeding</b>		
<i>Factors that constrain exclusive breastfeeding</i>		
➤ Water-based liquids and teas given to treat colic ( <i>gaz</i> )	➤ BCC program: ensuring women are given enough knowledge and confidence about dealing with infant colic	
➤ Gruels given because mothers need to leave home for work (economic, reasons) or other activities (mothers have multiple household responsibilities; time constraints)	➤ BCC program: training mothers in the use of expressed breast milk ➤ Food aid component (could aid in delaying extremely early resumption of work outside home)	➤ Microcredit programs targeting women and increasing their potential involvement in income-generating activities at (or close to) home ➤ Long term poverty reduction strategies needed ➤ Public transportation and road improvement projects ➤ Childcare support
➤ Mothers are concerned about feeling too weak and depleted if they EBF	➤ BCC program: can address need to replace fluids frequently when EBF ➤ Food aid component can possibly alleviate weakness due to poor quality diet and lack of food	➤ Fathers' Clubs: ensure that fathers are sensitized to the need for EBF women to be supported. ➤ Agriculture production activities to increase availability/access to food
➤ Concept of <i>let cho</i> (prevents mothers from breastfeeding, but seems to be only in the short term)	➤ BCC program	
➤ Use of expressed breast milk is rare, milk expression unknown in some areas	➤ BCC program: ensuring adequate training in the use and appropriate storage of expressed breast milk	
<i>Factors that facilitate exclusive breastfeeding</i>		
➤ Experienced, successful positive deviant mothers (who EBF) exist in communities	➤ BCC program: use mothers' clubs as support groups to encourage EBF	
➤ Positive deviant mothers had received information from health agents, media, health center staff	➤ BCC program: ensure that mothers receive the same information from different sources	

<b>Constraints/facilitators to appropriate infant feeding:</b>	<b>Program options within current structure and delivery system: (BCC, food donations and other interventions delivered by World Vision program at Rally Posts, food delivery points and Mothers' Clubs)</b>	<b>Program options that will require NEW program structure or complementary interventions:</b>
➤ EBF moms report it is cheaper to EBF and child is healthier	➤ BCC program: use benefits of EBF on household medical expenses as a motivator	
<b>B. FEEDING PRACTICES FOR INFANT AND YOUNG CHILDREN 6-23 MONTHS OF AGE</b>		
<b>Continued breastfeeding</b>		
<i>Factors that constrain continued breastfeeding</i>		
➤ Mothers need to leave home to go to work and/or markets	➤ BCC program: Promote and encourage continued and sustained breast feeding up to 24 months of age	<ul style="list-style-type: none"> <li>➤ Microcredit programs targeting women and increasing their potential involvement in income-generating activities at (or close to) home</li> <li>➤ Long term poverty reduction strategies needed</li> <li>➤ Public transportation and road improvement projects</li> <li>➤ Childcare support</li> </ul>
➤ Expression of breast milk rarely practiced	➤ BCC program: ensuring adequate training in the use and appropriate storage of expressed breast milk	
<i>Factors that facilitate continued breastfeeding</i>		
➤ Mothers traditionally breastfeed up to 18 or 24 months	➤ BCC program: Promote and encourage continued and sustained breast feeding up to 24 months of age	
<b>Complementary foods</b>		
<i>Factors that constrain feeding of optimal complementary foods</i>		
➤ Time constraints of caregivers to prepare "special foods"	➤ BCC Program: Promote easy to prepare, time efficient recipes and ideas for nutritious CF	<ul style="list-style-type: none"> <li>➤ Need for public transport and road projects that can ensure that women spend more time commuting to place of work</li> <li>➤ Engage other family members (grandmothers, fathers, etc.) in BCC program to provide more support to mothers</li> </ul>
➤ Belief that evening meal causes indigestion	➤ BCC program: encourage feeding of at least gruels at night, rather than juices or teas	
➤ Lack of recognition of importance of high feeding frequency for young children	➤ BCC Program: ensure mothers are sensitized to higher feeding frequency needs of infants and young children	
➤ Belief that children are ready for family foods and family meal patterns by 12 months	➤ BCC program: Need to ensure that children 12-23 are given adequate attention and	

<b>Constraints/facilitators to appropriate infant feeding:</b>	<b>Program options within current structure and delivery system: (BCC, food donations and other interventions delivered by World Vision program at Rally Posts, food delivery points and Mothers' Clubs)</b>	<b>Program options that will require NEW program structure or complementary interventions:</b>
of age	appropriate foods (use brain development as a motivator)	
➤ Some cultural barriers to feeding young children specific fruits/vegetables	➤ BCC program: encourage trials of small amounts of these foods	
➤ Lack of access to micronutrient rich foods, especially animal foods and micronutrient-rich fruits and vegetables	<ul style="list-style-type: none"> <li>➤ BCC program: encourage use of small amounts of meat, liver or eggs for children</li> <li>➤ Encourage consumption of goat milk (especially among goat owners)</li> </ul>	<ul style="list-style-type: none"> <li>➤ Livestock projects to increase access to animal source foods</li> <li>➤ Livestock care projects to improve health of animals and milk production</li> <li>➤ Home garden promotion; solar drying of fruits/vegetables</li> <li>➤ Microcredit programs to facilitate income generation through livestock rearing</li> <li>➤ Market interventions to encourage sale of small pieces of meat and liver</li> </ul>
➤ Overall poverty, lack of economic resources	➤ Food aid component can help somewhat	➤ Overall community development projects and poverty reduction interventions
➤ Poor access to water, sanitation, health services		➤ Community development projects for improving water, sanitation, etc.
<b><i>Factors that facilitate feeding of optimal complementary foods</i></b>		
➤ No cultural barriers to feeding young children animal foods; and mothers are aware that eggs and liver are good for young child	➤ BCC program: encourage and support feeding of animal foods to young children	➤ Same as above (3 rows up): Livestock projects and market interventions to increase availability and access to animal source foods
➤ Mothers leave prepared food for child when they have to leave	➤ BCC program: encourage preparation of enriched recipes rather than traditional low nutrient density gruels/juices	
<b>Feeding during diarrhea</b>		
<b><i>Factors that constrain optimal feeding during and after diarrhea</i></b>		
➤ Feeding of CF during illness is decreased	<ul style="list-style-type: none"> <li>➤ BCC program: encourage caregivers to continue attempts to feed children during illness</li> <li>➤ BCC program: Stress the need for extra food and the use of enriched recipes when children</li> </ul>	

<b>Constraints/facilitators to appropriate infant feeding:</b>	<b>Program options within current structure and delivery system:</b> <b>(BCC, food donations and other interventions delivered by World Vision program at Rally Posts, food delivery points and Mothers' Clubs)</b>	<b>Program options that will require NEW program structure or complementary interventions:</b>
	are recovering from illness	
<b><i>Factors that facilitate optimal feeding during and after diarrhea</i></b>		
➤ Good recognition of importance of fluid replacement during diarrhea	➤ BCC program: encourage caregivers to sustain fluid replacement with ORS and other safe fluids when child has diarrhea	➤ Community development projects for improving water quality and sanitation ➤ Ensuring availability of and access to ORS
<b>Responsive Feeding</b>		
<b><i>Factors that could constrain responsive feeding</i></b>		
➤ Mothers' time and workload constraints	➤ BCC program: Encourage mothers to entrust adult members and inform them about responsive feeding as well	
<b><i>Factors that facilitate responsive feeding</i></b>		
➤ Fathers seem involved in childcare and feeding		➤ Ensure that fathers are engaged in BCC program as well through Fathers' Clubs and sensitized to responsive feeding practices
➤ Mothers usually feed child when they are present	➤ BCC program: Encourage responsive feeding and encourage mothers to entrust adult members to feed child when possible	



**4. BCC strategy matrix for a BCC program to prevent malnutrition among children between 0-24 months**

<b>Behaviors to promote</b>	<b>Who will messages be targeted to?</b>	<b>When will messages be delivered?</b>	<b>Where will communication be delivered ?</b>	<b>How will communication be delivered ?</b>	<b>What is needed to help with communication ?</b>
<p><b>0-5 Months: Exclusive breastfeeding</b></p> <ol style="list-style-type: none"> <li>1. Initiate breastfeeding immediately after the child is born</li> <li>2. Give the child colostrum (and avoid <i>lòk</i>)</li> <li>3. Breastfeed exclusively (avoid other liquids and foods)</li> <li>4. Breastfeed frequently, on demand</li> </ol> <ol style="list-style-type: none"> <li>5. Use expressed breast milk as needed (avoid other liquids and foods)</li> <li>6. Use a cup and spoon to feed the infant expressed breast milk (avoid baby bottles)</li> <li>7. Increase the frequency of breastfeeding when the infant is sick</li> </ol>	<p>Pregnant mothers Midwives Grandmothers Health professionals in health centers (prenatal care)</p> <p>Lactating mothers Fathers Grandmothers</p>	<p>Pregnancy, before delivery At delivery</p> <p>First 1-2 months of lactation</p>	<ul style="list-style-type: none"> <li>➤ Pre- and postnatal consultations (can also be group education)</li> <li>➤ Food distribution</li> <li>➤ Mothers' Clubs</li> <li>➤ Fathers' Clubs</li> <li>➤ Markets</li> </ul>	<ul style="list-style-type: none"> <li>➤ Individual counseling at prenatal and postnatal consultation</li> <li>➤ Group education of pregnant women at health centers (if they invite all pregnant women to attend on a particular day for the prenatal control)</li> <li>➤ Discussion and problem solving related to breastfeeding at Mother's Clubs</li> <li>➤ Discussions on support needs with fathers at Father's Clubs</li> <li>➤ Home visits</li> </ul>	<ul style="list-style-type: none"> <li>➤ <i>Training of prenatal and postnatal counseling staff</i> (health staff as well as midwives) in communication methods and content of practices to encourage</li> <li>➤ <i>Training of health agents and colvols</i> in group discussion and problem solving methods</li> <li>➤ <i>Provision of resource materials for communication</i> (counseling cards, flip charts, other visual material)</li> <li>➤ <i>Make attendance at pre- and postnatal consultation and mothers' clubs mandatory</i> in order to receive food</li> </ul>
<p><b>6-8 Months Complementary feeding and continued breastfeeding</b></p> <ol style="list-style-type: none"> <li>1. Continue to breastfeed on demand and use expressed breast milk as necessary</li> <li>2. Gradually introduce enriched porridges, gruels and special foods (enriched using beans, eggs, fish,</li> </ol>	<p>Lactating mothers Fathers Grandmothers</p>	<p>First 2-3 months of lactation</p>	<ul style="list-style-type: none"> <li>➤ Rally Posts</li> <li>➤ Food distribution centers</li> <li>➤ Mothers' Clubs</li> <li>➤ Father's Clubs</li> </ul>	<ul style="list-style-type: none"> <li>➤ Group education at Rally Posts</li> <li>➤ Recipe demonstrations at Food Distribution Points</li> </ul>	<ul style="list-style-type: none"> <li>➤ <i>Training of agents de santé and colvols</i> in group discussion and problem solving methods</li> <li>➤ <i>Training of health</i></li> </ul>

<b>Behaviors to promote</b>	<b>Who will messages be targeted to?</b>	<b>When will messages be delivered?</b>	<b>Where will communication be delivered ?</b>	<b>How will communication be delivered ?</b>	<b>What is needed to help with communication ?</b>
breast milk, milk, pumpkin, etc.) 3. Feed the infant enriched foods 2-3 times per day 4. Increase the quantity of enriched foods as the child grows older 5. Feed nutritious snacks (like <i>cham cham</i> , fruits, peanut butter) 1-2 times per day 6. Use a cup and spoon to feed the infant expressed breast milk and other liquids (avoid baby bottles) 7. Feed infants directly, and feed slowly and patiently. 8. Encourage children to eat, but do not force them; if children refuse many foods, experiment with different food combinations, tastes, textures and positive methods of encouragement 9. Minimize distractions during meals 10. Talk to children during feeding, with eye to eye contact 11. Increase frequency of breastfeeding and liquids when the infant is ill 12. Feed the child his or her favorite foods when ill 13. Increase the frequency of feeding and feed more enriched foods when the infant is convalescing after an illness	Lactating mothers Fathers Grandmothers	During 3-9 months of lactation		<ul style="list-style-type: none"> <li>➤ Recipe trials at Mothers' Clubs</li> <li>➤ Group discussions and problem solving at Mother's Clubs</li> <li>➤ Group discussions with fathers at Father's Clubs?</li> <li>➤ Home visits</li> </ul>	<ul style="list-style-type: none"> <li>➤ <i>agents and colvols in recipe trials/ demonstrations</i> to be implemented at food distribution points and mothers' clubs</li> <li>➤ <i>Provision of resource materials for communication</i> (counseling cards, flip charts, etc.)</li> <li>➤ <i>Make attendance at postnatal consultation and mothers' clubs mandatory</i> in order to receive food</li> </ul>
<b>9-23 Months: Complementary feeding and continued breastfeeding</b> 1. Continue to breastfeed on demand and use expressed breast milk as necessary 2. Continue to feed enriched porridges, gruels and special foods (enriched	Lactating mothers Fathers Grandmothers	9 months onwards	<ul style="list-style-type: none"> <li>➤ Food distribution centers</li> <li>➤ Rally Posts</li> <li>➤ Mothers' Clubs</li> <li>➤ Father's Clubs</li> </ul>	<ul style="list-style-type: none"> <li>➤ Group education at Rally Posts</li> <li>➤ Recipe demonstrations at Food Distribution</li> </ul>	<ul style="list-style-type: none"> <li>➤ <i>Training of health agents and colvols</i> in group discussion and problem solving methods</li> </ul>

<b>Behaviors to promote</b>	<b>Who will messages be targeted to?</b>	<b>When will messages be delivered?</b>	<b>Where will communication be delivered ?</b>	<b>How will communication be delivered ?</b>	<b>What is needed to help with communication ?</b>
<p>using beans, eggs, fish, breast milk, milk, pumpkin, etc.)</p> <ol style="list-style-type: none"> <li>3. Increase the variety of foods fed to the infant by adding other family foods to the child's diet</li> <li>4. Feed the infant enriched porridges/gruels or special foods 3-4 times per day</li> <li>5. Increase the quantity of food as the child grows older</li> <li>6. Feed nutritious snacks (like cham cham, fruits, peanut butter) 1-2 times per day</li> <li>7. Use a cup and spoon to feed the infant expressed breast milk and other liquids (avoid baby bottles)</li> <li>8. 9-11 months: Feed infants directly, and feed slowly and patiently</li> <li>9. 12-23 months: Assist and supervise feeding to ensure adequate intake, and feed slowly and patiently</li> <li>10. Encourage children to eat, but do not force them; if children refuse many foods, experiment with different food combinations, tastes, textures and positive methods of encouragement</li> <li>11. Minimize distractions during meals</li> <li>12. Talk to children during feeding, with eye to eye contact</li> <li>13. Increase frequency of breastfeeding and liquids when the infant is ill</li> <li>14. Feed the child his or her favorite foods when ill</li> <li>15. Increase the frequency of feeding and feed more enriched foods when the infant is convalescing after an</li> </ol>				<p>Points</p> <ul style="list-style-type: none"> <li>➤ Recipe trials at Mothers' Clubs</li> <li>➤ Group discussions and problem solving at Mother's Clubs</li> <li>➤ Group discussions with fathers at Father's Clubs?</li> <li>➤ Group education at Community Health sessions</li> <li>➤ Home visits</li> </ul>	<ul style="list-style-type: none"> <li>➤ <i>Training of health agents and colvols in recipe trials/ demonstrations to be implemented at food distribution points</i></li> <li>➤ <i>Provision of resource materials for communication (counseling cards, flip charts, etc.)</i></li> <li>➤ <i>Make attendance at postnatal consultation, Rally Posts and Mothers' Clubs mandatory in order to receive food</i></li> </ul>

<b>Behaviors to promote</b>	<b>Who will messages be targeted to?</b>	<b>When will messages be delivered?</b>	<b>Where will communication be delivered ?</b>	<b>How will communication be delivered ?</b>	<b>What is needed to help with communication ?</b>
illness					
<b>All the above behaviors + overall attention and focus on the under-two child</b>	Entire community		<ul style="list-style-type: none"> <li>➤ Community meetings</li> <li>➤ Radio</li> <li>➤ Posters</li> <li>➤ Other</li> </ul>	<ul style="list-style-type: none"> <li>➤ Sensitization to various practices at the community meetings</li> <li>➤ Radio messages</li> <li>➤ Community posters</li> </ul>	<ul style="list-style-type: none"> <li>➤ Utilization of community leaders and pastors for sensitization in churches and at community meetings?</li> <li>➤ Design of effective posters</li> <li>➤ Identification of key venues to display posters</li> <li>➤ Design of effective radio messages/ stories/ songs/dialogues</li> <li>➤ Identification of key radio stations and key times during the day to broadcast messages</li> </ul>

## 5. Existing and newly designed messages

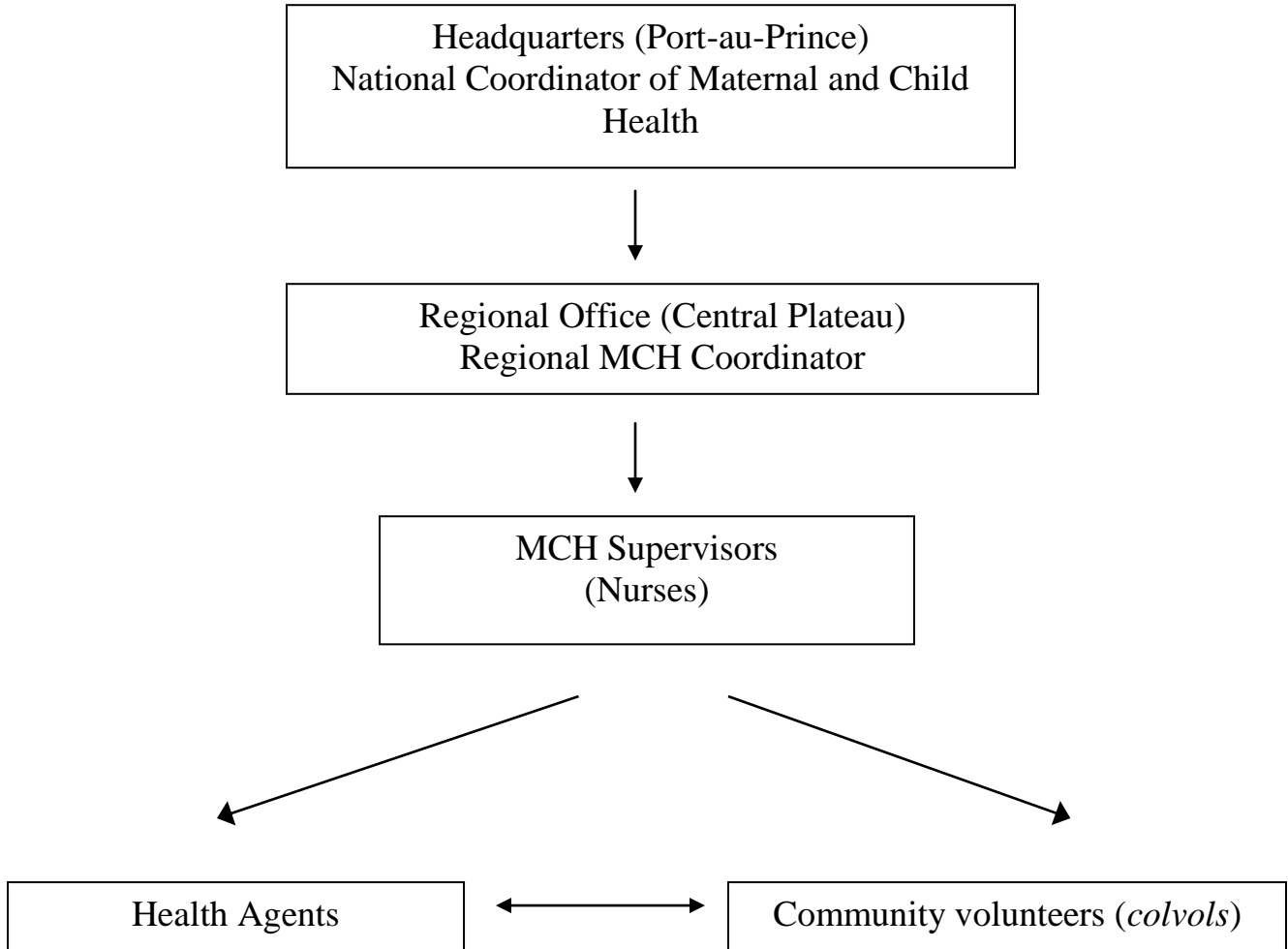
Age group	Messages already in use	New messages or modified existing messages
0-5 months	<ul style="list-style-type: none"> <li>➤ Start breastfeeding immediately after delivery.</li> <li>➤ The first milk is the best “lòk” for newborn babies.</li> <li>➤ Breastfeed babies whenever s/he wants.</li> <li>➤ Exclusively breastfeed children are healthier, and breast milk is free.</li> <li>➤ Give breast milk only, no other foods or liquids.</li> <li>➤ We must get rid of the bottle in order to protect our children against diarrhea.</li> <li>➤ A sick child needs to be breastfed more often.</li> </ul>	<ul style="list-style-type: none"> <li>➤ If the mother has to leave home she can express breast milk so that another person can give this to the child with a little spoon when she is away.</li> <li>➤ Not only a crying child wants to breastfeed.</li> <li>➤ To keep the baby from having colic (“gaz”), hold him and tap his back each time he has finished breastfeeding.</li> <li>➤ To avoid fatigue, you must drink a lot of water while you are breastfeeding.</li> <li>➤ A mother should be assisted until the baby is 6 months old (stay “ti nouris”). That means, she should continue to receive during 6 months the same benefits and support her family normally provides when she has just given birth.</li> <li>➤ To get rid of the bottle, use a cup instead, it is easier to clean and it does not hold germs.</li> </ul>

Age group	Messages already in use	New messages or modified existing messages
<b>6-8 months</b>	<ul style="list-style-type: none"> <li>➤ Continue on-demand breastfeeding. Breastfeed first, then give other foods to the child.</li> <li>➤ Children 6-8 months need to be introduced progressively to other nutritious foods in addition to breast milk to continue to grow well.</li> <li>➤ Introduce new foods one at a time.</li> <li>➤ Prepare meals for the child with little or no salt, soak dried fish in water before using it.</li> <li>➤ Begin offering mashed, pureed or soft foods 2-3 times each day. The stomach of an infant is small, that's why s/he cannot eat a lot at one time. S/he has to eat several times a day.</li> <li>➤ Give liquids to the child with a little spoon out of a clean cup that is used for her/him only.</li> <li>➤ Talk to the children and encourage them to eat while feeding them.</li> <li>➤ When children are sick, breastfeed them more often and increase liquids.</li> <li>➤ After illness try to feed children more often and more than usual each time.</li> <li>➤ After illness, offer the children appetizing and favorite foods, and encourage them to eat.</li> </ul>	<ul style="list-style-type: none"> <li>➤ As the child gets older, give her/him more food at each feeding so that s/he may get stronger.</li> <li>➤ Different stages require different foods.</li> </ul>
<b>9-23 months</b>	<ul style="list-style-type: none"> <li>➤ Continue to breastfeed for 24 months and beyond — feed other foods first and then breastfeed.</li> <li>➤ Provide a variety of foods.</li> <li>➤ Give children vegetables and yellow fruits rich in vitamin A and other nutrients such as: mango, yellow pumpkin, green leafy vegetables (watercress, different leaves like “<i>lyann panyen</i>” and “<i>malanga</i>”, spinach, etc.) along with liver, eggs and milk to help them develop well.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Pay attention that the child eats 3-4 times a day special meals containing a variety of different foods so that the brain develops well and the child will be able to succeed at school.</li> <li>➤ Feed children at night, so they may get stronger – this is not going to inflate them.</li> <li>➤ Even when a child can walk s/he is still at risk.</li> </ul>

## 6. Modification of messages following pretest

Age group	Messages tested	Modified message
<b>0-5 months</b>	If the mother has to leave home, she can express breast milk so that another person can give this to the child with a little spoon when she is away.	If the mother has to leave home, she can express breast milk <i>in a cup</i> so that another person can give it to the child with a little spoon when she is away. <i>[To avoid that they express it in a bottle]</i>
	Not only a crying child wants to breastfeed.	Start breastfeeding when the baby is beginning to fuss, moving the lips or sucking fingers, before it starts to cry. It is not only when a child cries that s/he needs to breastfeed. <i>[Mothers need more details to understand]</i>
	To avoid fatigue, you must drink a lot of water while you are breastfeeding.	While you are breastfeeding you must drink lots of water so that you don't get tired. <i>[This wording seems easier to understand]</i>
	To get rid of the bottle, use a cup instead, it is easier to clean and it does not hold germs.	Do not use the bottle, use a cup instead, it is easier to clean and it does not hold germs <i>[This wording seems easier to understand]</i>
<b>9-23 months</b>	Pay attention that the child eats 3-4 times a day special meals containing a variety of different foods so that the brain develops well and the child will be able to succeed at school.	Feed children special meals 3-4 times per day so they will learn well in school when they are older.  <i>[It was too long]</i>
	Feed children at night, so they may get stronger – this is not going to inflate them.	Feed children special foods such as enriched gruel, etc. in the <i>evening</i> , so they may get stronger – this is not going to inflate them. <i>[At night was considered too late, children are already sleeping; evening for them is around 6.00pm]</i>

**7. Organizational structure of the program**





## 8. The key principles of adult learning

The key principles of Adult Learning (Vella, J. 2002)

- Respect: Ensuring that the learner feels respected and feels like an equal.
- Affirmation: Ensuring that the learner receives praise for even small attempts.
- Relevance: Recognizing that the learner learns best by drawing on his/her own knowledge and experience. Also, that learning must meet the real-life needs of the adult—jobs, family, etc.
- Dialogue: It is important for learning that the learner is encouraged to enter into a dialogue with the teacher and with other learners
- Engagement: The learner must get involved through discussion, small groups, and learning from peers.
- Immediacy: The learner must be able to apply the new learning immediately.
- (20/40/80 Rule): The learner remembers more when visuals are used to support the verbal; adults remember best when they practice the new skill. We remember 20 percent of what we hear, 40 percent of what we hear and see, and 80 percent of what we hear, see and do.
- Affective, psychomotor and cognitive learning: Learning should involve feelings and doing as well as thinking.
- Safety: The learner needs to feel that their ideas and contributions will be valued—that they will not be ridiculed or belittled.

## 9. Schedules of learning sessions and topics at Mothers' Clubs

### a) Schedule of learning sessions at Mothers' Clubs (for pregnant and lactating women)

<b>Month of Pregnancy</b>	<b>Mothers' Clubs for pregnant women</b>
5	Other topics: Diet for pregnant women
6	Other topics: Dangerous signs during pregnancy
7	Other topics: Preparation of child delivery
8	<u>Session 1</u> Importance of breastfeeding (initiation of breastfeeding, exclusive breastfeeding, continue breastfeeding until 2 years of age or beyond) Discouragement of bottle use Comparison of recommendations with local beliefs and practices
9	<u>Session 2</u> Initiation of breastfeeding, importance of colostrum Exclusive breastfeeding until 6 months Position and attachment of the baby during feeding, frequency of breastfeeding
<b>Child age (months)</b>	<b>Mothers' Clubs for lactating women</b>
1	<u>Session 3</u> Sharing experience with exclusive breastfeeding Review of exclusive breastfeeding Review of position and attachment of the child during feeding, frequency of breastfeeding and care of nipples and breasts Expression of breast milk Drinking water while breastfeeding
2	<u>Session 4</u> Sharing experiences related to drinking water while breastfeeding and expression of breast milk Sharing experience related to exclusive breastfeeding Discussing constraints/problems related to exclusive breastfeeding and offering solutions
3	<u>Session 5</u> Exclusive breastfeeding and Lactational Amenorrhea Method (LAM)
4	<u>Session 6</u> Introduction of complementary foods when children are about 6 months old Importance of continued breastfeeding until 2 years of age or beyond
5	<u>Session 7</u> Overview on child development and feeding chart (for children 6-11 months of age: food consistency, participating in feeding, frequency, quantity of food) Learning how to eat Important information about the first food (in addition to breast milk) given to children Preparation of the next session: preparing nutritious foods
6	<u>Session 8</u> Preparing nutritious foods/cooking session Tasting and discussion Repetition of learning how to eat <u>Session 7</u> Preparation of the next session: preparing nutritious foods

**b) Schedule of learning sessions at Mothers' Clubs (for mothers of 6-23 month old children)**

<b>Month in the program</b>	<b>Mothers of 6 to 23 months old children</b>
1	<u>Session 8</u> Preparing nutritious foods/cooking session Tasting and discussion Repetition of learning how to eat
2	<u>Session 9</u> Repetition on child development and feeding chart (for children 0 to 11 months of age) Helping children to eat Feeding during and after illness Preparation of the next session: variety of food
3	<u>Session 10</u> Sharing experience with one new feeding practice (related to helping children to eat) Variety of food Sharing experience with preparing nutritious foods at home
4	<u>Session 11</u> Hygiene in food preparation, handling and storage – Diarrhea prevention Feeding during and after illness
5	<u>Session 12</u> Child development and feeding chart (for children 12-23 months of age) Discussing food variety issues (special complementary foods, fruits and vegetables, vitamin A-rich foods, animal foods, evening meal) Preparing a creative way to communicate one feeding recommendation of the child development and feeding chart
6	<u>Session 13</u> Causes of malnutrition Different types of malnutrition Recuperation of moderately malnourished children
7	Other topics: Diarrhea
8	Other topics: Immunization
9	Other topics: Hygiene
10	Other topics: Use of Moringa Oleifera
11	Other topics: HIV/AIDS
12	Other topics: Family Planning
13	Other topics: Home gardening
14	<u>Session 12</u> Child development and feeding chart (for children 12-23 months of age) Discussing food variety issues (special complementary foods, fruits and vegetables, vitamin A-rich foods, animal foods, evening meal) Preparing a creative way to communicate one feeding recommendation of the child development and feeding chart
15	Other topics: HIV/AIDS
16	Other topics: Family Planning
17	Other topics, placement in schedule to be determined
18	Other topics, placement in schedule to be determined

## 10. Schedules of learning sessions and topics at prenatal and postnatal consultations

<b>Month of pregnancy</b>	<b>Prenatal Consultations</b>
5	Other topics: Dangerous signs during pregnancy
6	Other topics: Family Planning
7	Other topics: Breastfeeding
8	Other topics: Preparation of child delivery
9	<u>Session 2, steps 2+5</u> Review of initiation of breastfeeding, position and attachment of the baby during feeding, frequency of feeding
<b>Age of the infant</b>	<b>Postnatal Consultations</b>
1	Other topics: Diet for lactating mothers
2	<u>Session 3, step 2+5</u> Sharing experience with exclusive breastfeeding and offering solutions for related constraints/problems Expression of breast milk
3	Other topics: Family Planning (LAM)

# Age-based preventive targeting of food assistance and behaviour change and communication for reduction of childhood undernutrition in Haiti: a cluster randomised trial

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## Summary

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**Background** Food-assisted maternal and child health and nutrition programmes usually target underweight children younger than 5 years of age. Previous evidence suggests that targeting nutrition interventions earlier in life, before children become undernourished, might be more effective for reduction of childhood undernutrition.

**Methods** We used a cluster randomised trial to compare two World Vision programmes for maternal and child health and nutrition, which included a behaviour change and communication component: a preventive model, targeting all children aged 6–23 months; and a recuperative model, targeting underweight (weight-for-age Z score <−2) children aged 6–60 months. Both models also targeted pregnant and lactating women. Clusters of communities (n=20) were paired on access to services and other factors and were randomly assigned to each model. Using two cross-sectional surveys (at baseline and 3 years later), we tested differences in undernutrition in children aged 12–41 months (roughly 1500 children per survey). Analyses were by intention to treat, both by pair-wise community-level comparisons and by child-level analyses adjusting for the clustering effect and child age and sex. This study is registered with ClinicalTrials.gov, number NCT00210418.

**Findings** There were no differences between programme groups at baseline. At follow-up, stunting, underweight, and wasting (using WHO 2006 reference data) were 4–6 percentage points lower in preventive than in recuperative communities; and mean anthropometric indicators were higher by +0.14 Z scores (height for age; p=0.07), and +0.24 Z scores (weight for age and weight for height; p<0.0001). The effect was greater in children exposed to the preventive programme for the full span between 6 and 23 months of age than in children exposed for shorter durations during this period. The quality of implementation did not differ between the two programmes; nor did use of services for maternal and child health and nutrition.

**Interpretation** The preventive programme was more effective for the reduction of childhood undernutrition than the traditional recuperative model.

## Introduction

The United States Agency for International Development (USAID) spends nearly US\$100 million a year on food-assisted child health and nutrition programmes, which aim to reduce food insecurity and childhood undernutrition. These programmes usually target services to families with children younger than 5 years who are identified through growth-monitoring activities as underweight. Although widely implemented, these programmes and other large-scale government-sponsored programmes targeted to underweight children have shown little effect in reducing childhood undernutrition.<sup>1–5</sup>

In this paper, targeting underweight children is called a recuperative approach. The term refers to targeting children with mild and moderate underweight (Z scores for weight-for-age of less than −1 [mild] or −2 [moderate]). We do not address severe acute undernutrition, which is defined as weight-for-height Z scores of less than −3, nor do we discuss related treatment approaches such as community therapeutic care.<sup>6</sup>

Research evidence suggests that a preventive approach based on targeting nutrition interventions as early as

possible in children's lives might be more effective than recuperation to reduce childhood undernutrition. Published studies on the process and timing of growth faltering, and on the effectiveness of food supplementation, provide convincing evidence that the first 2 years of life (in addition to the prenatal period) is the window of opportunity for nutritional interventions. Research has shown that this period is not only the time of greatest vulnerability<sup>7,8</sup> and risk of possibly irreversible long-term physical and mental damage,<sup>9–14</sup> but is also the period of greatest benefits from nutrition interventions.<sup>15–17</sup> Consequently, there is increasing interest in developing, implementing, and assessing nutritional interventions to address childhood undernutrition based on a preventive approach.

This paper presents the results of an evaluation study based on a cluster randomised trial, which compared the effect on child growth of a preventive and a recuperative approach of targeting a food-assisted maternal and child health and nutrition programme in Haiti. The hypothesis was that targeting all children aged 6–23 months (preventive) would be more effective

at reducing the community prevalence of stunting, underweight, and wasting than would targeting underweight children younger than 5 years (recuperative). A cluster randomised trial was used for the evaluation because the two programme models were delivered at the community level, rather than the individual level.

## Methods

### Setting and programmatic context

The research was undertaken in the context of a new 5-year programme implemented by World Vision-Haiti in the Central Plateau region of Haiti, where World Vision operates in all 12 communes and serves a population of roughly 600 000.

The programme offers a range of services for pregnant and lactating women and for children 0–59 months of age, and is based on five contact points between programme staff and beneficiaries: (a) rally posts, where beneficiary identification is done, and where health education, growth monitoring, and services for preventive maternal and child health and nutrition are provided; for children 0–5 years of age, these include immunisation, vitamin A supplementation, and the provision of oral rehydration salts and anthelmintic drugs; (b) mothers' clubs, where small groups of beneficiaries gather with programme health staff to discuss health, hygiene, and nutrition topics in the context of the programme's behaviour change and communication strategy; (c) food-distribution points, where beneficiaries collect their monthly food rations; (d) prenatal and postnatal consultations; and (e) home visits for newborn infants or severely undernourished children.

The maternal and child health services offered at rally posts are open to all community members. Food assistance, however, is targeted only to pregnant and lactating women (up to 6 months post-partum) and to children identified as underweight (weight-for-age Z scores  $<-2$ ). The monthly food ration for pregnant and lactating women consists of 5 kg of soy-fortified bulgur, 1.5 kg of vegetable oil, and 2 kg of lentils, and an indirect (family) ration of 5 kg of wheat-soy blend, 1.5 kg of oil, and 2 kg of lentils. The monthly food ration for children consists of 8 kg of micronutrient-fortified wheat soy blend and 2 kg of oil, and an indirect ration intended for general household consumption of 10 kg of wheat-soy blend and 2.5 kg of lentils. Food assistance is conditional on monthly participation in the rally posts and mothers' clubs. Pregnant and lactating women are eligible to receive food assistance for up to 6 months each, and underweight children for up to 9 months. According to World Vision management, the rationale for providing food supplements to undernourished children for 9 months is based on programmatic experience, which suggests that 9 months is sufficient for most children

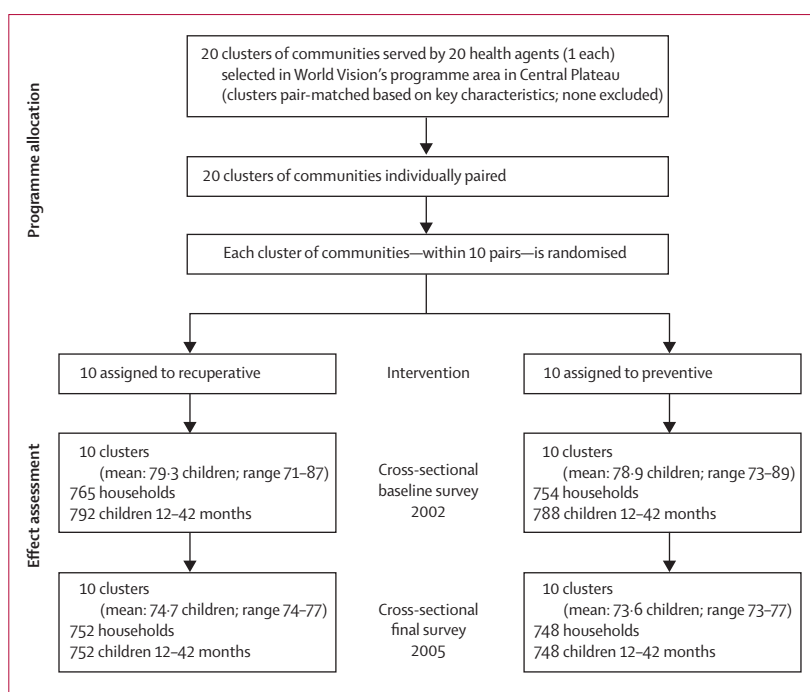


Figure 1: Trial Profile

to recover from undernutrition. To our knowledge, this assumption is not supported by scientific research. Children are eligible for re-entry in the programme if they are still underweight 1 year after having exited the programme.

### Intervention packages

Our evaluation compared two different models of targeting food assistance to children and the behaviour change and communication intervention to their mothers at the mothers' clubs: the traditional, recuperative model described above, which targets underweight children (weight-for-age Z scores  $<-2$ ) 6–59 months of age, and provides them with food assistance for 9 months; the preventive model, which targets all children aged 6–23 months and provides up to 18 months of food assistance to children. In this model, children 24–59 months of age with weight-for-age Z scores of less than  $-3$  are also eligible for programme benefits for 9 months (as in the recuperative model).

The two programme models offer exactly the same services to pregnant and lactating women and to children at the rally posts and in home visits, and provide the same monthly food ration conditional on monthly attendance at rally posts and mothers' clubs. The only three aspects that differ between the programmes are: (1) eligibility criterion (age 6–23 months or weight-for-age Z scores less than  $-3$  for children aged 24–59 months in the preventive group vs weight-for-age Z scores less than  $-2$  for children aged 6–59 months in the recuperative group); (2) the duration

	Recuperative (n=10 clusters)	Preventive (n=10 clusters)
Nutritional status indicators—cluster level*		
Height-for-age Z score (intracluster correlation (ICC=0.015))	-1.65 (0.10)	-1.69 (0.04)
Weight-for-age Z score (ICC=0.008)	-1.02 (0.06)	-0.97 (0.08)
Weight-for-height Z score (ICC=0.005)	-0.18 (0.03)	-0.18 (0.05)
Other child characteristics (individual level)†‡		
	N=792	N=788
Stunting prevalence	37.4%	36.7%
Underweight prevalence	17.8%	17.6%
Wasting prevalence	4.3%	5.2%
Age (years)	29.4 (7.6)	29.3 (7.9)
Sex (female)	48.0%	51.4%
Breastfed within 1 h	19.3%	16.2%
Fed meals at least minimum recommended number of times (3 times a day) at 12–23 months in previous 24 h	58.7%	57.6%
Mean number of food groups consumed by child in previous 24 h	5.1 (1.5)	5.0 (1.5)
Consumed meat, fish, or eggs in previous 24 h	87.3%	89.2%
Caregiver characteristics‡		
	N=765	N=759
Age (years)	30.8 (7.0)	30.8 (8.0)
Maternal height at baseline (cm)	157.9 (11.6)	157.6 (15.4)
Years of schooling	1.4 (2.3)	1.6 (2.5)
Never attended school	53.2%	50.7%
Occupation of care giver		
Unemployed	16.1%	16.5%
Farming	43.1%	42.5%
Trade/market	32.7%	32.0%
Household characteristics‡		
	N=765	N=755
Male head of household	90.8%	90.1%
Occupation of head of household		
Unemployed	2.0%	1.4%
Farming	85.5%	86.8%
Number in household		
Own house	94.1%	91.1%
Have electricity	2.1%	1.9%
Have sanitation facility	57.3%	56.0%
Have tap water in the house	1.6%	0.9%

Data are mean (SD) unless otherwise specified. ICC=intracluster correlation. \*Differences in means were tested using cluster level pair-wise comparisons and paired *t* test, with mean (SE). †Differences in the prevalence of stunting, underweight, and wasting were tested using a random effects logit model, controlling for cluster effects. ‡Differences in other child, caregiver, and household characteristics were tested at the individual level, with *t* tests (for means) and  $\chi^2$  tests (for proportions). §None of the differences between the groups were significant.

**Table 1: Comparison of the programme communities at baseline§**

of eligibility to receive the intervention for food and behaviour change and communication (9 months in recuperative, up to 18 months for preventive); (3) the focus, timing, sequencing, and number of sessions of the intervention for behaviour change and communication at mothers' clubs.

### Behaviour change and communication strategy

The behaviour change and communication strategy used mothers' clubs as the main venue for delivery. Extensive formative research informed the development of relevant messages and the translation of the Pan

American Health Organization/WHO Guiding Principles for Feeding Breastfed Children<sup>18</sup> into feasible and locally acceptable child care and feeding practices.<sup>19</sup> A set of 13 learning sessions was developed on topics such as healthy pregnancy, breastfeeding, child development, child caring and feeding practices, hygiene in food handling and storage, and cooking demonstrations of nutrient-dense complementary foods. For the preventive model, a precise schedule was established to ensure that delivery of the information was age-specific and reached caregivers at the time when they most need the information. For the recuperative model, the learning sessions were designed to address topics of relevance for undernourished children, such as the causes of undernutrition, nutritious recipes, feeding during illness, and hygiene in food handling and storage. The mothers' club sessions lasted around an hour, and were facilitated by health workers trained in both technical content and adult education techniques. The health workers used various learning approaches (eg, demonstrations, food tasting, small group activities, and general discussions).

Food distribution and other components of the intervention packages were implemented in August and September, 2002, immediately after the baseline survey. The new behaviour change and communication package, however, was fully implemented only 8–9 months later, in May, 2003.

### Study design and sample size

The evaluation was done in three communes of Central Plateau—Hinche, Thomonde, and Lascahobas—and used a cluster-randomised design. Two cross-sectional surveys were done to obtain information at baseline (May–September, 2002) and exactly 3 years later in the same communities (2005; figure 1). The main outcomes were mean Z scores for height for age, weight for age, and weight for height, and the prevalence of childhood stunting, underweight, and wasting.

20 clusters of communities, each attended by one health agent (World Vision local staff) were selected for the evaluation from programme areas in Central Plateau. These communities were new communities in which World Vision had planned to start their food-assisted programme. Each cluster was paired with another one selected to be similar in geographical and ecological conditions, access to a health-care centre, and the existence of a World Vision private sponsorship programme. Within each pair of clusters, one was randomly assigned to the preventive model and the other one to the recuperative model. For each pair of matched clusters, we drew lots to determine which of the clusters would be assigned to the preventive group. The first cluster drawn from the pair was assigned to the preventive group and the one remaining was assigned to the recuperative group. Thus, the unit of randomisation was the cluster of communities covered by one health agent.

For cost and logistical reasons, only ten pairs of clusters could be included in the study. We estimated a sample size of 75 children per cluster, for a total of 1500 children. This sample size provided the ability to detect differences between groups in the final survey of 7.5 percentage points or larger in the prevalence of stunting, assuming an average design effect of 1.5 (clustering of characteristics within cluster), an alpha of 0.05, and power of 0.90. This sample size also provided the ability to detect differences larger than 7.5 percentage points in underweight, 5 percentage points in wasting, and differences larger than  $-0.2$  in mean Z scores for height for age, weight for age, and weight for height.

### Age group selected for effect assessment and sample sizes

Children 12–41 months of age were selected for the effect assessment on the basis of available scientific evidence on the age of greatest nutritional vulnerability and largest potential for response to nutritional interventions.<sup>7,8,15–17,20</sup> Children regarded as most likely to benefit from the preventive model were those who were first exposed to the supplementation between 6 and 11 months of age, and for the whole duration of their period of greatest vulnerability (ie, up to 24 months of age). These children would be 24–41 months old at the final survey. We also included children 12–23 months of age who were only partly exposed (ie, had not yet reached 24 months at final survey). For the recuperative model, the 12–41 months age range was also expected to include mostly children who had already been eligible for the programme (underweight and younger than 5 years), with some possible truncation (ie, still in the programme) in children in the younger age range, given that the peak prevalence of underweight children in Haiti is 12–17 months.<sup>21</sup>

Programme implementation started immediately after the baseline survey, except for the new behaviour change and communication strategy, which was implemented 9 months later. This delay meant that children who were 36–41 months at final survey were not fully exposed to all programme components. Thus, the sample at final survey includes children 24–35 months of age who were fully exposed to the programme, and two groups of partly exposed children (12–23 months and 36–41 months).

### Survey design and data collection

The baseline and final surveys used a community and a household questionnaire. The community questionnaire was administered using group interviews with key community members, and gathered information on access to the nearest major town, the main activity of the residents, key geographical characteristics, and access to services. The household questionnaire was administered to the mother of the index child, and collected data for household and maternal

	Recuperative (10 clusters, 746 children)	Preventive (10 clusters, 735 children)	Difference	p
<b>Height-for-age Z scores</b>				
Unadjusted* (ICC=0.016)	-1.68 (0.05)	-1.53 (0.06)	0.15	0.071
Adjusted for child age and sex†	-1.67 (0.05)	-1.53 (0.05)	0.14	0.018
<b>Weight-for-age Z scores</b>				
Unadjusted (ICC=0.021)	-1.21 (0.04)	-0.97 (0.06)	0.24	0.003
Adjusted for child age and sex	-1.20 (0.05)	-0.96 (0.05)	0.24	0.000
<b>Weight-for-height Z scores</b>				
Unadjusted (ICC=0.017)	-0.46 (0.04)	-0.23 (0.06)	0.23	0.001
Adjusted for child age and sex	-0.46 (0.05)	-0.22 (0.05)	0.24	0.000

Data are mean (SE) unless specified otherwise. ICC=intracluster correlation. \*Significance of differences in unadjusted means was tested using a paired t test of cluster-level means. †Random-effects regression models were used to analyse child-level data, controlling for child age and sex, and adjusting for clustering at the pair level.

Table 2: Mean child anthropometric outcomes at final survey

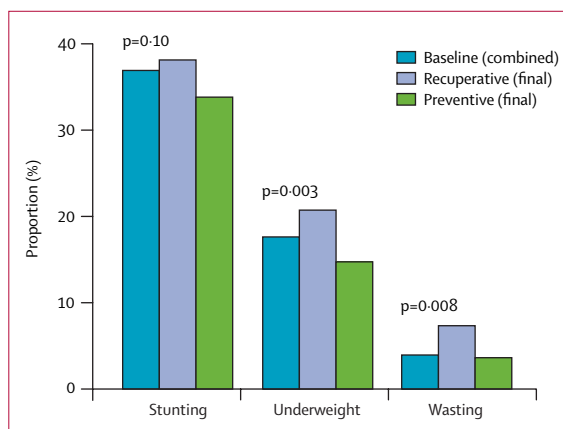


Figure 2: Prevalence of stunting, underweight, and wasting at baseline and final survey, by programme group

Groups were not different at baseline. Random-effects logit models adjusting for cluster effects and controlling for child age and sex were used to assess the significance of differences between programme communities. p values are for differences between preventive and recuperative groups at final survey.

characteristics and on child caregiving practices (eg, feeding, health-care seeking, hygiene, discipline). Anthropometric measurements (height and weight) were taken for children 6–41 months of age and their caregivers; only anthropometric data for children 12–41 months were used in the impact evaluation.

Households were selected for the survey if they had at least one child 12–41 months of age, based on census data collected by the research team before the surveys. The baseline survey included 792 children with anthropometric data in the preventive group and 788 in the recuperative group, and the final survey included 749 children in the preventive group and 751 in the recuperative group.

Field workers in charge of data collection for both surveys were unaware of the study objectives and were unrelated to World Vision programmes. Likewise, World Vision staff were responsible for programme implementation and were not involved in data collection for the evaluation study.



Approval for the study was obtained from the Cornell University Committee on Human Subjects, the office of Coordination of the National Nutrition Programme (situated within the Ministry of Health) in Haiti, and World Vision-Haiti. All mothers of study children were provided with detailed information about the study in writing and verbally at recruitment, and all gave written or verbal informed consent.

### Statistical analysis

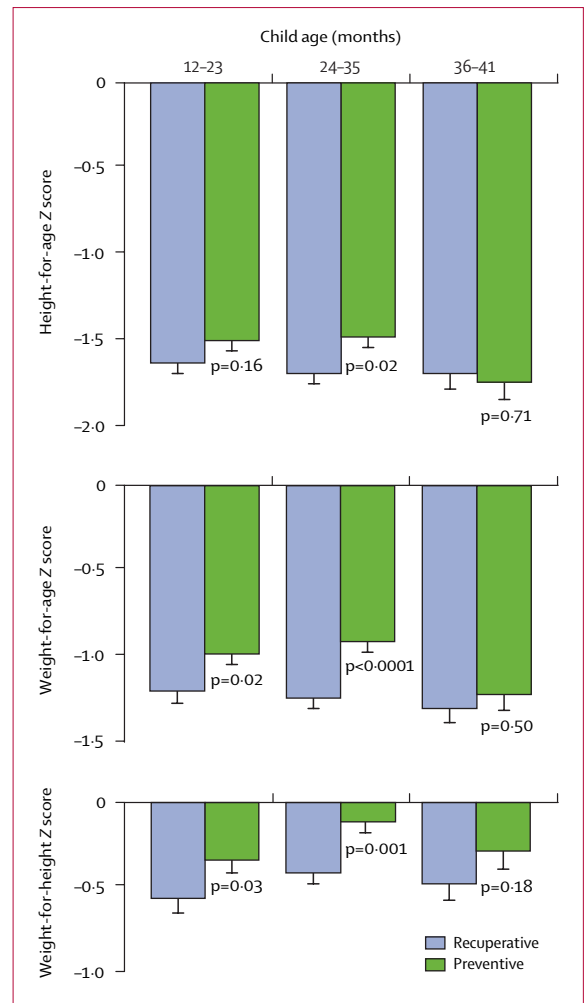
All analyses examined the outcomes according to intention-to-treat analyses and included both programme participants and non participants. The correlation between the baseline and final values was too low ( $\leq 0.50$ ) to warrant taking the baseline values into account<sup>22</sup> in the analyses. Differences between programme communities in the main outcomes of interest (mean Z scores for height for age, weight for age, and weight for height) were tested using a pair-wise comparison at the cluster level (and a paired *t* test for statistical significance). Analyses were also done at the child level using random effects regression modelling and adjusting for the clustering at the pair level<sup>22</sup> and controlling for child age and sex. Similarly, differences in the prevalence of stunting, underweight, and wasting at the cluster level were tested with random-effects logit models (xtlogit in Stata 9) that adjusted for the clustering at the pair level and controlled for child age and sex. Anthropometric data were entered in Epi-Info 6 and Z scores were calculated using the WHO 2006 reference data.<sup>23,24</sup>

### Role of the funding source

The evaluation was funded by many sources, including USAID through the Food and Nutrition Technical Assistance (FANTA) Project of the Academy for Educational Development (AED); USAID-Haiti; World Vision-Haiti; the Government of Germany; and the World Food Programme. FANTA/AED and World Vision participated in the study design; neither participated in the data collection, analysis, or writing of the manuscript, but both gave extensive feedback at all stages of the project. Freedom to publish the study findings was protected contractually in the agreement between the respective funding sources and the International Food Policy Research Institute.

### Results

There were no differences between the groups at baseline in any of the child anthropometric measures or in other child, maternal, and household characteristics (table 1). At the end of the 3-year intervention, children from preventive communities had significantly higher mean Z scores for height for age (+0.14), weight for age (+0.24), and weight for height (+0.24) than the recuperative group (child-level means adjusted for cluster effect and for child age and sex; table 2). Differences in the prevalence of undernutrition



**Figure 3: Mean anthropometric outcomes by child age and programme group at final survey**  
Groups were not different at baseline. Random-effects regression models, adjusting for cluster effects, and controlling for child age and sex, were used to assess significance of differences between groups. Error bars represent standard errors.

(adjusted for child age and sex using logit models) confirm the greater effect of the preventive model: stunting, underweight, and wasting were 4, 6, and 4 percentage points lower, respectively, in preventive than recuperative communities (figure 2;  $p=0.10$  for stunting;  $p=0.003$  for underweight;  $p=0.008$  for wasting). The prevalence of severe undernutrition (Z score  $< -3$ ) was also lower in preventive than recuperative communities at final survey, but differences were significant only for underweight (5.7% in recuperative communities compared with 3.4% in preventive communities). Overall, the differences in favour of the preventive group were greatest (and significant) in children 24–35 months of age at final survey (figure 3). These children were exposed to the programme during their entire period of greatest nutritional vulnerability (ie, when they were between 6 and 23 months of age),

whereas children in the two other age groups were only partly exposed.

Table 3 shows the use of programme services in preventive and recuperative communities. The percentage of pregnant and lactating women who received food assistance and who participated in mothers' clubs was high (57–70%) and similar between the two programme models, as expected by design. Use of programme services for children was also high: over 95% of mothers in both groups report having taken their children to the rally posts at least once (and on average 7 times) between baseline and final surveys, and 50% in the month preceding the survey. As expected given the different targeting criteria, receipt of food assistance by children 6 months or older differed markedly between programme models: about 73% of the children in preventive communities were ever enrolled in the programme (ie, received food assistance), compared with only 28% in recuperative communities. All children in the sample from preventive communities had at some point during the 3-year study period been between 6 and 24 months of age and were therefore eligible for the programme. By contrast, only children who had a weight-for-age Z score less than  $-2$  at some point during the study period were eligible for the programme in recuperative communities. Thus, we did not expect 100% participation in recuperative communities. Consistent with programme design, children in the preventive model received food assistance on average for longer (12 months) than in the recuperative model (7.5 months), and entered the programme at a younger average age (8 months vs 14 months). This finding was expected because the peak prevalence of underweight in this population is in the first half of the second year.

## Discussion

This study shows, using a cluster-randomised trial, that an age-based preventive model for delivering a package of food assistance and maternal and child health and nutrition interventions was more effective at reducing childhood undernutrition than the traditional, recuperative model based on targeting underweight children. Results of our operational research done in 2004, also showed that the two programme models were operating equally well and that the organisational conditions were essentially identical (eg, with respect to staff characteristics, workload, logistics, incentive structure, supervision, and monitoring system). Use of programme services at rally posts and mothers' clubs was also similar between the groups. Overall, there were no differences between the two intervention groups in the programmes and services made available to the communities by World Vision over the period of the evaluation. Thus we rule out the possibility that the greater effect of the preventive model was due to organisational or implementation factors.

	Programme communities		p*
	Recuperative (n=752)	Preventive (n=748)	
<b>Mother</b>			
Received food assistance when pregnant	57.2%	58.2%	0.64
Received food assistance when lactating	62.2%	66.3%	0.11
Participated in mothers' clubs when pregnant	62.9%	62.8%	0.94
Participated in mothers' clubs when lactating	64.8%	69.8%	0.04
<b>Child</b>			
Ever taken to rally post (2002–05)	97.1%	96.7%	0.63
Taken to rally posts in month before survey	49.7%	52.6%	0.29
Number of times taken to rally posts in past year	7.1 (3.2)	7.5 (3.2)	0.05
Ever received food assistance	28.2%	73.1%	0.0001
Number of times received wheat soy blend (among those who ever received food)	7.5 (4.3)	11.7 (3.7)	0.0001
Age first received food assistance (months)	13.6 (3.9)	7.7 (2.1)	0.0001

Data are mean (SD) unless specified otherwise. \*p values are only presented for variables where  $p \leq 0.05$  (using random effects regression models, adjusting for cluster effects).

**Table 3: Programme participation and use of services**

Various findings support the plausibility of our results. Children who were exposed to the programmes during the entire period of greatest nutritional vulnerability (ie, between 6 and 24 months of age) benefited more than children who were only partly exposed.

Sample sizes were not derived to estimate differences between groups in changes between baseline and post intervention. However, the data suggest a slight deterioration in prevalence of undernutrition in recuperative communities, especially in the two weight indicators (underweight and wasting). This finding is plausible in view of the severe political, economic, and climatic hardship experienced in Haiti during the 3 years of the study (2002–05).<sup>25</sup> Although the study did not include a control group, and therefore cannot assess the absolute effect of either model, results from the 2005 Demographic and Health Survey<sup>26</sup> suggest that undernutrition rates soared from 2000 to 2005 in the Central Department where the study was done: stunting increased by 5 percentage points in the region, whereas underweight prevalence almost doubled (17% to 32%) and wasting more than tripled (2.2% to 7.6%). Note that these prevalences are derived from the NCHS/CDC/WHO reference standards<sup>27</sup> and are therefore not comparable with our estimates, which used the new WHO reference standards.<sup>23</sup> Overall, our findings suggest that both programme models might have mitigated the effect of the crisis on childhood undernutrition, but that the preventive model was more effective in doing so.

The magnitude of differences in favour of the preventive model in adjusted mean anthropometric indicators (0.14–0.24 Z scores) is in the range reported in effectiveness trials aimed at reducing childhood

undernutrition through improved complementary feeding practices.<sup>28</sup> Similarly, a review of USAID food-assistance programmes documents an average reduction in underweight prevalence of 2 percentage point per year.<sup>29</sup> Although the studies included in these reviews, which used before-and-after or post-intervention designs with a control group, and the reference standards of NCHS/CDC/WHO, are not directly comparable to our study (which compared two programme models and used WHO standards), they are indicative of a range of effects that might be expected from this type of intervention. If we assume that our recuperative model had some effect on reducing undernutrition (as suggested by the review of USAID food-assisted maternal and child programmes),<sup>30</sup> then the larger effect of the preventive model must be viewed as additional to that of the recuperative model.

Our study did not include a control group because of cost and logistical constraints, and concerns about inequitable beneficence. A control group would have allowed an assessment of the effect of each programme model compared with no intervention. The evaluation also compared two packages of interventions, but not specific contributions of the different intervention components, which limits inferences about the effectiveness of models that have different design components.

We believe that the findings of the study are generalisable to similar resource-constrained populations, especially in view of the remarkably similar patterns of growth faltering that are seen worldwide.<sup>7,8</sup> Both programme models were implemented and functioning under high-quality operational standards. At the same time, they were facing normal programmatic constraints, in addition to the extraordinarily difficult conditions due to the country's severe climatic, political, and economic turmoil. Therefore, we suggest four conditions under which these results can be generalised: good programme design based on sound formative research; effective implementation, and service delivery monitored by operations research; good incentive structure and high staff motivation monitored and fostered by effective staff supervision; and similar or higher levels of undernutrition. Although the preventive model might still be effective in areas with lower levels of undernutrition than in Haiti, geographical or community-based targeting would probably result in better use of resources where undernutrition levels are fairly low.

Although this study has shown greater effectiveness of the preventive approach in the poor rural context of Haiti, more research is needed to refine the design and strengthen the implementation and targeting of preventive models of delivering nutrition interventions to accelerate progress in preventing childhood undernutrition in other programmatic and geographical contexts.

#### Contributors

MTR was principal investigator of the project, designed the study with PM, J-PH, GP, LM, and BH, and wrote the manuscript with PM. PM, CL, and MA coordinated and supervised data collection. PM, MA, JM, J-PH, and MTR analysed and interpreted the data. GB commissioned the research and provided critical support throughout the study. LM and BH ensured effective implementation of the programme and provided field support. All authors read and commented on the manuscript.

#### Conflict of interest statement

We declare that we have no conflict of interest.

#### Acknowledgments

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#### References

- 1 Beaton G, Ghassemi H. Supplementary feeding programs for young children in developing countries. *Am J Clin Nutr* 1982; **34** (suppl): 864–916.
- 2 World Bank. The Bangladesh Integrated Nutrition Project. Effectiveness and Lessons. Bangladesh Development Series—paper no 8. Dhaka: The World Bank, 2005.
- 3 Save the Children. Thin on the Ground. Questioning the evidence behind World Bank-funded community nutrition projects in Bangladesh, Ethiopia and Uganda. London: Save the Children, 2003.
- 4 Mason JB, Sanders D, Musgrove P, Soekirman, Galloway R. "Community Health and Nutrition Programs." Disease Control Priorities in Developing Countries (2nd edn). New York: Oxford University Press, 2006: 1053–74. DOI:10.1596/978-0-821-36179-5/Chpt-56.
- 5 Gragnolati M, Shekar M, Das Gupta M, Bredenkamp C, Lee Y-K. India's undernourished children. A call for reform and action. Health, Nutrition and Population (HNP) Discussion Paper. Washington: The International Bank for Reconstruction and Development/The World Bank, 2005.
- 6 Collins S, Dent N, Binns P, Bahwere P, Sadler K, Hallam A. Management of severe acute undernutrition in children. *Lancet* 2006; **368**: 1992–2000.
- 7 Shrimpton R, Victora CG, de Onis M, Costa Lima R, Blössner M, Clugston G. Worldwide Timing of Growth Faltering: Implications for Nutritional Interventions. *Pediatr* 2001; **107**: e75. DOI:10.1542/peds.107.5.375.
- 8 Ruel M. The natural history of growth failure: importance of intrauterine and postnatal periods. In: Martorell R, Haschke F, eds. Nutrition and Growth. Nestlé Nutrition Workshop Series, *Pediatric Program*, Vol 47. Philadelphia: Nestec Ltd, Vevey/Lippincott Williams & Wilkins, 2001: 123–58.
- 9 Wachs TD. The nature and nurture of child development. *Food Nutr Bull* 1999; **20**: 7–22.
- 10 Grantham-McGregor SM, Fernald LC, Sethuraman K. Effects of health and nutrition on cognitive and behavioral development in children in the first three years of life. Part 1: Low birthweight, breastfeeding, and protein-energy undernutrition. *Food Nutr Bull* 1999; **20**: 53–75.
- 11 Walker SP, Wachs TD, Meeks Gardner J, et al, and the International Child Development Steering Group. Child development: risk factors for adverse outcomes in developing countries. *Lancet* 2007; **369**: 145–57.
- 12 Schroeder DG, Martorell R, Rivera JA, Ruel MT, Habicht J-P. Age differences in the impact of nutritional supplementation on growth. *J Nutr* 1995; **125**: 1051S–59S.
- 13 Lutter CK, Mora JO, Habicht J-P, Rasmussen KM, Robson DS, Herrera MG. Age-specific responsiveness of weight and length to nutritional supplementation. *Am J Clin Nutr* 1990; **51**: 359–64.
- 14 Rivera JA, Habicht J-P. The recovery of Guatemalan children with mild to moderate wasting: Factors enhancing the impact of supplementary feeding. *Am J Public Hlth* 1996; **86**: 1430–34.
- 15 Martorell R, ed. The effects of improved nutrition in early childhood: The INCAP follow-up study. *J Nutr* 1995; **125**: 1027–38.

- 16 Engle PL, Black MM, Behrman JR, Cabral de Mello M, Gertler PJ, Kapiriri L, Martorell R, Young ME, the International Child Development Steering Group. Strategies to avoid the loss of developmental potential in more than 200 million children in the developing world. *Lancet* 2007; **369**: 229–42.
- 17 Grantham-McGregor SM, Pollitt E, Wachs TD, Meisels SJ, Scott KG. Summary of the scientific evidence on the nature and determinants of child development and their implications for programmatic interventions with young children. *Food Nutr Bull* 1999; **20**: 4–6.
- 18 PAHO/WHO. Guiding principles for complementary feeding of the breastfed child. Washington: Pan American Health Organization/World Health Organization, 2003.
- 19 Menon P, Ruel MT, Loechl C, Pelto G. From research to program design: the use of formative research to develop a behavior change communication program to prevent undernutrition in Haiti. Food Consumption and Nutrition Division Paper 170, Washington: International Food Policy Research Institute, 2003.
- 20 Rivera JA, Habicht J-P. Effect of supplementary feeding on the prevention of mild to moderate wasting in conditions of endemic undernutrition. *WHO Bull* 2002; **80**: 926–32.
- 21 EMMUS-III (Enquête Mortalité Morbidité et Utilisation des Services) 2000/2001. Ministère de la Santé Publique et de la Population (MSPP), Institut Haïtien de l'Enfance (IHE), ORC Macro. Calverton: IHE and ORC Macro, 2001.
- 22 Murray DM. Design and Analysis of Group-Randomized Trials. Oxford: Oxford University Press, 1998.
- 23 WHO. Child growth standards: length/height-for-age, weight-for-age, weight-for-length, weight-for-height and body mass index-for-age: methods and development. Geneva: World Health Organization, 2006.
- 24 WHO Anthro 2005, Beta version Feb 17, 2006. Software for assessing growth and development of the world's children. Geneva: WHO, 2006. <http://www.who.int/childgrowth/software/en/> (accessed Dec 6, 2006).
- 25 International Crisis Group. Haiti's transition: hanging in the balance. Latin America/Caribbean Briefing No 7, Feb, 8 2005.
- 26 EMMUS-IV (Enquête Mortalité Morbidité et Utilisation des Services) 2000/2001. Ministère de la Santé Publique et de la Population (MSPP), Institut Haïtien de l'Enfance (IHE), ORC Macro. Calverton: IHE and ORC Macro, 2007.
- 27 World Health Organization (WHO). Measuring change in nutritional status: guidelines for assessing the nutritional impact of supplementary feeding programmes for vulnerable groups. Geneva: WHO, 1983.
- 28 Caulfield LE, Huffman SL, Piwoz EG. Interventions to improve the intake of complementary foods by infants 6–12 months of age in developing countries: impact on growth and prevalence of malnutrition and potential contribution to child survival. *Food Nutr Bull* 1999; **20**: 183–200.
- 29 Swindale A, Deitchler M, Cogill B, Marchione T. The Impact of Title II Maternal and Child Health and Nutrition Programs on the Nutritional Status of Children. Washington Food and Nutrition Technical Assistance Project, Academy for Educational Development, 2004.

Serve foods immediately after preparation while they are still hot



DidacArts, Mars 2003

Infant and young child feeding  
Session 11: Protecting your food - protecting your children

## Infant and young child feeding

### SESSION 1: IMPORTANCE OF GOOD BREASTFEEDING PRACTICES

#### **OBJECTIVES:**

**At the end of the session, the participants will have:**

1. Listened to a summary of the module on infant and young child feeding.
2. Discussed a story on the importance of breastfeeding and giving good advice.
3. Reviewed three recommended breastfeeding practices.
4. Explained local breastfeeding practices.
5. Discussed all of the breastfeeding recommendations.
6. Compared local practices with those recommendations.

#### **TIME:**

42 minutes

#### **METHODS:**

Story with pictures, discussion in pairs, short presentation by health agent, small-group discussion, presentation by the small groups, large-group discussion.

#### **PREPARATION/MATERIALS:**

- Prepare in advance the images you will need for the story.
- Prepare the images to go with each of the recommendations.

#### **STEPS:**

1. **Presentation to introduce the module on infant and young child feeding - 5 minutes**

Tell the women that this module will be on breastfeeding and complementary feeding. You will share with them what you know on the subject and you hope that you will also learn a lot from their own experiences.

#### **Essential information**

Breast milk is all that a baby needs during his first 6 months of life; it's always ready, it's clean and it's free. Breastfeeding is good for the baby and the mother.

Tell them that this training will take place in 2 parts.

In the first part, before giving birth, we will share a lot of ideas on:

- the importance of breastfeeding
- when to start breastfeeding

- exclusive breastfeeding
- how to hold the baby
- how often to breastfeed

In the second part, after giving birth, we will:

- share ideas on problems we encounter with exclusive breastfeeding
- look for solutions to breastfeed better
- practice how to express breast milk
- decide when to start giving other rich foods to complement breast milk
- decide what kinds of other foods to give to the babies to complement breast milk.

## **2. A story that shows the importance of breast milk - 3 minutes**

Tell the women this story and show them the images:

### **Myriam's Story**

This is a true story. Myriam is a mother with two children. Here is a picture of her with her first child (*show the first picture of the bottle-fed child*). Myriam's mother-in-law was concerned that Myriam might not have enough milk to feed this child and she encouraged her to feed formula to the baby and give other things to drink. The baby developed a diarrhea that never stopped. When Myriam went to the health center, the nurse told her that the baby suffered from malnutrition. The day after the picture was taken, this baby died. Myriam was very sad and asked that this picture be used to encourage women all over the world to start breastfeeding immediately after the baby's birth and to give only breast milk for the first six months.

Here is a picture of Myriam with her second child (*show the second picture of the breastfed child*). This baby has the same age as the other one when this picture was taken. When this child was born, Myriam's friends and family encouraged her to breastfeed him. They encouraged her to start giving him breast milk as soon as he was born and to give only breast milk—no other food or drinks—for the first six months of his life. You see Myriam breastfeeding him here. Myriam plans to start adding other healthy foods at about six months and to continue breastfeeding him until he is two years old. See how healthy he looks!

## **3. Discussion in pairs and in large group - 12 minutes**

Ask for a volunteer to describe what she/he heard and saw in the story.

Have the participants discuss in pairs the following questions:

*What happened to Myriam's first baby?*

*What were the causes of that?*

After several minutes, ask for volunteers to share what they discussed in their groups.

**Note for the health agent:**

Answer to the first question: *What happened to Myriam's first baby?*

Talk about: diarrhea, malnutrition, death

Answer to the second question: *What were the causes of that?*

Talk about: not breastfeeding, using the bottle

N.B.: If no one in the group mentions the bottle, bring it up and explain why it is not good to use the bottle.

Bottle-feeding your baby will cause him/her to have diarrhea more often:

- The bottle is often infected with germs that cause diarrhea. As a result, the bottle is a cause of death for many children. There are no advantages whatsoever in using the bottle.
- We must get rid of the bottle in order to protect our children against diarrhea.
- Do not use the bottle, use a cup instead, it is easier to clean and it does not hold germs.

In the large group, ask the following questions:

*What did Myriam's friends advise her for her second child?*

*What is the benefit for the child?*

Use the three images to summarize the recommendations deduced from Myriam's story.

1. Start breastfeeding the baby within one hour after birth.
2. Breastfeed exclusively during the first 6 months.
3. Continue breastfeeding for up to 2 years and introduce complementary foods at about 6 months.



*Note for the health agent: Do some "animation" here.*

#### **4. Small-group discussions about local breastfeeding practices - 15 minutes**

Ask the women to sit in small groups to discuss the following questions:

*How soon after your children were born did you, or other women in the community, start breastfeeding?*

*At what age did you, or other women in the community, start giving other foods and drinks besides breast milk to your babies?*

After about 5 minutes, get everyone's attention and ask a volunteer to present a summary of what was discussed in the group. After she has finished, ask:

*Would another group like to add anything different to what this group found?*

Continue asking for different ideas until all experiences related to both questions have been shared.

#### **5. Presentation of recommended practices - 5 minutes**

Present the three breastfeeding recommendations that have been made by health experts in this country. **Show a picture for each recommendation and ask the women to describe what they see to make sure it is clear.**

##### **Key Breastfeeding Recommendations**

- Start breastfeeding within about one hour of birth to make sure that the baby gets the "first milk" or colostrum. There should be no other foods given before or after the colostrum, such as water, other liquids or ritual foods.
- Give only breastmilk (no other foods or liquids, not even water) until a child is about six months old. Feed the child frequently—when he or she wants, day and night—and give at least five complete feeds (about 20 minutes or more in length) during which the breast is emptied.
- Start to give other foods when the child is around six months but continue to breastfeed him/her for two years or beyond.

**6. Large-group discussion to compare recommendations with local practices - 5 minutes**

After your presentation, ask:

*How does the recommendation about starting breastfeeding within about one hour of birth compare to practices here?*

After several responses, ask:

*How do the recommendations about giving only breast milk until the child is about six months old compare to practices here?*

Recognize local practices that are the same as the recommendations.

*After several answers, ask the women what advice they are going to give to other mothers who are breastfeeding their babies?*

Close the session by thanking the participants for their advice.

Tell them that you will be talking about the recommendations in the coming session and giving reasons for them.

## Infant and young child feeding

### SESSION 2: GOOD BREASTFEEDING PRACTICES

#### **OBJECTIVES:**

**At the end of the session, the participants will have:**

1. Reviewed the recommendation to start breastfeeding immediately after birth (giving colostrum) and the reasons for this recommendation.
2. Identified local practices that might keep women from practicing this recommendation.
3. Reviewed the recommendation regarding exclusive breastfeeding during the first 6 months and the reasons for this recommendation.
4. Reviewed the recommendations regarding:
  - Position and attachment of the baby during breastfeeding;
  - Frequency of breastfeeding.

#### **TIME:**

56 minutes

#### **METHODS:**

Large-group discussions, presentations by the health agent, small-group discussions and presentations to the large group.

#### **PREPARATION/MATERIALS:**

- Prepare the image that illustrates when to start breastfeeding babies after they are born.
- Prepare the image that illustrates exclusive breastfeeding during the first 6 months.
- Prepare the image that illustrates good positioning of the baby and frequent feeding.
- If possible, ask a breastfeeding mother to demonstrate good positioning of the baby during breastfeeding.

#### **STEPS:**

1. Large-group discussion to review the previous session - 4 minutes

*Who would like to remind us the key points we discussed in the last session?*

### Key review points on breastfeeding

1. Start breastfeeding babies within one hour after birth.
2. Breastfeeding exclusively during the first 6 months.
3. Continue breastfeeding up to 2 years and introduce complementary foods at about 6 months.

## 2. Presentation of recommendation about starting breastfeeding immediately after birth - 6 minutes

Present the recommendation about immediately breastfeeding after birth and the reasons health experts in this country have made this recommendation. Show the image that goes with this recommendation.

### Recommendation and Reasons for Immediate Breastfeeding after Birth

#### Recommendation:

Start breastfeeding within about one hour of birth to make sure that the baby gets the "first milk" or colostrum. There should be no other things given before or after the colostrum, such as water, other liquids or ritual foods.

#### Reasons:

- Early breastfeeding is the best way for a mother to be sure that she will have enough milk. The suckling action releases substances in the mother's body that signal that more milk is needed.
- The suckling action also causes the body to release substances that cause the mother's uterus to contract. This helps the mother to stop bleeding and prevents bleeding later on.
- Colostrum—the first milk—acts as a vaccine that helps keep babies from getting sick.
- Colostrum contains all the nutrients that a baby needs.
- Colostrum cleanses the newborn's stomach.
- Holding the baby skin-to-skin right after birth helps keep him/her warm.
- When a baby is first born she/he needs to suckle. Giving the baby the breast within one hour helps the baby become able to breastfeed well.

Ask the women if they have questions or comments.

**3. Large group discussion about local practices regarding the first thing to give to newborn babies - 8 minutes**

Ask the women this question:

*When babies are first born, what is the first thing you usually give them to eat or drink?*

*Why?*

**Note to the health agent:**

If no one brings up "lòk" (traditional drink to expel the *meconium*) in their answers, you should continue to probe. Here are some different ways to ask the same question in order to find the answer you are looking for:

- Traditionally, what is the first thing people in the area give to their newborn babies?
- Have you heard what people in other communities say that they give to their newborn babies?

Remember to tell them:

**The first milk is the best "lòk" for newborn babies.**

**Note to the health agent: Do some "animation" here.**

**4. 4. Presentation of recommendation to give only breast milk for the first six months - 10 minutes**

Present the recommendation to give only breast milk to a child for about the first six months of life and the reasons health experts in this country have made this recommendation.

Show the image that goes with this recommendation.

**Recommendation:**

Give breast milk only (no other foods or liquids, not even water) until a child is about six months old. Feed the child often—whenever he or she wants, even at night. Plan for at least five full feeds per day during which the breasts are emptied (do not feel full). This could take about 20 minutes or more.

You must breastfeed babies as often as they need it or every time they ask for it, for example when they begin to fuss, move the lips, or suck their fingers. It is only when s/he is finished, when s/he pushes the breast away that you should take it away.

Start breastfeeding when the baby is beginning to fuss, moving the lips or sucking fingers, before it starts to cry. It is not only when a child cries that s/he needs to breastfeed.

Ask the women:

*According to you, what is the benefit to the mother and the baby when these principles are applied?*

After they have finished discussing this question for several minutes, use the information in the table below to add what they did not say:

**Reasons:**

- Breast milk is free—other milk costs money.
- Giving only breast milk—whenever the baby wants—delays the return of the mother's menstrual period, helping to protect the mother against anemia.
- A woman can be protected from pregnancy for up to six months if 1) her menstrual period has not started again; 2) she gives only breast milk whenever the baby wants, day and night (even waking up the baby to eat); and 3) the child is under six months of age.

*[Note to the health agent: This is a very important reason to give to a woman but all three conditions must occur for a mother to be protected. You must insist on all three conditions occurring when giving this reason.]*

- Breast milk contains all the food and liquids a baby needs for the first six months.
- Breast milk protects the baby from illness—it has substances that actually fight illnesses such as diarrhea. The baby is not sick as often and money is not spent on medicines.
- If a baby being fed only breast milk does get sick, the sickness is usually less severe—especially diarrhea and pneumonia.
- Breast milk is always available, clean and safe.

Ask the mothers if they have questions or comments.

## 5. Presentation of keys to better breastfeeding - 10 minutes

Tell participants:

*One way to avoid many breastfeeding problems is to pay attention to the position of the child during breastfeeding.*

*We have a mother here today who is going to demonstrate for us a good breastfeeding position. Observe carefully and say why you think that this is a good position.*

### Note for the health agent:

If there is no mother to do the demonstration, show the picture that represents good positioning and attachment. Tell the women: I'm going to pass it around, look at it carefully to see why they say it's a good position.

Give them time to study the picture and then ask them *why they think it's a good position*.

Listen to their answers and then use the picture to explain all of the points in the table below:

### Key points: Breastfeeding Positioning

- The baby should be held close to the mother, facing the breast with the baby's ear, shoulder and hip lined up. The position of the baby and the mother in this picture are the best (**show the image that represents good positioning and attachment**).
- Good attachment looks like this: the baby's mouth is wide open and the lips are turned outwards' the lower lip is curled right back and the baby's chin is touching the mother's breast.
- Bad attachment means the baby will not get enough milk. This means the mother makes less milk. Bad attachment can also cause sore nipples.
- Take your time and concentrate on breastfeeding the baby. Plan at least 5 breastfeed per day for about 20 minutes or more until the breasts feel empty.

### **Key points: Breastfeeding Frequency**

Another way to avoid many problems is to make sure that the baby is breastfed often enough.

- Breastfeed the baby right after birth. Early, frequent breastfeeding causes the mother to make more milk yet keeps a woman's breasts from becoming too full and sore.
- The mother should give the breast often -including at night. Feed at least eight times in 24 hours and at least 5 of those times should be full feeds **(show the picture that represents round-the-clock feeding; the number of times we show in the picture does not mean that there can be no variations).**

#### **6. Small-group session to encourage the women to put into practice what they have learned - 18 minutes**

Tell the women: Many of you are going to give birth in a few days. We have learned many new things together. We are now going to work in small groups and each small group will prepare an activity to show what they are going to give their babies right after birth and what they will do until they are 6 months old. You can work on a song, a skit, or a story.

After 10 minutes, each small group will present its work to the large group.

Ask the women if they have any questions about the task.



## Infant and young child feeding

### SESSION 3: ALWAYS PROMOTE BREASTFEEDING

#### **OBJECTIVES:**

**At the end of this session the women will have:**

1. Learned all that was discussed in this session.
2. Shared with each other their experiences with exclusive breastfeeding and find solutions to problems they might encounter.
3. Reviewed the recommendations to give only breast milk for the first 6 months, good position and attachment of the baby during breastfeeding, breastfeeding frequency, and how to care for the breasts and nipples.
4. Followed a demonstration on how to express breast milk and practiced how to do it themselves.
5. Discussed a good technique mothers can use to avoid fatigue during breastfeeding.

#### **TIME:**

61 minutes

#### **METHODS:**

Presentations, small and large-group discussions, stories, game, demonstrations

#### **PREPARATION/MATERIALS:**

1. Study the checklist of common reasons why women interrupt breastfeeding or add other foods/drinks before 6 months.
2. A pencil to complete the checklist.
3. Prepare the image showing the number of times to breastfeed and the one showing good position of the child during breastfeeding.
4. Invite one mother who is practicing the expression of breast milk to demonstrate how to do it.
5. An image showing how to express breast milk.
6. Prepare carefully Step #6 so that you may feel comfortable presenting it like a story.

## **STEPS:**

### **1. Presentation of the activities we will do after giving birth - 5 minutes**

Tell the women:

Greetings to all of you here today. I am glad to see you again to continue with the discussions.

A lot of you just gave birth. Let us thank God that everything went well. Now, in our meetings, we are going to talk more about ways to care for the babies and also ourselves.

After all these meetings we will have:

1. Discussed again the recommendation on exclusive breastfeeding for the first 6 months.
2. Shared with each other your experiences with exclusive breastfeeding.
3. Stated all the difficulties you encounter with exclusive breastfeeding and look for advice about continuing to breastfeed despite these difficulties.
4. Discussed the technique we can use to express breast milk for the baby when leaving home for some time.
5. Identified the best time to start giving babies other foods to complement breast milk, what kinds of foods are best for the child and how often children must eat, etc.

### **2. Paired discussion about the breastfeeding experience - 15 minutes**

Tell the women:

In our last meeting, before your babies were born, you had prepared a plan that showed what you were going to do for the babies. Some of you had prepared songs and others skits. Now, it's for real, the babies are here with us.

Each person is going to take 5 minutes to talk with the friend sitting next to her. Each will share with the other her first experience with exclusive breastfeeding.

Have them discuss:

- 1<sup>st</sup> question: *what has worked well or what is the best thing about exclusive breastfeeding?*
- 2<sup>nd</sup> question: *what problems have you encountered with exclusive breastfeeding?*

Ask the women if they have any questions about the task. Explain what is not clear to them and encourage each of them to share her ideas with her partner.

When the 5 minutes are over, thank the women for participating in the discussion and then tell them that we are going to share the experiences together. **We will start with the good things about exclusive breastfeeding.** Each small group will share one thing and the other small groups will add other ideas until you have expressed all the things that are good about breastfeeding.

Encourage the women to give answers that really correspond to their true experiences. Congratulate all of them.

*Do this game with them before listening to their answers on the problems encountered:*

Tell them that we are going to congratulate all the breastfeeding mothers in a special way.

Each time I say: "**Mothers who breastfeed**", you will answer: "**enlightened mothers**".

Each time I say: "**Breast milk**", you will answer: "**babies' wealth**".

Repeat this 2-3 times before you continue with the session.

Now tell them: We would like to **know what problems you have encountered** with exclusive breastfeeding. We will proceed the same way: each small group will share one problem and the other small groups will add others until you have expressed all the problems you have encountered with breastfeeding.

**Note for the health agent:**

Listen carefully to all the problems the women share. Use the *checklist* at the end of this session to put a checkmark next to each problem they mention.

After they have finished expressing all of the problems, for each problem they mentioned ask them: *Who in the group can tell me what can be done about this problem?*

After each answer, use the same *checklist* to provide more details.

Always encourage them to continue breastfeeding. If someone mentions a problem that is not in the list and for which you have no advice/solution, thank the person for her participation and tell her that you will look for an answer for her. After the meeting you must ask the doctor or the supervisor for an explanation. And do not forget to come back to that point during the next meeting.

Before going to the 3<sup>rd</sup> step, do the same little game again.

**Mothers who breastfeed**

**Enlightened mothers**

**Breast milk**

**Babies' wealth**

### 3. Question/Answer session on the recommendation to give only breast milk for the first 6 months - 8 minutes

Tell the participants that you would like them to help you refresh your memory on some of the points about exclusive breastfeeding. To do this you are going to ask them some questions that you would like several of them to answer.

- *For how many months mothers must give only breast milk to their babies?* [for 6 months]
- *Before the baby is 6 months old, what other foods or drinks the mother should give to the baby?* [none]
- *How often should the mother breastfeed the baby?* [each time the baby wants to, day and night]
- *For how long should the mother breastfeed the baby each time?* [breastfeed him without interruption for at least 20 minutes at least 5 times per day until the breasts feel empty.]
- *How can a mother know when the baby needs to be breastfed?* [the baby is beginning to fuss, moving the lips or sucking fingers.]

#### **Note for the health agent:**

If the women should ask you questions as to why health experts say that babies should be fed only breast milk until they are 6 months old, you can use the information below to give them more details.

#### **Recommendation:**

Give only breast milk (no other foods or liquids, not even water) until a child is about six months old. Feed the child often—whenever he or she wants, even at night. Plan for at least five full feeds per day during which the breasts are emptied (do not feel full). This could take about 20 minutes or more.

You must breastfeed babies as often as they need it or every time they ask for it, for example when they begin to fuss, move the lips, or suck their fingers. It is only when s/he is finished, when s/he pushes the breast away that you should take it away.

Start breastfeeding when the baby is beginning to fuss, moving the lips or sucking fingers, before s/he starts to cry. It is not only when a child cries that s/he needs to breastfeed.

#### **Reasons:**

- Breast milk is free—other milk costs money.
- Giving only breast milk—whenever the baby wants—delays the return of the mother's menstrual period, helping to protect the mother against anemia.

- A woman can be protected from pregnancy for up to six months if 1) her menstrual period has not started again; 2) she gives only breast milk whenever the baby wants, day and night (even waking up the baby to eat); and 3) the child is under six months of age.

***[Note to the health agent: This is a very important reason to give to a woman but all three conditions must occur for a mother to be protected. You must insist on all three conditions occurring when giving this reason.]***

- Breast milk contains all the food and liquids a baby needs for the first six months.
- Breast milk protects the baby from illness—it has substances that actually fight illnesses such as diarrhea. The baby is not sick as often and money is not spent on medicines.
- If a baby being fed only breast milk does get sick, the sickness is usually less severe—especially diarrhea and pneumonia.
- Breast milk is always available, clean and safe.

#### **4. Refresher session on proper position of the child during breastfeeding, on the importance of frequent breastfeeding, and on what mothers can do when their breasts hurt - 10 minutes**

Ask for a volunteer to come up front to demonstrate how she holds her baby during breastfeeding. Continue to ask until you find a volunteer. While she is breastfeeding her baby, ask the other participants to observe carefully how the woman holds the baby so that they can comment on it afterward.

At the end of the demonstration, ask the women this question:

*What do you think about the way the mother held the baby during breastfeeding?*

Listen to the women's comments. If they only answer "it's a good position" or "it's a bad position", ask them why they say that.

Use the picture again to show the proper position while you review with them the points below.

**Key points: Breastfeeding Positioning**

- One way to avoid many breastfeeding problems is to pay attention to the position in which the baby breastfeeds.
- The baby should be held close to the mother, facing the breast with the baby's ear, shoulder and hip lined up. The position of the baby and the mother in this picture are the best (**show the picture that represents good positioning and attachment**).
- Good attachment looks like this: the baby's mouth is wide open and the lips are turned outwards' the lower lip is curled right back and the baby's chin is touching the mother's breast.
- Bad attachment means the baby will not get enough milk. This means the mother makes less milk. Bad attachment can also cause sore nipples.
- To keep the baby from having colic ("gaz"), hold him and tap his back after each breastfeed.

After this discussion on proper positioning for breastfeeding, tell the women: I would like some of you to tell me:

*How many times per day a baby should breastfeed? How many times per night?*

If you notice that most of them don't breastfeed their babies on demand, day or night, ask them: *Why don't you breastfeed your babies more? And, what other things do you feed your babies?*

Listen to several answers. Then, use the information in the following table to shed more light on the subject. Insist on this point: **the more often the baby breastfeeds, the more s/he breastfeeds, the more milk the mother will produce.**

**Key points: How often we must breastfeed babies**

- Another way to avoid many problems is to make sure that the baby is breastfed often enough.
- Early, frequent breastfeeding causes the mother to make more milk yet keeps a woman's breasts from becoming too full and sore.
- The mother should give the breast often -including at night. Feed at least eight times in 24 hours and at least 5 of those times should be full feeds (**show the picture that represents round-the-clock feeding**).
- Take your time and concentrate on breastfeeding the baby. Plan at least 5 breastfeeds per day for about 20 minutes each or until the breasts feel empty.

Now ask the women: *How many of you have sore breasts sometimes?*

Tell the participants that even if a mother holds the baby the right way and breastfeed often, her breasts may still get sore sometimes. Summarize these ideas about how to treat sore breasts.

#### **Treating sore breasts**

- Treat sore nipples by putting a bit of breast milk on them at the end of the feeding and leave them exposed to the air (at night and during the day).
- If the breasts are swollen, placing cold cloths on the breasts between feedings may help reduce swelling. The mother can soften her breast by expressing a small amount of milk first so that the baby has better attachment. There should be improvement within 24-48 hours. If the swelling persists, then the mother needs more help.

#### **5. Demonstration on how mothers can express and conserve breast milk if they are going out for some time - 10 minutes**

Tell the women: *As you already know, exclusive breastfeeding is good for the baby and the mother. But there are times when the mother must go out for some time; in this case, what must a mother do in order to continue to breastfeed her baby?*

#### **Note for the health agent:**

The participants' answers should include these points: If the mother is going out for some time, she can express the breast milk into a cup and leave it with someone to give to the baby with a spoon during her absence.

Ask the women *what questions they have about expressing breast milk?*

Listen to their questions very carefully. Many of the women may have questions on the way to express breast milk, how to conserve it and how to give it to the baby.

Tell them: Today we have the opportunity to have with us a mother who has a lot of experience with expressing breast milk. She is going to share her experiences with us. Ask the mother to demonstrate how she expresses breast milk and to answer the participants' questions.

Here are some words she could use:

This milk should be kept in a clean cup with a cover and kept in a cool place, like around an earthenware vessel ("kanari") or in a thermos bottle or inside a container with some cool water. This way the breast milk will keep for 8 hours without spoiling. If there is no cool place available, the breast milk will only keep for 4 hours.

Each time the baby is hungry, pour some of the milk in a clean cup and make her/him drink it with a spoon.

**Note for the health agent:**

Do not choose any mother to do this demonstration. Be sure that this mother is really used to express breast milk. Practice with her before the meeting. Make sure also that the way to conserve the milk and the way to give it to the baby is clear for her.

If these conditions are not met, you should practice well with her before the session or choose another mother.

**6. Story about a technique the mothers can use to avoid fatigue - 8 minutes**

Tell the women: there is a proverb that says *"one mother's problem is all mothers' problems"*. Last month, while I was at the health center, one mother asked me for advice: *"What can I do to be less tired from breastfeeding?"*

I gave her a very simple answer. She went to try what I told her right away. Last week, she came back very happy and told me: I couldn't be in the area without coming to thank you, *"it's to the person who sweats for you that you must provide a clean shirt; a parrot never forgets its first owner"*.

When I asked her the reason for all these proverbs, she answered: "The day I left here, I tried the advice you gave me about avoiding fatigue. I must tell you that everything is different now. I have no problem now with giving the baby breast milk only. You should see how well the baby is coming along".

That made me so happy that I promised myself to share this advice with you also. Listen:



As you already know, babies breastfeed a lot and giving the baby only breast milk makes the mother very thirsty. This makes you tired. In addition, the heat can make you tired too. **To avoid getting tired, I would advise you to do the same thing my good friend just told you. I advise you to drink lots of water while you are breastfeeding. When you drink water while breastfeeding, this helps you avoid fatigue and also helps you produce enough milk.**

**While you are breastfeeding you must drink lots of water so that you don't get tired.**

Ask the women: *How many of you are going to try this technique?*

Encourage them to share with you how the technique worked for them during the next session.

## **7. Review and close the session - 5 minutes**

Tell the women: Thank you for your presence at this session. Before we go, there are two sentences I am going to start and I would like you to complete them for me. Anyone can talk. I start, you finish. If I don't get any answers, I'll think that today's session was not successful.

Here are the sentences:

*From all the things we did in today's session, what I'm going to try to do is...*

*From all the things we did in today's session, what I'm going to continue to do is...*

Repeat each of the sentences several times to encourage several participants to answer. Then, thank them one more time and close the meeting.

<p><b>Important note for the health agent:</b> This table contains many common reasons women interrupt breastfeeding or add food or other drinks <u>before the baby is six months old</u>. As the groups report, place a check mark in pencil next to each reason they give.</p>		
<p style="text-align: center;"><b>CHECKLIST</b></p>		
<p><b>Given</b></p>	<p><b>Reason</b></p>	<p><b>Advice</b></p>
	<p>Child is thirsty</p>	<p>Studies around the world have shown that babies who are given only breast milk receive all the fluids they need.</p>
	<p>Baby has colic ("gaz") or stomach pains</p>	<p>There are times when a baby will have stomach aches, but this is not caused by the breast milk. Did you burp the baby? To make him burp, hold him and tap his back.</p> <p>Sometimes it is not colic, it is just that the baby's intestines are not fully developed yet; there is nothing we can do about that.</p> <p>To keep the baby from having colic, hold him and tap his back each time he has finished breastfeeding.</p>
	<p>Baby has "fredl". (Symptoms: stools of greenish color, stomach pains)</p>	<p>It is important that the mother continue to breastfeed him. No need to give him tea or any other liquid. If the baby does not get better, take him to the nearest health center.</p>
	<p>Mother is afraid she may not have enough milk.</p>	<p>Mother should breastfeed the baby more often and longer. She should give at least 5 complete feeds per day (about 20 minutes or more in length), during which the breast feels empty. If the baby breastfeeds a lot and often, the mother will produce more milk.</p>
	<p>Child is hungry - breast milk not enough.</p>	<p>Mother should breastfeed more and be sure the child is in a good breastfeeding position. She should give at least 5 complete feeds (about 20 minutes or more) per day during which the breast feels empty. It may take 2-4 days, but if a hungry child breastfeeds more and longer, the mother will produce more milk!</p>
	<p>Baby cries a lot</p>	<p>Find out how many months old the baby is. If he's about 6 weeks (1-1/2 month) or 3 months old, tell the mother that it is at this age that babies have growth spurts. This means they need more breast milk. If they cry, do not get discouraged, continue to give them the breast only. No need to give them tea or salt crackers to make them stop crying.</p>
	<p>Mother has small breasts and fears she can't produce enough milk.</p>	<p>Breast size or other physical characteristics of the mother do not mean she cannot produce enough milk. Even small-breasted women can produce <u>more</u> than enough milk for their children.</p>
	<p>Child is sick</p>	<p>If the baby is sick it is very important to continue breastfeeding. The milk will provide substances that will fight the illness.</p>
	<p>Mother is sick</p>	<p>A woman can and should keep breastfeeding through most illnesses and health conditions. Her milk has substances that protect the baby from her illness.</p>

<p><b>Important note for the health agent:</b> This table contains many common reasons women interrupt breastfeeding or add food or other drinks <u>before the baby is six months old</u>. As the groups report, place a check mark in pencil next to each reason they give.</p>		
<p style="text-align: center;"><b>CHECKLIST</b></p>		
<p><b>Given</b></p>	<p><b>Reason</b></p>	<p><b>Advice</b></p>
	<p>Mother becomes pregnant</p>	<p>If the mother becomes pregnant, her milk is still good—continuing to give only breast milk will have no bad effect on her or the fetus. The breastfeeding baby may have some loose stools early in the pregnancy but this is normal for 2-3 days.</p>
	<p>Mother must be away from her baby for part or all of a day. (for work or other reasons).</p>	<p>A mother who must leave her baby at home for part or all of day does not need to stop giving him breast milk. She can express her breast milk and leave it with whomever is caring for her baby to be given in her absence. The mother must express the milk into a clean cup that can be covered; the milk should not be given to the baby in a bottle. This milk should be kept in a clean cup with a cover and kept in a cool place, like around an earthenware vessel ("kanari") or in a thermos bottle or inside a container with some cool water. This way the breast milk will keep for 8 hours without spoiling. If there is no cool place available, the breast milk will only keep for 4 hours.</p>
	<p>Mother decides to give her baby a bottle.</p>	<p>It is very important not to bottle-feed the baby. Giving bottles may cause a child to no longer want to breastfeed because the "sucking" that the baby learns from using a bottle is different from what s/he learns from breastfeeding. Bottle-feeding can cause illnesses. Formula can never contain everything that a baby gets from breast milk.</p>
	<p>Child is not gaining weight.</p>	<p>Mother should breastfeed him more often and longer. She should plan to give at least 5 complete feeds per day (around 20 minutes or more). If a child breastfeeds a lot and often, the mother will produce more milk.</p>
	<p>Mother gets very tired.</p>	<p>Here are some recommendations to help you get less tired. First, you must eat everything that you can find that's good for your health. There are no bad foods for a nursing mother; all foods contain good nutrients for your bodies, even those that are white. You must continue to eat protein-rich foods, just like when you were pregnant. Protein-rich foods are eggs, meats, and fish. Milk is important also, because your breasts will transform any kind of milk you drink into milk that's good for the baby. Encourage mothers to drink lots of water while breastfeeding; that will help them to be less tired and also to produce more milk.</p>
	<p>Milk is hot</p>	<p>People say that the milk can get hot when the mother was out in the sun or if she has just worked a lot. But, when you're hot, is your sweat hot also? Since your sweat is not hot, your milk is not hot either; your body conserves the milk very well. When someone stays out in the sun, that doesn't mean that everything in his/her body becomes hot.</p>

**Important note for the health agent:** This table contains many common reasons women interrupt breastfeeding or add food or other drinks before the baby is six months old. As the groups report, place a check mark in pencil next to each reason they give.

**CHECKLIST**

Given	Reason	Advice
	Milk is no good	Some mothers think that their milk is either no good or it's not enough. However, the quality of a mother's milk is not related to the foods she eats. As the child gets older, the breast milk may get thinner but that does not mean that it is no good. As for the quantity, the mother must drink a lot and she must breastfeed the baby often; the more the baby breastfeed, the more milk the mother produces.
	Getting angry	Some mothers say that the breast milk can get bad when they get angry. When you get angry it is possible that the breasts produce less milk because you must be calm in order to produce milk. Breastfeed the baby often, the more he drinks, the more milk is produced. Getting angry does not affect the quality of the milk. If sores develop on the baby's skin, look for other causes. Maybe he caught some germs. The nurse can prescribe some medicine for the sores.
	Travel	You must try not to travel before the baby is 6 months old. Could your husband travel in your place? When you <u>must</u> travel, here's some advice: <ul style="list-style-type: none"> <li>• Don't spend a lot of time away.</li> <li>• Try to find another nursing mother to breastfeed your baby also. If you can't find another nursing mother, you should buy milk at the pharmacy that's specially made for babies.</li> <li>• You can express your breast milk before you go away and leave it with someone to give to the baby in your absence. This milk should be kept in a clean cup with a cover and kept in a cool place, like around an earthenware vessel ("kanari") or in a thermos bottle or inside a container with some cool water. This way the breast milk will keep for 8 hours without spoiling. If there is no cool place available, the breast milk will only keep for 4 hours. While you are away, express the breast milk every 3-4 hours so that the breasts don't become hard, this will make the breasts work better.</li> <li>• Explain well to the person preparing food for the baby what s/he must do: Give the breast milk until it's finished. Then, start giving the baby formula. For the milk to remain germ-free, it must be prepared with clean drinking water. Don't forget: breast milk is the best for the child, so don't stay away long.</li> </ul>
	Others:	

## Infant and young child feeding

### SESSION 4: HOW TO BREASTFEED BETTER

#### **OBJECTIVES:**

**At the end of this session, the participants will have:**

1. Shared their experiences when trying to express breast milk and drinking lots of water while breastfeeding.
2. Shared with each other their experiences with exclusive breastfeeding and find solutions to the problems they have encountered.
3. Found out, which problems women may encounter with breastfeeding.

#### **TIME:**

45 minutes

#### **METHODS:**

Large and small-group discussion, stories, presentations by the health agent

#### **PREPARATION/MATERIALS:**

1. Image showing how to express milk.
2. Study the checklist. It contains many common reasons why women interrupt breastfeeding or add food or other drinks before the baby is 6 months old.
3. A pencil to complete the checklist.
4. Read carefully the story in Step 3 so that you may feel comfortable in telling it.

#### **STEPS:**

1. **Large-group discussion for the women to share their experiences with expressing breast milk and drinking lots of water while breastfeeding -10 minutes**

Ask the participants:

*Which one of you tried to express her breast milk?*

*Why did you express the milk?*

*How did you do it?*

**Note for the health agent:**

So that everyone may answer, insist on all these points:

- *Into what did you express the milk?*
- *How did you conserve the milk? (Where did you put it?)*
- *If a mother had expressed her breast milk because she was going out, ask her in whose care she left the milk to give to the baby?*
- *What did they use to give the milk to the baby?*
- *What did other people in the house say when they saw you expressing your breast milk?*

When the women have finished answering, you can remind them that they should conserve expressed breast milk in a clean cup with a cover and keep it in a cool place, like around an earthenware vessel ("kanari") or in a thermos bottle or inside a container with some cool water. This way the breast milk will keep for 8 hours without spoiling. If there is no cool place available, the breast milk will only keep for 4 hours.

Each time the baby is hungry, pour some of the milk in a clean cup and make her/him drink it with a spoon.

If there are mothers in the group who say that they could not express the milk because their breasts hurt, you should invite these mothers to do the demonstration again so that you may be sure that they do understand how to express breast milk.

Now ask the participants:

*Which one of you tried to drink water while breastfeeding?*

Ask the ones who said they tried:

*What difference did you notice when you drank water while breastfeeding and when you didn't drink any?*

If no one had tried, encourage them again to drink water while breastfeeding. Tell them that when they drink water while breastfeeding, they will get less tired and they will also produce more milk. **While you are breastfeeding, you must drink lots of water to avoid getting too tired.**

## **2. Paired group discussions on problems they encounter with breastfeeding - 7 minutes**

In the last session we discussed what worked and what didn't work well with exclusive breastfeeding. Today I would like you to tell me, after all the advice we gave you:

*What progress you have made and what other problems you have encountered with exclusive breastfeeding?*

We are going to discuss this question in pairs for 5 minutes.

After this discussion, ask the participants to share what worked well only. Congratulate all of them and tell them that now they are going to share the problems they have encountered through a story.

### **3. Share what was discussed in a story to be completed by participants – 20 minutes**

Call participants back together and explain:

*We are going to review the things you just discussed by telling a story. We will tell the story together. I will start the story and then stop. Then you will fill in the next part based on the discussions you just had. Anyone may fill in after I stop. We may need the help of several people to fill them in completely. When I want you to fill in a part, I will point to all of you and whoever has an idea can give it.*

Here is the story:

*Mrs. Djo gave birth to her first child –a boy- four months ago. Before her son was born, a health agent talked to her about good breastfeeding practices. Today, while she is preparing the evening meal (and the baby is sleeping), Mrs. Djo thinks back to what the health agent in the community said. She remembers that the health agent made several recommendations to all the women. The first recommendation that Mrs. Djo remembers is that she should start breastfeeding her son as soon as he was born to be sure that he gets the first milk or colostrums.*

*Mrs. Djo also remembers that the health agent spoke about the importance of giving only breast milk for the first six months of her sons' life. The health agent also said that she should start adding other foods at six months old and continue breastfeeding him until he reached two years of age.*

*Mrs. Djo really liked what the woman had to say and it seemed to make sense to her at the time but some of the recommendations have been difficult to practice. For example, when she first tried to breastfeed it did not work well because...**(Point to the participants)**.*

*Mrs. Djo was not sure whom to talk to about this. In the months since her baby was born she has found that sometimes breastfeeding works well. At other time,*

*however, she has had other problems. She is most concerned about the baby. Sometimes when he is breastfeeding she is not sure... (Point to the participants).*

*In addition to some of the problems the baby has, Mrs. Djo has had some of her own. Sometimes when he is breastfeeding she has problems with her breasts or nipples. For example..... (Point to the participants).*

*Mrs. Djo sighs. It sure is a lot to think about. She accepts much of what the health worker says but is not sure how to do it all. Many thoughts are on her mind. She worries about..... (Point to the participants).*

*Mrs. Djo wonders if other mothers are thinking the same things, if they have the same kinds of problems, and how they deal with them.*

Thank the participants for their help in telling this story and praise them for the many things they have helped you learn. Tell them that many of the issues they raised are common to women around the world.

**Note for the health agent:**

While telling the story, listen carefully to the problems the women bring up. Use the checklist on the last page of this activity to put a checkmark next to all the problems they mention.

When you finish telling the story, for each problem they mentioned, ask: *Who in the group can tell me what we can do about that?*

Once someone has answered, use the checklist to shed more light on the subject for them.

When you have dealt with each of the problems they mentioned, talk about the benefits of assisting a woman who is breastfeeding only: **She should be assisted until the baby is 6 months old. In order to help a mother to exclusively breastfeed, she should continue to receive during 6 months the same benefits and support her family normally provides when she has just given birth.**

Always encourage them to continue breastfeeding. If someone mentions a problem that is not in the list and for which you have no advice/solution, thank the person for her participation and tell her that you will look for an answer for her. After the meeting you must ask the doctor or the supervisor for an explanation. And do not forget to come back to that point during the next meeting.



#### 4. Review and close the session - 8 minutes

Ask the participants this question:

*After all that we have heard in this session today, what are you going to put into practice when you get home today?*

Encourage them to give only breast milk to the babies. If you would like to talk some more about the topics of today, you may come to see me or the "co/vo" in your area. Also, when you meet each other, I really encourage you to share your breastfeeding experiences. I would also encourage you **to observe other mothers who are practicing exclusive breastfeeding in order to benefit from their experiences.**

Thank the women for their participation in the meeting.

**Important note for the health agent:** This table contains many common reasons women interrupt breastfeeding or add food or other drinks before the baby is six months old. As the groups report, place a check mark in pencil next to each reason they give.

### CHECKLIST

Given	Reason	Advice
	Child is thirsty	Studies around the world have shown that babies who are given only breast milk receive all the fluids they need.
	Baby has colic ("gaz") or stomach pains	There are times when a baby will have stomach aches, but this is not caused by the breast milk. Did you burp the baby? To make him burp, hold him and tap his back. Sometimes it is not colic, it is just that the baby's intestines are not fully developed yet; there is nothing we can do about that. To keep the baby from having colic, hold him and tap his back each time he has finished breastfeeding.
	Baby has "fredl". (Symptoms: stools of greenish color, stomach pains)	It is important that the mother continue to breastfeed him. No need to give him tea or any other liquid. If the baby does not get better, take him to the nearest health center.
	Mother is afraid she may not have enough milk.	Mother should breastfeed the baby more often and longer. She should give at least 5 complete feeds per day (about 20 minutes or more in length), during which the breast feels empty. If the baby breastfeeds a lot and often, the mother will produce more milk.
	Child is hungry - breast milk not enough.	Mother should breastfeed more and be sure the child is in a good breastfeeding position. She should give at least 5 complete feeds (about 20 minutes or more) per day during which the breast feels empty. It may take 2-4 days, but if a hungry child breastfeeds more and longer, the mother will produce more milk!
	Baby cries a lot	Find out how many months old the baby is. If he's about 6 weeks (1-1/2 month) or 3 months old, tell the mother that it is at this age that babies have growth spurts. This means they need more breast milk. If they cry, do not get discouraged, continue to give them the breast only. No need to give them tea or salt crackers to make them stop crying.
	Mother has small breasts and fears she can't produce enough milk.	Breast size or other physical characteristics of the mother do not mean she cannot produce enough milk. Even small-breasted women can produce <u>more</u> than enough milk for their children.
	Child is sick	If the baby is sick it is very important to continue breastfeeding. The milk will provide substances that will fight the illness.
	Mother is sick	A woman can and should keep breastfeeding through most illnesses and health conditions. Her milk has substances that protect the baby from her illness.

**Important note for the health agent:** This table contains many common reasons women interrupt breastfeeding or add food or other drinks before the baby is six months old. As the groups report, place a check mark in pencil next to each reason they give.

### CHECKLIST

Given	Reason	Advice
	Mother becomes pregnant	If the mother becomes pregnant, her milk is still good—continuing to give only breast milk will have no bad effect on her or the fetus. The breastfeeding baby may have some loose stools early in the pregnancy but this is normal for 2-3 days.
	Mother must be away from her baby for part or all of a day. (for work or other reasons).	A mother who must leave her baby at home for part or all of day does not need to stop giving him breast milk. She can express her breast milk and leave it with whomever is caring for her baby to be given in her absence. The mother must express the milk into a clean cup that can be covered; the milk should not be given to the baby in a bottle. This milk should be kept in a clean cup with a cover and kept in a cool place, like around an earthenware vessel ("kanari") or in a thermos bottle or inside a container with some cool water. This way the breast milk will keep for 8 hours without spoiling. If there is no cool place available, the breast milk will only keep for 4 hours.
	Mother decides to give her baby a bottle.	It is very important not to bottle-feed the baby. Giving bottles may cause a child to no longer want to breastfeed because the "sucking" that the baby learns from using a bottle is different from what s/he learns from breastfeeding. Bottle-feeding can cause illnesses. Formula can never contain everything that a baby gets from breast milk.
	Child is not gaining weight.	Mother should breastfeed him more often and longer. She should plan to give at least 5 complete feeds per day (around 20 minutes or more). If a child breastfeeds a lot and often, the mother will produce more milk.
	Mother gets very tired.	Here are some recommendations to help you get less tired. First, you must eat everything that you can find that's good for your health. There are no bad foods for a nursing mother; all foods contain good nutrients for your bodies, even those that are white. You must continue to eat protein-rich foods, just like when you were pregnant. Protein-rich foods are eggs, meats, and fish. Milk is important also, because your breasts will transform any kind of milk you drink into milk that's good for the baby. Encourage mothers to drink lots of water while breastfeeding; that will help them to be less tired and also to produce more milk.
	Milk is hot	People say that the milk can get hot when the mother was out in the sun or if she has just worked a lot. But, when you're hot, is your sweat hot also? Since your sweat is not hot, your milk is not hot either; your body conserves the milk very well. When someone stays out in the sun, that doesn't mean that everything in his/her body becomes hot.

**Important note for the health agent:** This table contains many common reasons women interrupt breastfeeding or add food or other drinks before the baby is six months old. As the groups report, place a check mark in pencil next to each reason they give.

### CHECKLIST

Given	Reason	Advice
	Milk is no good	Some mothers think that their milk is either no good or it's not enough. However, the quality of a mother's milk is not related to the foods she eats. As the child gets older, the breast milk may get thinner but that does not mean that it is no good. As for the quantity, the mother must drink a lot and she must breastfeed the baby often; the more the baby breastfeed, the more milk the mother produces.
	Getting angry	Some mothers say that the breast milk can get bad when they get angry. When you get angry it is possible that the breasts produce less milk because you must be calm in order to produce milk. Breastfeed the baby often, the more he drinks, the more milk is produced. Getting angry does not affect the quality of the milk. If sores develop on the baby's skin, look for other causes. Maybe he caught some germs. The nurse can prescribe some medicine for the sores.
	Travel	You must try not to travel before the baby is 6 months old. Could your husband travel in your place? When you <u>must</u> travel, here's some advice: <ul style="list-style-type: none"> <li>• Don't spend a lot of time away.</li> <li>• Try to find another nursing mother to breastfeed your baby also. If you can't find another nursing mother, you should buy milk at the pharmacy that's specially made for babies.</li> <li>• You can express your breast milk before you go away and leave it with someone to give to the baby in your absence. This milk should be kept in a clean cup with a cover and kept in a cool place, like around an earthenware vessel ("kanari") or in a thermos bottle or inside a container with some cool water. This way the breast milk will keep for 8 hours without spoiling. If there is no cool place available, the breast milk will only keep for 4 hours. While you are away, express the breast milk every 3-4 hours so that the breasts don't become hard, this will make the breasts work better.</li> <li>• Explain well to the person preparing food for the baby what s/he must do: Give the breast milk until it's finished. Then, start giving the baby formula. For the milk to remain germ-free, it must be prepared with clean drinking water. Don't forget: breast milk is the best for the child, so don't stay away long.</li> </ul>
	Others:	

## Infant and young child feeding

### SESSION 5: LAM - LACTATIONAL AMENORRHEA METHOD

#### OBJECTIVES:

At the end of this session, the participants will have:

1. Named the three requirements for LAM to be an effective means of birth spacing.
2. Understood the difference between "exclusive breastfeeding" and "LAM"
3. Applied LAM requirements to several case studies.
4. Determined which benefit of LAM is most important to them.

#### TIME:

40 minutes

#### METHODS:

Presentation, large and small-group discussions, case studies

#### PREPARATION/MATERIALS:

1. Prepare the images showing the 3 LAM requirements.
2. Practice telling the stories.

#### STEPS:

##### 1. Presentation of LAM requirements with illustrations - 15 minutes

Tell the participants: Today the lesson will be about LAM, the breastfeeding method to stop monthly bleeding. As soon as you hear LAM, you immediately know that we are going to talk about birth control.

LAM is an effective contraceptive method when all the requirements are met.

In this session we will look at the LAM requirements and the benefits to the baby, the mother and the whole family.

Tell the women: Before I start talking, I would like you to tell me:

*Who among you is practicing LAM?*

Thank all those who answer and then ask them:

*Why do you say that you are practicing LAM?*

Listen carefully to their answers. Use the information in the table below to explain to the participants what LAM is. Show the appropriate image as you present each point.

### How to Use LAM for Effective Birth Spacing

The Lactational Amenorrhea Method (LAM) is a modern contraception method based on the natural infertility resulting from breastfeeding. To use LAM, all 3 of the following requirements must be met:

1. Your baby is less than 6 months old.
2. You have had no monthly bleeding since giving birth.
3. You are
  - Giving your baby only breast milk. Waters, liquids or foods are not regularly offered and
  - Breastfeeding your baby whenever s/he is hungry—with no more than a 4-hour interval between feedings—day and night (although there can be 6-hour interval between feedings during the night).

Use another effective method of family planning that is safe with breastfeeding as soon as any of the following things happen:

- Your baby is more than 6 months old, or
- Your monthly bleeding starts, or
- Your baby starts drinking other kinds of liquids or eating other foods, or starts sleeping for more than six hours during the night, or
- You must be away from the baby for more than 4 hours and cannot remove milk from your breasts during that time.

Ask:

*What questions or comments do you have?*

Use the illustrations as “flash” cards to quiz the group until the members can easily recall all three LAM requirements.

- Baby is less than 6 months old and
- No monthly bleeding and
- Only feeding breast milk—day and night.

Post the illustrations of the 3 requirements for using LAM.

Explain to the participants:

Frequently, there are reports of women who say that LAM does not work because they got pregnant while breastfeeding their babies. It is important to understand the difference between *breastfeeding* and *LAM*. Breastfeeding is a method of infant feeding—not a contraceptive method. LAM is a method of contraception that you make a decision to use.

#### 4. Game of “Who can rely on LAM?” - 12 minutes

Tell the participants: We are going to play a game to look at different situations a woman may face. Form small groups of 3 members and listen to the following stories of women who have decided to use LAM.

After each story I will give you time to think and I will ask you to tell me if the woman in the story can rely on LAM for family planning and why.

Ask the women if they have any questions about the task. If it’s not completely clear, explain once again before you start.

Read each story out loud. After reading each story, stop, give the participants time to discuss it with 2 of the persons sitting next to her. And then ask a volunteer to answer the following questions.

*Can this woman rely on LAM for family planning? Why do you think so?*

Ask the other group members what they think of the participant’s answer. Use the pictures to help them reflect on the 3 requirements of LAM.

Once they have finished answering the questions for one story, go to the next one until you have gone through all the stories.

<b>Case Studies to Identify Who Can Rely on LAM for Protection from Pregnancy</b>
<p><b>Case 1:</b> Mary has a 3-month-old baby who breastfeeds exclusively. Mary has continuous vaginal bleeding for three days. Can Mary rely on LAM to protect her from getting pregnant? Why or why not?  <u>[No—Her monthly bleeding has started.]</u></p>

**Case 2:** Rita has a 3-month-old baby. Her monthly bleeding has not started again. She gives the baby only breast milk and no other foods. She is very busy, so she can rarely feed her baby on demand. She gives the baby the breast for a few minutes each time. Her breasts never feel "empty." Can Rita rely on LAM to prevent her from getting pregnant? Why or why not?

*[No—Rita must breastfeed her baby on demand. At three months, she should be feeding at least 8-12 times a day until her breast empties completely. This could last 20 minutes or more.]*

**Case 3:** Ana has a 5½-month-old baby and her monthly bleeding has not started. She does laundry outside her home for 3 hours each day and leaves the baby with her mother. She gives the baby only breast milk and does not give the baby, or let her mother give, other liquids or foods. Can Ana rely on LAM to protect her from getting pregnant? Why or why not?

*[Yes—All three requirements are met.]*

**Case 4:** Janet has a 2-month-old baby, and has not begun monthly bleeding again. She feeds her baby breast milk, but also regularly gives the baby water or juice when he is thirsty and sometimes thin soup. Can Janet rely on LAM to protect her from getting pregnant? Why or why not?

*[No—The mother is regularly feeding the baby liquids other than breast milk. Anna should be helped to understand that the baby does not need water or any other liquids or food at this time.]*

After this discussion on the case studies, tell the women: I see you are really experts in LAM now, you know when someone is practicing LAM or not.

Ask:

*After all that we have learned about LAM, who among you can say that she is really using LAM? ,i.e. who among you is applying all 3 LAM requirements? Why do you say that?*

After reviewing all the cases, highlight that not all the women in the stories were using LAM properly.

Ask:

*What should these mothers do to keep from getting pregnant, to space their births?*

*[They should use another family planning method to avoid that they have one child after the other.]*

Explain:

There are many other birth control methods. When LAM no longer applies, you should look for another method. Therefore, in another session we will discuss



which methods are safe for breastfeeding mothers (along with other birth control methods).

**5. Work in small groups to determine the important benefits of LAM for mother, child and family - 10 minutes**

Ask the women to form 3 small groups. Each will work on one of the following questions:

1. *What are the benefits of LAM for the baby?*
2. *What are the benefits of LAM for the mother?*
3. *What are the benefits of LAM for the family?*

After a few minutes, ask each group to present its work. Use the table below to add what they did not say.

<b>Note to the health agent about the benefits of LAM</b>	
<b>Benefits of LAM</b>	
<b>For Mother</b>	— benefits from using LAM because it <ul style="list-style-type: none"> <li>• is effective for up to 6 months;</li> <li>• can be started immediately after birth;</li> <li>• has no side effects;</li> <li>• motivates the mother to breastfeed exclusively;</li> <li>• requires no medical devices; and</li> <li>• gives time to decide on the next family planning method to use.</li> </ul>
<b>For Child</b>	— benefits from LAM because it <ul style="list-style-type: none"> <li>• improves bonding, with mother providing complete attention to breastfeeding day and night;</li> <li>• fights and decreases illnesses; and</li> <li>• increases chances of survival for this child and the next one.</li> </ul>
<b>For Family</b>	— benefits from LAM because it <ul style="list-style-type: none"> <li>• provides immediate and no-cost protection for family planning;</li> <li>• does not interfere with having sexual intercourse;</li> <li>• results in the economic benefits of birth spacing and maternal/child well-being; and</li> <li>• does not depend on the woman having to disclose the family planning method to her husband.</li> </ul>

Ask the women:

*Which of these advantages are most important to you?*

Ask several volunteers to share their thoughts with the rest of the group. Ask the other group members to comment if they wish. Thank all those who answered and tell them that everything they said is important.

#### **4. Review and close the session - 3 minutes**

Use the pictures to do a quick review of the LAM requirements.

Ask the group this question:

*What are the 3 requirements for using LAM properly?*

Hold up the picture for each requirement as it is named. Continue the review until the responses come quickly and easily from the whole group.

Remind the participants:

You are all encouraged to discuss with your spouse or other couples the 3 requirements for LAM. Do not forget to discuss also how family, friends, and neighbors can help a breastfeeding mother use LAM to protect her from getting pregnant.

We encourage all of you using LAM to continue to do so and those who are not to look for another birth control method.

## Infant and young child feeding

### SESSION 6: START GIVING OTHER RICH FOODS TO COMPLEMENT BREAST MILK WHEN CHILDREN ARE 6 MONTHS OLD

#### OBJECTIVES:

At the end of the session, the participants will have:

1. Reviewed the recommendation and reasons for adding other foods at six months.
2. Played a game to review recommended breastfeeding practices.
3. Listed reasons children ages 6-24 months are at risk for becoming sick when they are around sick people and when they don't eat well.
4. Understood the benefits for continuing to breastfeed the babies even after they start to give them other foods and the benefits for continuing to breastfeed them until they are 24 months old and even beyond that age.
5. Been encouraged to continue to promote good breastfeeding practices in the community.

#### TIME:

45 minutes

#### METHODS:

Presentations, game, large-group demonstration, small and large-group discussions

#### PREPARATION/MATERIALS:

- Review the game.
- Prepare the images that illustrate the two breastfeeding recommendations.
- An example to do the demonstration showing 2 children's growth paths.
- Prepare the image showing 2 children's growth paths.

#### STEPS:

##### 1. Presentation of recommendation to add other foods at 6 months - 5 minutes

Present this recommendation together with the reasons that are listed in the box on the next page (show the picture of a mother giving other foods to her baby and breastfeeding him at the same time).

### Key points: recommendation and reasons

#### Recommendation

When babies are 6 months old they should start eating foods that are soft and thick. Make sure to help the child eat several times a day, but keep breastfeeding him until s/he is about 2 years old. As the child gets older, feed her/him more and many different foods more often so s/he may stay in good health.

#### Reasons

- At this age children can digest other foods and they also need other nutritious foods to complement breast milk.
- Children need to eat several times per day because their stomachs are small.
- In many parts of the world, six months is an age when children stop growing well which is why mothers (and fathers) must help their children eat to make sure they are getting what they need.
- Keep breastfeeding because:
  - Breast milk still contains many substances that children cannot get from other foods.
  - Breast milk continues to protect the child against many illnesses even after 6 months.
  - Breastfed children are healthier than other children and they also do better in school.

Tell the participants:

*In the next sessions, we'll see in more detail how to feed children and what other nutritious foods to give them to complement breast milk when they are 6 months old.*

Ask the women what questions they have about what you just said.

## 2. A game to review some of the recommendations - 10 minutes

Explain:

*I am going to read part of a recommendation but leave out an important part. If you know the missing part, stand up and say "**I am breastfeeding**" and then give your answer. After I have heard your answer, I'll ask for volunteers to explain why this recommendation is important.*

Keep asking the mothers "Why" until they have mentioned all of the reasons listed below. (After each question all of the reasons have a ✓ symbol in front of them.)

Ask the women if the game is clear.

- a. *Give only breast milk for about the first.....months. Do not give babies any other.....during this period.*

Answer: 6, foods or drinks

Don't forget to ask "why, why..." to each person who answers.

- √ Breast milk is free, is always ready, is clean and safe.
- √ Breastfeeding facilitates the development of a close relationship between mother and child.
- √ When a mother breastfeeds her baby on demand, she produces more milk.
- √ Breast milk contains all the nutrients a baby needs.
- √ Breast milk protects the baby from illness.
- √ If the baby gets sick, the sickness is usually less severe than in other children who are not breastfed.
- √ When children are given other foods or drinks in addition to the breast milk during their first 6 months, they may get sick.

- b. *Give breast milk to babies whenever they.....and even during the .....*

Answer: ask for it, night

Don't forget to ask "why, why..." to each person who answers.

- √ Feeding often and on demand helps a mother produce more milk.
- √ Breastfeeding can prevent pregnancy for the first 6 months if the mother feeds the baby often, on demand, day and night (even if she has to wake the baby up to feed her/him) and if the mother's menstrual period has not started again.

**N.B.:** Show the image that goes with the recommendation to give only breast milk to children until they are 6 months old.

- c. *Start giving babies other foods that are soft and thick when they are about .....months old.*

Answer: 6

Don't forget to ask "why, why..." to each person who answers.

- √ At about six months of age, breast milk alone does not contain everything a child needs to grow.

d. *Continue giving breast milk until the child is at least .....years old.*

Answer: 2

Don't forget to ask "why, why..." to each person who answers.

- √ Breast milk contains many good substances that are lacking in other foods a child eats.
- √ When babies get sick, they want to stop eating and drinking, but should be encouraged to continue breastfeeding.
- √ Breast milk protects the child against sickness, even after 6 months.

**N.B.:** Show the image that shows a 6-month old baby eating other foods while s/he continues to breastfeed.

### 3. Story and paired discussions of why children 6-24 months old are at risk of sickness and malnutrition - 14 minutes

Say the following words at the beginning:

*Children 6-24 months old can't resist against sickness and malnutrition. Continuing to breastfeed children is a good way to protect them from sickness and malnutrition. Other kinds of foods that you give children of that age are to complement breast milk, not to replace it.*

Use the picture to tell the following brief story:

*This picture shows two children's growth paths. The top path shows Toni, a child who is growing well. His path shows that he continued to get bigger and his weight kept going up even though sometimes he got sick—see here at one point he had diarrhea. Toni continued to grow well because his mother fed him well, continued to breastfeed him and was especially careful to feed him appropriately after he got over diarrhea. This path is what we would like to see for all children.*

*Loulou's growth followed a different path—you see that he did not grow well at all and that at times his weight even went down. Loulou was sick just like Toni but after his illnesses he did not gain enough weight and "catch up" the weight he had lost. He also had many illnesses. After each illness he never gained enough weight. His weight loss was followed by more illness, and so*

*on, so that over time Loulou became weaker and weaker and never gained enough weight to do well in school or grow up strong.*

*Children between the ages of 6 and 24 months, like Toni and Loulou, are at risk of not gaining enough weight and getting sick often. Over the next sessions we will discuss how to feed children well so they grow like Toni and avoid the problems that Loulou had.*

Ask participants what questions for clarification they have about the picture or story.

Ask them to turn to someone near them to discuss the following question:

*What are some reasons children 6-24 months of age are at greater risk of not growing well and becoming ill often?*

Ask for volunteers to share their discussions. Assure that the following are raised. Raise them only if the participants don't:

#### **Reasons 6- to 24-Month-Old Children Are at Risk**

- Foods other than breast milk may have germs and children begin to put dirty things in their mouths: both can cause diarrhea.
- They may spend more time with other children and get illnesses from them.
- They may not be eating enough food in addition to breast milk. They may not
  - eat often enough or eat enough at each meal;
  - get enough nutrients/energy from the food they eat; or
  - eat enough because they are sick.
- Mothers may stop breastfeeding the children (perhaps because they have gotten pregnant or given birth to other children), keeping the older children from getting an important source of nutrition.

**Don't forget:** Even if the mother had given the first milk to the baby, this does not have a direct impact on children of this age. Colostrum (the first milk) works for a little time, its impact does not last until children get to be 6-24 months old.

Thank the participants for their answers and tell them that you will be examining ways of dealing with many of these issues until the next meeting.

#### 4. Presentation of information on good breastfeeding practices and the role of breast milk for children 6-24 months - 5 minutes

Tell the participants:

*The best thing you can do to protect children 6-24 months old from malnutrition is to continue to breastfeed them. Even if the breast milk is not enough to feed children, it still remains one of the best foods to give them. I am going to give you some recommendations to continue breastfeeding children until they are 24 months old.*

Make these recommendations:

##### **Recommendations for Breastfeeding Children Ages 6-24 Months**

1. Continue frequent on-demand breastfeeding for 24 months and beyond to help children to grow well.
2. Make sure foods do not replace breast milk:
  - Breast milk should still be the main food source through 12 months—mothers should breastfeed first, then give other food to their children.
  - Breast milk continues to be important for the children's growth and health even beyond 12 months. At 12 months children can be fed other food first, then given breast milk.

Ask the participants this question:

*What benefits do you think we will get by following these recommendations?*

Make sure the participants mention the points below. Raise them only if they don't.

##### **Benefits for Breastfeeding Children Ages 6-24 Months**

- Breast milk continues to be the best source of important vitamins, minerals and other elements that help children to grow well.
- Breastfeeding comforts babies—especially when they are sick.
- Breastfeeding continues to help fight sickness.
- Breast milk is free and clean—cleaner than any other food.
- Children who breastfeed longer do better at school.

Ask the participants what questions they have about the recommendations.

Answer their questions and ask them:



*What advice are you going to give to mothers who have children 6-24 months old in terms of what they should feed them?*

Give the women a few minutes to discuss this question and then ask them to share with the rest of the group.

#### **5. Review and close the session - 5 minutes**

Encourage them to give only breast milk to the babies. If you would like to talk some more about the topics of today, you may come to see me or the "colvol" in your area. Also, when you meet each other, I really encourage you to share your breastfeeding experiences. I would also encourage you to **observe other mothers who are practicing exclusive breastfeeding in order to benefit from their experiences.**

## Infant and young child feeding

### SESSION 7: LEARNING TO EAT: HOW TO BREASTFEED AND FEED CHILDREN LESS THAN 12 MONTHS OLD

#### OBJECTIVES:

At the end of the session, the participants will have:

1. Explained the child development stages and how to feed children 0-12 months old.
2. Experienced what children feel when their foods are not properly prepared and discovered appropriate texture of the food.
3. Decided which nutritious foods they will prepare during the next session and what they will bring to cook those special foods together.

#### TIME:

50 minutes

#### METHODS:

Presentations, demonstrations, small and large-group discussions

#### PREPARATION/MATERIALS:

1. A copy of the child development and feeding chart showing the shaded areas.

Age	0	6	9	12	24
Child Development					
Food Texture					
Breastfeeding and Feeding					
Participating in Feeding					
Frequency of Feeding					
Quantity of Food					

2. Prepare some foods for Step 2 that can be used to demonstrate the development of feeding skills in young children.
3. Remember to bring along the list of recipes.

#### STEPS:

1. **Presentation of the child development and feeding chart and how to give children 6-12 months old other kinds of foods to complement breast milk - 20 minutes**

Show the child development and feeding chart and explain each part of it one after each other.

Since this is the first time the participants are seeing this chart, make sure they can see it well and insist a lot on the following points:

In the columns, from left to right, we see the children's ages: 0-6 months, 6-9 months, 9-12 months, and 12-24 months.

To the left, on the rows, you see the following information:

- Child Development
- Food Texture
- Breastfeeding and Feeding
- Participating in Feeding
- Frequency of Feeding
- Quantity of Food

Today we will talk about children less than 12 months old.

**Note for the health agent:**

- "0-6 months" means: from the day of birth to the day before its 6<sup>th</sup> month.
- "6-9 months" means: from the day the child is 6 months old to the day before its 9<sup>th</sup> month.
- "9-12 months" means: from the day the child is 9 months old to the day before its 12<sup>th</sup> month.
- "12-24 months" means: from the day the child is 12 months old to the day before its 24<sup>th</sup> month.

**Important information on child development and learning to eat**

<p>1<sup>st</sup> row <b>Child development</b></p>	<p>This row shows how children change, grow, and develop. Just as children learn how to sit, crawl and walk, they also learn how to eat. This row helps us to remember how children develop as they get older. You can then see how the recommendations on how to feed them change according to their stages of development. Different stages require different foods.</p>
<p>2<sup>nd</sup> row <b>Food texture</b></p>	<ul style="list-style-type: none"> <li>• Children 0-6 months need only breast milk to grow well.</li> <li>• Children 6-9 months need to be introduced progressively to other nutritious foods in addition to breast milk to continue to grow well. They are learning to eat new foods and when they first begin to eat foods other than breast milk they cannot chew well, therefore the food must be mashed to become soft like a gruel enriched with beans, herring, eggs,</li> </ul>

<b>Important information on child development and learning to eat</b>	
	<p>peanuts, milk, etc. or other special foods like mashed plantains with pumpkin and dried fish sauce, vegetables puree, etc. - <u>but the food must not be too liquid.</u></p> <ul style="list-style-type: none"> <li>• If the food is too liquid, the children risk not eating the quantity their body needs to grow well. Their lips cannot seal completely to hold in the liquid foods and also their stomachs are small.</li> <li>• As eating skills develop (9-12 months), the food can be chunky, lumpy or chopped pieces. Increase the variety of foods fed, as the child gets older.</li> </ul>
<p>3<sup>rd</sup> row <b>Breastfeeding and feeding</b></p>	<ul style="list-style-type: none"> <li>• Up to 6 months give only breast milk.</li> <li>• From 6-12 months, try to breastfeed before giving other foods. This will help ensure that other food does not replace breast milk.</li> <li>• If the mother is going out for some time, she should express the milk into a cup and leave it with someone to give to the baby with a spoon during her absence.</li> </ul>

Ask the participants if they have any questions or comments on the examples you used to explain the points you just presented.

Continue the discussion of feeding children ages 6-12 months while pointing on the parts of the chart that correspond to how many times and what quantities children must eat.

Before summarizing the most important recommendations row by row, say these words to the participants:

*Now we are going to talk about how to help children eat, how many times and how much food to give to them.*

Recommendations about how to help children eat well, and about the frequency and quantity of foods to give children 6-12 months of age		
	Children 6-9 months	Children 9-12 months
4 <sup>th</sup> row <b>Participating in feeding</b>	<ul style="list-style-type: none"> <li>• Feed infants directly, and feed slowly and patiently.</li> <li>• Talk to children during feeding, with eye to eye contact.</li> <li>• Encourage children to eat, but do not force them.</li> <li>• Minimize distractions during meals.</li> <li>• Feed them in their own bowl.</li> <li>• Give them liquids with a little spoon out of a clean cup.</li> </ul>	
5 <sup>th</sup> row <b>Feeding frequency</b>	<ul style="list-style-type: none"> <li>• Feed the child enriched gruel or other special foods 2-3 times per day.</li> <li>• Give nutritious snacks to the children 1-2 times per day, such as: pureed or mashed fruit, cassava bread with peanut butter, salty doughnuts ("marinad" with herring), fritters ("benyer"), one egg, avocado.</li> </ul>	<ul style="list-style-type: none"> <li>• Feed children special foods 3-4 times per day so that they will learn well in school when they are older.</li> <li>• Give the children nutritious foods 1-2 times per day, such as: millet or corn snack ("cham-cham"), fruit, cassava bread with peanut butter, salty doughnuts ("marinad" with herring), fritters ("benyer"), one egg, banana mashed with egg, avocado, roasted peanuts, a small piece of meat from the family meal.</li> </ul>
6 <sup>th</sup> row <b>Quantity</b>	<ul style="list-style-type: none"> <li>• Each time you feed the child, give several small spoonfuls to equal 2-4 large spoonfuls until s/he eats at least a <math>\frac{1}{4}</math> cup #7<sup>1</sup>. (Show the participants the size of spoon and cup you are talking about.)</li> </ul>	<ul style="list-style-type: none"> <li>• Progressively increase the quantity each time you feed so that the child gets to eat at least a <math>\frac{1}{2}</math> cup #7 when s/he is 12 months old. (Show the participants the size of the cup you are talking about.)</li> <li>• As the child gets older, give her/him more food at each feeding so that s/he may get stronger.</li> </ul>

<sup>1</sup> 1 local cup #7 is equal to 2 measuring cups U.S.

Now say these words:

*Children that age (specially those between 9-12 months) are like a small lamp that can't hold much gas. As they are very active - they are always moving - and their stomachs are small, we must fill it often, the same way as a small lamp, if you are using it all the time, you must fill it often.*

After these explanations, ask for some volunteers to come up front to talk about one of the rows in the chart concerning children 6-12 months old. Several persons can come to the chart until they finish mentioning all the information it contains.

## 2. Demonstration of stages of eating development - 15 minutes

This demonstration shows how important it is to consider children's ability to eat foods of different textures. Ask for several volunteers to demonstrate how children learn to eat and describe how that affects their ability to eat certain textures of food.

### a. Children May Not Seal Their Lips Completely

Ask the volunteers to take water in their mouths without sealing their lips completely. Next, give the volunteers something thicker. Ask the volunteers to describe both experiences before summarizing the following key points.

#### **Children May Not Seal Their Lips Completely**

- Children may not seal their lips completely, so liquids are often lost from their mouths.
- Thicker foods remain in the mouth more easily even if the lips are not completely sealed allowing children to manage them better.

### b. Children 6 Months Old Do Not Move Food Around in Their Mouths Using Their Tongues

Ask the volunteers to try to eat one of the foods you brought (like bread or something "chewy") without using their tongues at all to move it from side to side inside the mouth. Ask the volunteers to describe what happened before summarizing the following.

#### **Children 6 Months Old Do Not Move Food Around in Their Mouths Using Their Tongues**

- Children at age 6 months do not use their tongues well to move food around to push it back for swallowing.
- Although breastfeeding children use their tongues to suck, their tongues only move up and down.
- To prepare food for swallowing, the tongue must move the food from side to side. Foods fed to children this age should be just thick enough to stay in the mouth.

**c. Children 6-9 Months Old Use Only Up and Down Jaw Movements**

Ask the volunteers to try to eat another food you brought (something "crunchy") using only up and down jaw movements, without rotary chewing (grinding their teeth). Ask the volunteers to describe what happened.

**Children 6-9 Months Old Use Only Up and Down Jaw Movements**

- Children ages 6-9 months primarily use up and down jaw movements.
- They are unable to grind their teeth so are unable to chew foods easily.

Summarize the following information on how children learn to eat. Point on the second row of the Child Development and Feeding Chart—Food Texture— while summarizing.

**Important Information on How Children Learn to Eat**

The demonstrations we just did are examples of the kinds of things children do between the ages of 6-12 months.

- They are learning to eat—just like they are learning to crawl, stand and walk.
- They should be given foods that they are able to eat.
- They should be given foods they are able to keep in their mouths and to chew without problems.
- When you give them foods they can eat easily, you are sure that they eat the quantity they are supposed to eat at each feeding.

Ask what questions or comments participants have concerning food textures and how they relate to a child's development of eating skills.

If the participants have questions, answer them and tell them that now you are going to give them some other advice about the texture of foods for children.

Important information about the first food (in addition to breast milk) given to children

**Important Information About the First Food  
(in Addition to Breast milk) Given to Children**

- The first food given to babies can contain a single ingredient plus oil.
- Making the porridge thicker makes it easier for the baby to eat and means the baby's stomach is filled with good, nutritious food not just water.
- After about four or five days of trying this one-ingredient food—remembering children need to learn to eat—you can add another food/ingredient to make it more nutritious. Remember to add only one new food at a time to make sure it does not make the baby sick. Wait four days before adding another new food.

**Mix the first food with other things**

- The thicker texture enables the child to keep the food in his/her mouth.
- Though the food may taste "bland" or funny to them, children have not yet developed their taste and will find it good.
- Mixing foods is not a problem for a child as long as one thing is added at a time to make sure the child can tolerate it.

### 3. Preparing the next session - 15 minutes

Tell the participants:

In the recommendations we talked about enriched gruel and other special foods.

Ask:

*According to you, what do we mean by "enriched gruel" and "other special foods"?*

**Note for the health agent:**

Here are some examples to help you. Use them to complete the participants' answers.

Enriched gruel (better than gruel made with wheat flour only):

Made with wheat flour, millet flour, or corn flour

- With black beans, sugar and some oil (roast the beans to reduce cooking time, start by pounding it, winnowing it to remove the skins, continue to pound it until it turns to flour).
- With peanuts/peanut butter, some sugar and some oil (roast the peanuts, peel and pound them).
- With dried, smoked herring or dried, salted herring (soak in water before using it).
- With cow or goat milk or breast milk.
- With egg (beat one egg and add it to the gruel when it's almost cooked).

Enriched gruel made with WSB

- With herring.
- With sugar and milk.

Other special foods:

- Like mashed plantain with pumpkin or other vegetables with herring sauce or egg sauce or fish sauce or bean puree (bean sauce) or liver sauce.
- Vegetable puree with cereals or tubers, grease and protein-rich foods.
- Dough made with the ingredients of a bouillon (mashed vegetables, plantains, crushed, mashed or torn pieces of meat, add some of the liquid of the bouillon to turn it into a dough - instead of passing the whole thing through the sieve).



Tell the participants that in the next session we will form 2 groups to prepare special foods like enriched gruel and mashed plantain in order to see the kinds of foods children eat and how to enrich those foods.

Ask the participants:

*From all that we have said here, what would you like to put in the enriched gruel and to add to the mashed plantain?*

**Note for the health agent - some advice to guide the mothers:**

- salted gruel (with herring)
- sweet gruel (with sugar, beans, peanut/peanut butter, milk, eggs, some oil)
- use WSB to make gruel if you can find it
- plantain with pumpkin or green leafy vegetables with herring sauce (use the vegetables in season)

Encourage the participants to say which recipes they plan to prepare. Look at your list of ingredients for each recipe.

Ask the women to discuss this question in pairs:

*Why do we want to put all these things in the gruel or the mashed plantain?*

**Note for the health agent - some examples to help you**

**Nutrients in the foods that are good for children:**

<b>Foods</b>	<b>Nutrients</b>
Herring (dried fish):	Iron and protein to protect children and to make them grow.
Pumpkin, carrots, yellow sweet potato, green leafy vegetables, WSB:	Vitamin A to protect children.
Beans, peanuts, peanut butter, WSB:	Protein to protect children and make them grow.
Eggs, milk:	Protein and vitamin A to protect the children.
Plantain, WSB, wheat flour, sugar, vegetable oil:	Energy to give strength.

Ask the participants what questions they have. Answer their questions and plan with each of them what kinds of foods they will bring to the next meeting.

Plan with them where the food will be cooked, who will bring wood, water, utensils (pots, plates, spoons, cups, etc.)

**Note for the health agent:** Write down the names of the participants and what each will bring.

Tell the participants that in the next session they are all going to work together to prepare nutritious foods they can give the children to complement breast milk when the children start to eat other foods. The food will contain the things they usually give to the children. They will only add other things they can find locally to make it more nutritious.

Ask the participants if they have any questions or comments.

**Encourage the participants to continue to put into practice all that they have learned today.**

## Infant and young child feeding

### SESSION 8: PREPARING NUTRITIOUS FOODS FOR CHILDREN

#### **OBJECTIVES:**

**At the end of this session, the participants will have:**

1. Prepared a food that can be given to children when they start to eat other foods in addition to breast milk (taking into account amount of food to give and the appropriate texture ).
2. Compared the consistency of this food to children's development stages
3. Determined how to apply at home what they learned in their cooking experiences together.
4. Discussed food textures and quantities to give to the children.

#### **TIME:**

95 minutes (1h35m)

#### **METHODS:**

Cooking sessions, small and large-group discussions

#### **PREPARATION/MATERIALS:**

1. Bring extra ingredients and more utensils in case some groups have forgotten.
2. Be first to arrive and make sure that the groups have brought what they agreed to bring: food, utensils, and some children.
3. Bring the list of recipes.

#### **STEPS:**

1. **Cooking session and large-group discussion about the foods prepared - 60 minutes**

In the last meeting we talked about different kinds of nutritious foods.

*Who can remind me some of them?*

After several answers, ask them:

*Who can remind me what we are going to prepare together today?*

Thank all those who answered and the ones who came with what they promised to bring.

**PART 1:** Form 2 groups. Make sure that in each group everyone brought what they promised to bring.

**PART 2:** Ask the women to start preparing the ingredients for cooking the food just like they would do at home.

**Note for the health agent:**

Observe how the women organize themselves. Advise them when necessary on the quantities to use of each ingredient and how to cook them (mixing, cooking time, etc.). Don't forget: Ask the women to use less water than they usually would use at home to make sure the gruel is not going to be too thin.

**PART 3:** Ask the women to taste the food they just prepared and let the children taste also.

**PART 4:** After they have done that, stop them and tell them that what they have just done is to prepare a nutritious food that's very good for 6-month old children who are just learning to eat other kinds of foods to complement breast milk.

Ask the women:

*Why did we put all those ingredients in the gruel or in the mashed plantain?  
What is the role of each of those ingredients?*

**Note for the health agent - some examples to help you**

**Nutrients in the foods that are good for children:**

<b>Foods</b>	<b>Nutrients</b>
Herring (dried fish):	Iron and protein to protect children and to make them grow.
Pumpkin, carrots, yellow sweet potato, green leafy vegetables, WSB:	Vitamin A to protect children.
Beans, peanuts, peanut butter, WSB:	Protein to protect children and make them grow.
Eggs, milk:	Protein and vitamin A to protect the children.
Plantain, WSB, wheat flour, sugar, vegetable oil:	Energy to give strength.

## 2. Discussion about the food preparation demonstration - 15 minutes

Ask each group:

*How did you prepare the foods? How did you mix them?*

Anyone in the group can start answering and the others can join in.

When both groups are finished, provide more details if necessary.

Then ask them:

*How did you like those foods, in terms of taste, thickness and consistency?*

*Do you think the children liked this food?*

*How much of that could you give to a child at one serving?*

Encourage several of them to answer and then add:

[For children 6-9 months, you can give up to  $\frac{1}{4}$  cup #7<sup>1</sup> each time and you can feed them 2-3 times per day.]

Ask:

*Why should we not make the food too thin?*

Listen to their answers and explain to them:

[You should prepare a gruel that is thick enough to make it easier for the baby to eat, and that will fill his stomach with nutritious food and not just with water.]

## 3. Discussion in 3 groups on the feasibility for the women to prepare these foods at home for their children - 20 minutes

Tell the participants: We are going to take 5 minutes to discuss the following 3 questions in 3 small groups. Tell them how many members each group should have. Form the groups and tell each group which question to take.

*Group 1: Do you think it's easy to prepare these foods at home? Why?*

*Group 2: What is the benefit of each of these ingredients for the children?*

*Group 3: How do you intend to prepare these foods for your children at home?*

Ask:

*What's not clear for you in the task?*

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<sup>1</sup> 1 local cup #7 is equal to 2 measuring cups U.S.

Explain further if necessary and tell them to discuss the questions for about 5 minutes.

After 5 minutes, ask each group to present its results. After each group presentation, ask the women in the other 2 groups:

*What do you think about this group's answers?*

Encourage the mothers to prepare these foods at home for their children and summarize these points:

**Important Information About the First Food (in addition to breast milk) Given to Children**

- The first food given to babies can contain a single ingredient plus oil.
- Making the porridge thicker makes it easier for the baby to eat and means the baby's stomach is filled with good, nutritious food not just water.
- After about four or five days of trying this one-ingredient food—remembering children need to learn to eat—you can add another food/ingredient to make it more nutritious. Remember to add only one new food at a time to make sure it does not make the baby sick. Wait four days before adding another new food.

Ask the women to remember:

- Children learn to eat—just like they are learn to crawl, stand and walk.
- They should be given foods that they are able to eat.
- They should be given foods they are able to keep in their mouths and to chew without problems.
- When you give them foods they can eat easily, you are sure that they eat the quantity they are supposed to eat at each feeding.

Ask what questions they have about what you just said. Then ask them the following question before closing the meeting:

*From all the things we discussed in today's meeting, which actions are you going to try?*

Encourage several of them to answer. Then thank them for their participation in the meeting and praise them for their commitment to try what they did in today's session.

## Infant and young child feeding

### SESSION 9: HELPING CHILDREN EAT WELL IN HEALTH AND IN SICKNESS

#### OBJECTIVES:

By the end of this session, the participants will have:

1. Understood the importance of food in child development.
2. Analyzed, via a story, recommended techniques for responsive feeding and the benefits of using them.
3. Identified which good techniques they are going to use to help their children eat better.
4. Explained what other techniques they are going to use to help children eat during and after an illness.
5. Committed to bring different kinds of food they usually cook at home to the next meeting in order to focus on the variety of foods they should give children 6-12 months old.

#### TIME:

45 minutes

#### METHODS:

Large and small-group discussions, stories, demonstration, take-home assignment to try to feed children better ("trial" of one improved practice), presentations

#### PREPARATION/MATERIALS:

1. A copy of the child development and feeding chart to review in Step 1.

Age	0	6	9	12	24
Child Development					
Food Texture					
Breastfeeding and Feeding					
Participating in Feeding					
Frequency of Feeding					
Quantity of Food					

2. Prepare thoroughly the story in Step 2 in order to tell it easily. Practice it in advance.
3. Prepare the image that corresponds to the section on "how to help children eat" in Step 3. (N.B.: This image comes from the child development and feeding chart, but in this session you should use a larger image than the one in the chart.)

**STEPS:****1. Large-group discussion to review the child development and feeding chart - 10 minutes**

Ask for some volunteers to come to the chart, to point to a picture or a line (0-12 months) and to explain to the rest of the group what they see.

To make it easier, you could ask them the following questions:

*How should be the texture of food?*

*How should you breastfeed and give other foods?*

*How should you help children eat?*

*How many times per day should you feed children?*

*How much food to give them per serving?*

Be sure that the key points for children 0-6 months old are mentioned. Only add the points they don't bring up.

<b>Child feeding and development chart (0-12 months)</b>		
	<b>0-6 months old</b>	<b>6-12 months old</b>
<b>Child development</b>	This line shows how children change as they grow. Just as children learn how to sit, crawl and walk, they also learn how to eat. This line helps us to remember how children develop as they get older. You can then see how the recommendations on how to feed them change according to their stages of development.	
<b>Food texture</b>	<ul style="list-style-type: none"> <li>Breast milk is best adapted to babies' eating abilities.</li> </ul>	<ul style="list-style-type: none"> <li>At 6-8 months, children are learning to eat foods—practicing eating skills and becoming accustomed to new foods.</li> <li>Make sure children can easily eat the food—give soft, mashed or pureed foods early on, moving to chunky and lumpy pieces later.</li> <li>As eating skills develop (9-12 months), the food can be chunky, lumpy or chopped pieces. Increase the variety of foods fed as the child gets older.</li> </ul>
<b>Breastfeeding and Feeding</b>	<ul style="list-style-type: none"> <li>Give only breast milk.</li> </ul>	<ul style="list-style-type: none"> <li>Breastfeed before giving other foods until children are about 12 months old.</li> </ul>



	0-6 months old	6-12 months old
<b>Participating in Feeding</b>	<ul style="list-style-type: none"> <li>Focus on infants and talk to them while breastfeeding them.</li> </ul>	<ul style="list-style-type: none"> <li>Feed infants directly, and feed slowly and patiently.</li> <li>Talk to children during feeding, with eye to eye contact.</li> <li>Encourage children to eat, but do not force them.</li> <li>Feed them in their own bowl.</li> <li>Give them liquids with a little spoon out of a clean cup.</li> </ul>
<b>Frequency of Feeding</b>	<ul style="list-style-type: none"> <li>Breastfeed day and night and on demand</li> </ul>	<ul style="list-style-type: none"> <li>Beginning at 6 months, give the child enriched gruel or other special foods 2-3 times per day, increasing to 3-4 times by the age of 9-12 months.</li> <li>Provide additional nutritious snacks 1-2 times per day, such as pureed or mashed fruits, cassava bread with peanut butter, salty doughnuts ("marinad" with herring), fritters ("benyer"), one egg, avocado., etc..</li> </ul>
<b>Quantity of Food</b>	<ul style="list-style-type: none"> <li>Give five complete feeds per day, emptying one breast before offering the other.</li> </ul>	<ul style="list-style-type: none"> <li>Each time you feed the child, increase the amount given, from 2-4 large spoons (show spoons) at 6 months to at least <math>\frac{1}{2}</math> cup #7<sup>1</sup> at 12 months (show cup size).</li> <li>As the child gets older, give her/him more food at each feeding so that s/he may get stronger.</li> </ul>

Congratulate the participants for what they have shared and clarify any concerns/questions that remain.

## 2. Story on how to encourage children to eat - 4 minutes

Tell the following story. Change your voice or your appearance in some way to distinguish characters. If possible, arrange to have another person read one of the parts.

<sup>1</sup> 1 local cup #7 is equal to 2 measuring cups U.S.

Tell the participants:

*Maria meets Julie in the market and they discuss about their children. Adam is Maria's son and he is just a bit younger than Julie's child, Barbara, who is 8 months old. Julie is going to give Maria some important advice. Listen to these recommendations, and at the end of the story, I will ask for volunteers to state the recommendations included in the story. (There is another copy of this story in the last page of this activity).*

*Maria: Hello, Julie. I see Barbara is looking very well. I remember you were having trouble getting her to eat when you were starting to try giving her foods other than breast milk—but now she looks well nourished. My son, Adam, is doing okay but I can't seem to get him to eat well. He is so thin and seems to get sick easily. Do you have any suggestions about what to do?*

*Julie: Are you still breastfeeding him?*

*Maria: A little, but he is getting too old for that, isn't he?*

*Julie: Breastfeeding is good for Adam for a long time—it still helps protect him against many illnesses and is still the best way to give him the food he needs to grow. I breastfeed Barbara before I feed her anything else.*

*Maria: That's interesting, but even when I don't breastfeed him, Adam doesn't seem to want to eat other things.*

*Julie: Hmm... yes, Barbara has had the same problem. I change what I give her—different mixes of foods and different foods—to find out what she likes. So when she does not seem to want to eat, I give her those things.*

*Maria: Sometimes I ask myself if Adam will not be spoiled if I continue to give him only what he likes.*

*Julie: I don't think so - sometimes children just don't want to eat, but we must encourage them even when we know they don't want to.*

*Maria: Yes, that's true - what's more important is to encourage them to eat.*

*Julie: I also set enough time aside to really help her to eat. I talk to her calmly and sometimes I even sing to her. (You could sing 2-3 words here to add more life to the story). I don't force her to eat, though.*

*Maria: My eldest daughter feeds Adam sometimes. Otherwise I just feed him out of what the rest of us are eating.*

*Julie: Well... maybe you could talk to your daughter about how to feed Adam. She should spend time talking to Adam, encouraging him to eat, taking him aside and spending time just with him.*

*Maria: Do you feed Barbara the same kinds of foods the rest of the family eats? I just give Adam the same food the rest of us eat.*

*Julie: I feed Barbara the same food as the rest of the family but I feed her from a separate plate or bowl so I can really see how much she has eaten*

*and I pay attention to her. My mother feeds Barbara sometimes and I've convinced her to do the same things. Babies like Adam and Barbara need lots of encouragement and patience to help them eat. Just like everything else they are learning how to eat. We have to help them with this.*

**Maria:** *You give me some good ideas. I can see that I need to take more time to feed Adam. I will teach my daughter to do the same. If it helps Adam to eat and grow better, I think it will be worth it.*

### 3. Large and small-group discussions concerning the story - 10 minutes

Ask the participants to form small groups of 2-3 members and to discuss the following question:

*What advice did Julie give to Maria?*

After some time, ask for volunteers to start sharing, each group can share one idea and the others will add, this way we'll get as many ideas as possible.

After listening to their answers, use the following table to add the points they did not raise and show the picture "how to help children eat" that clarifies a lot of this information.

#### **Helping Children 6-12 Months to Eat**

Children are learning to eat at this age; therefore it is very important that they first receive breast milk and then have help as they practice eating. Help children learn:

1. Feed infants directly, and feed slowly and patiently.
2. Talk to children during feeding, with eye to eye contact.
3. Encourage children to eat, but do not force them, rather try to get them to like the food little by little.
4. If there are many foods a child does not like to eat, try to give different kinds of foods, changing the taste and the texture of the food, changing also the techniques you use to encourage him.
5. Minimize distractions during meals.
6. Put the food in a separate dish so that you can see how much they have eaten. Even when feeding a liquid food, put it in a cup and use a small spoon.
7. Teach other household members who feed the child to do the same.

Ask the participants:

*What touched you the most in all the advice Julie gave?*

*What benefits can we expect if we follow the recommendations also?*

Encourage several persons to answer these 2 questions and use the table below to add the points they don't mention.

**When a mother helps a child to eat, she is able to:**

1. Control the quality and quantity of food her child needs to eat well.
2. Teach her child to eat.
3. Know when her child is hungry, full, and when s/he is sick.
4. Have more free time because the children become full and satisfied after a feeding and will not demand their attention for food between feedings.

Ask participants for questions or comments.

**4. Work in small groups to plan changes in their child feeding practices - 8 minutes**

Ask the participants to form small groups of 2-3 members to discuss the following question for some time:

*After listening to Julie's recommendations, what do you plan to do now to encourage your children when feeding them?*

After a few minutes, ask one of the groups to explain what they are going to do. Congratulate them on their commitment. Tell them that in the next session they will get to share their experiences.

After this, repeat the key points of what we have just seen.

**Helping children eat well**

1. Feed infants directly, and feed slowly and patiently.
2. Talk to children during feeding, with eye to eye contact.
3. Encourage children to eat, but do not force them, rather try to get them to like the food little by little.
4. Participate in feeding children to help them learn to eat food in addition to breast milk.
5. Feed children from separate cups, plates or bowls to monitor how much they eat.

**5. Presentation and discussion in the large group of Feeding Recommendations During and After Illness - 5 minutes**

In the preceding story, Julie talked about how to help children to eat well. There are situations when children need more attention, like during and after an illness.

Listen to Julie's other recommendations on how to feed children during and after an illness.

#### **Feeding During and After Illness**

- Sick children often do not want to eat.
- During illness, breastfeed more frequently, increase fluid intake and offer the child appetizing, favorite foods. Encourage the child to eat.
- After illness, try to feed children more often special foods and more than usual each time to avoid malnutrition. A good way to do this is to give them one extra meal each day for at least two weeks after they get better. Offer them appetizing, favorite foods. Encourage the child to eat more.

Ask for any questions or comments and then ask the women:

*Why do you think it's a good idea to put these recommendations into practice?*

#### **6. Preparing the discussions for the next meeting – 8 minutes**

In the next meeting we will talk about variety of foods. In order to do that well, I would like each of you to bring one of the different kinds of foods you know, such as:

- a. Energy-rich foods such as oil and staples.
- b. Body-building foods like fish, dried beans, meat.
- c. Foods that protect children like fruits and vegetables.

Ask each of them, *which of these foods would you like to bring?*

Thank the person and write down what she promises to bring.

Before ending the meeting, remind the women that they have 2 take-home assignments:

1. The first assignment is to try the recommendations to help children to eat well. In the next meeting, we'll share how that worked.
2. The second assignment is for each one here to bring from home 1-2 examples of the different kinds of foods for the next meeting. The foods should not be cooked. We will use these foods to think about ways to increase variety in foods their children eat.

Ask them *what questions they have about the assignments.*

If they have questions, answer them and congratulate them all.

### STORY ON HOW TO ENCOURAGE CHILDREN TO EAT

**Maria:** *Hello, Julie. I see Barbara is looking very well. I remember you were having trouble getting her to eat when you were starting to try giving her foods other than breast milk—but now she looks well nourished. My son, Adam, is doing okay but I can't seem to get him to eat well. He is so thin and seems to get sick easily. Do you have any suggestions about what to do?*

**Julie:** *Are you still breastfeeding him?*

**Maria:** *A little, but he is getting too old for that, isn't he?*

**Julie:** *Breastfeeding is good for Adam for a long time—it still helps protect him against many illnesses and is still the best way to give him the food he needs to grow. I breastfeed Barbara before I feed her anything else.*

**Maria:** *That's interesting, but even when I don't breastfeed him, Adam doesn't seem to want to eat other things.*

**Julie:** *Hmm... yes, Barbara has had the same problem. I change what I give her—different mixes of foods and different foods—to find out what she likes. So when she does not seem to want to eat, I give her those things.*

**Maria:** *Sometimes I ask myself if Adam will not be spoiled if I continue to give him only what he likes.*

**Julie:** *I don't think so - sometimes children just don't want to eat, but we must encourage them even when we know they don't want to.*

**Maria:** *Yes, that's true - what's more important is to encourage them to eat.*

**Julie:** *I also set enough time aside to really help her to eat. I talk to her calmly and sometimes I even sing to her. (You could sing 2-3 words here to add more life to the story). I don't force her to eat, though.*

**Maria:** *My eldest daughter feeds Adam sometimes. Otherwise I just feed him out of what the rest of us are eating.*

**Julie:** *Well... maybe you could talk to your daughter about how to feed Adam. She should spend time talking to Adam, encouraging him to eat, taking him aside and spending time just with him.*

**Maria:** *Do you feed Barbara the same kinds of foods the rest of the family eats? I just give Adam the same food the rest of us eat.*

**Julie:** *I feed Barbara the same food as the rest of the family but I feed her from a separate plate or bowl so I can really see how much she has eaten and I pay attention to her. My mother feeds Barbara sometimes and I've convinced her to do the same things. Babies like Adam and Barbara need lots of encouragement and patience to help them eat. Just like everything else they are learning how to eat. We have to help them with this.*

**Maria:** *You give me some good ideas. I can see that I need to take more time to feed Adam. I will teach my daughter to do the same. If it helps Adam to eat and grow better, I think it will be worth it.*

## Infant and young child feeding

### SESSION 11: PROTECTING YOUR FOOD - PROTECTING YOUR CHILDREN

#### OBJECTIVES:

By the end of this session, participants will have:

1. Described actions they can take concerning food to prevent diarrhea.
2. Reviewed recommended feeding practices during and after children are sick.

#### TIME:

40 minutes

#### METHODS:

Large-group discussion, presentations, game in small groups

#### PREPARATION/MATERIALS:

1. Prepare the image showing 2 children's growth and development paths.
2. Some images showing 6 important diarrhea prevention practices.

#### STEPS:

1. **Presentation of importance of hygiene in food preparation, handling and storage - 5 minutes**

Take the image showing 2 children's growth and development paths while saying these words to the participants:

*Now we are going to talk about how to prepare and serve the food so that children do not get sick from it. I am going to show you the image of the growth paths of two children (Toni and Loulou) that we saw in an earlier session. Illnesses, such as diarrhea, contribute to growth problems similar to Loulou's. Look how healthy Toni looks in the picture and Loulou is just skin and bones!*

Ask the women:

*What are some ways that food can cause diarrhea?*

Encourage several volunteers to answer and be sure that the points in the box on the next page are raised. Add only the points that they don't raise.

### Important Points About Food and Hygiene

- Germs on food can cause diarrhea.
- Germs on hands that prepare food or on children's hands can cause diarrhea.
- Dirty water used to wash dishes or for cooking can allow germs to get on food and cause diarrhea.
- Germs that cause diarrhea can grow on cooked food that cools and sits for many hours.

## 2. Analyze in small groups several images on actions to prevent diarrhea - 20 minutes

Tell the participants we are going to play a game that requires 3 small groups. Each group will have 2 images to analyze.

Explain:

*These pictures illustrate what you can do in your home to keep food and feeding from causing children to get diarrhea. Discuss the pictures in your group and decide what message each is communicating. As soon as your group has decided on the messages for its pictures, you should stand up together and shout: "Healthy children!". This group will be the first to present its suggestions. The two other groups will continue until they have identified the messages for their pictures. Start now with the discussions.*

Once all groups have finished, ask the first group to come up front to present the messages in their pictures. Then, ask the second and third group to come up front to present their messages. Congratulate the women for their suggestions. Make sure each message is very clear and review all the messages before closing.

### Diarrhea Prevention

1. Wash hands (children's and caregivers') with soap and water before preparing food and eating or feeding.
2. Use clean utensils (bowls, cups and spoons) to prepare and serve foods—never use bottles.
3. Breastfeed to protect from illness.
4. Cover uneaten food to protect it from flies.
5. Keep the area around your home clean—especially clean up feces.
6. Serve foods immediately after preparation while they are still hot. (Reheat all cooked foods before serving them again. Food should be reheated until it is too hot to eat and allowed to cool. Mixed foods will spoil more quickly. If you cannot reheat, serve foods or snacks that do not need to be cooked.)



Ask the women: About the last point (if you cannot reheat the food, serve foods that do not need to be cooked):

*What foods could you give children that do not require cooking or re-heating?*

Thank participants for their ideas and encourage them to keep working on adding variety and trying the improved foods.

### **3. Presentation and discussion of feeding recommendations during and after illness - 10 minutes**

Use the image showing 2 children's growth and development paths to explain the following points:

*Even children who eat well get sick sometimes - look how Toni also had diarrhea (show this on the image). However, he continued to grow well, and Loulou did not, because his mother fed him properly before he got sick and after he got well. Pay attention to what we are going to explain now on feeding children during and after illness.*

Explain to the participants:

#### **Feeding During and After Illness**

- Sick children often do not want to eat.
- During illness, breastfeed more frequently, increase fluid intake and offer the child appetizing, favorite foods. Encourage the child to eat.
- After illness, try to feed children more often special foods and more than usual each time to avoid malnutrition. A good way to do this is to give them one extra meal each day for at least two weeks after they get better. Offer them appetizing, favorite foods. Encourage the child to eat more.

Ask the participants:

*What questions or comments do you have about what we just said?*

Thank all of them for their ideas.

#### **4. Review and close the session - 5 minutes**

Today we talked about how children may get diarrhea, what we can do to prevent diarrhea, and how to feed children during and after an illness. Before closing this session, I would like you to tell me:

*Starting today, what are you going to do to prevent diarrhea in your children?*

*How will you feed your children during and after they are sick?*

Thank all those who answer. Add the points they did not raise and encourage all of them to try what they learned in today's session.

## Infant and child feeding

### SESSION 10: VARIETY OF FOOD COMBINATIONS APPROPRIATE FOR CHILDREN 6-12 MONTHS

#### **OBJECTIVES:**

**At the end of this session, participants will have:**

1. Analyzed the success or difficulties they had with trying new feeding practices since the last session.
2. Identified the most nutritious foods locally available.
3. Committed to feed the children nutritious foods at home.

#### **TIME:**

45 minutes

#### **METHODS:**

Small and large-group discussion, demonstration on mixing different kinds of foods

#### **PREPARATION/MATERIALS:**

1. Prepare the picture on "How to help children eat" to use in the Step 1. (N.B.: This picture comes from the child development and feeding chart, but in this session you should use a larger picture than the one in the chart.)
2. Prepare the picture on "Variety of food" for Step 2.

#### **STEPS:**

1. **Small group discussion of what participants tried since the last session - 10 minutes**

Show the picture on "How to help children eat" and review the recommendations from the last meeting. Ask the participants to share their own ideas and make sure that the points below are raised. Add the points they did not raise.

### Helping children eat

- Feed infants directly, and feed slowly and patiently.
- Talk to children during feeding, with eye to eye contact.
- Encourage children to eat, but do not force them, rather try to get them to like the food little by little.
- Participate in feeding children to help them learn to eat food in addition to breast milk.
- Feed children from separate cups, plates or bowls to monitor how much they eat.

Ask the participants to discuss the following questions in paired groups:

*Which one of you tried to encourage your children to eat, like we discussed in the last meeting? How did it work? What worked well? What did not work well? Why?*

After about 5 minutes, ask each group to summarize what its members discussed.

Thank participants for trying these new practices and the ideas they gave for overcoming difficulties. Encourage them to continue trying the new feeding practices and talking to each other on how to deal with the problems identified.

## 2. Work in small and large group on food variety - 15 minutes

Ask participants to show the food they brought from home. Ask them to get together with 3-4 others who have a food that is different than theirs.

After they have gathered into their groups, ask each group to show the foods its members brought. Note the amount of variety there is within and among groups.

Show the picture on "Variety of food". Ask the different groups to discuss the following question:

*What kinds of foods **are you missing** in your group (energy, protection, or growth) that you could add to the ones you already have to increase the variety of the food (by taking it from another group or coming from home with it)?*

At the end of their discussions, ask for some volunteers from each group to explain:

*What is the role of the different kinds of foods in your group?*

Make sure that they understand that you are not asking them to give all these foods at the same time, but a meal that contains one food from each food category.

Another very important thing to make the women understand is that:

- Children need a variety of different kinds of fruits and vegetables each day.
- They should give their children small amounts (for about 5 gourdes) of meat, liver, egg, and fish as often as possible so that the children's brains develop well.
- At least give children a  $\frac{1}{4}$  to  $\frac{1}{2}$  cup #7<sup>1</sup> of enriched gruel each time you feed them.
- If you have  $\frac{1}{2}$  cup #7 of flour to prepare a salty version of gruel, use 2 local measures (pieces="mak") of herring.

Ask for some volunteers in the large group to answer the following question:

*Which categories of foods might be difficult for you to provide to children around here (because they are not easy to find or are too expensive) and which ones could you find easily?*

Encourage several persons to answer. Then ask them:

*With the foods we have here, what kinds of special meals that contain a variety of different food could we prepare for children 6-12 months old?*

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<sup>1</sup> 1 local cup #7 is equal to 2 measuring cups U.S.

**Note for the health agent:**

Here are some examples to help you. Use them to complete the participants' answers.

Enriched gruel (better than gruel made with wheat flour only):

Made with wheat flour, millet flour, or corn flour

- With black beans, sugar and some oil (roast the beans to reduce cooking time, start by pounding it, winnowing it to remove the skins, continue to pound it until it turns to flour).
- With peanuts/peanut butter, some sugar and some oil (roast the peanuts, peel and pound them).
- With dried, smoked herring or dried, salted herring (soak in water before using it).
- With cow or goat milk or breast milk.
- With egg (beat one egg and add it to the gruel when it's almost cooked).

Enriched gruel made with WSB

- With herring.
- With sugar and milk.

Other special foods:

- Like mashed plantain with pumpkin or other vegetables with herring sauce or egg sauce or fish sauce or bean puree (bean sauce) or liver sauce.
- Vegetable puree with cereals or tubers, grease and protein-rich foods.
- Dough made with the ingredients of a bouillon (mashed vegetables, plantains, crushed, mashed or torn pieces of meat, add some of the liquid of the bouillon to turn it into a dough - instead of passing the whole thing through the sieve).

Thank the participants for the ideas they shared and the foods they brought. Encourage them to keep trying the new food preparation practices and to try adding some of the foods they have brought in to the meals they prepare for their children at home.

### **3. Large-group discussion on their experiences with feeding their children the nutritious foods - 20 minutes**

In the last session we cooked 2 special foods (enriched gruel and mashed plantain). I think there must be several of you who tried to prepare these same recipes at home.

*I would like to know who tried to do that?*

Ask the ones who say they tried:

*Which special meals did you prepare?*

*What ingredients did you use and how did you prepare it?*

*How many times did you prepare it?*

*Who ate the food?  
How did they like it?*

*What problems did you have to prepare the food?*

Ask the ones who did not try at all, *why?* Keep asking "why" until they explain their constraints.

When everyone has spoken, encourage them all to cook these special foods especially for their children; these foods will provide them all that they need to build and protect their bodies.

Ask the women:

*What do you do when going out for some time? What do you leave for the children to eat?*

Listen to their answers and then use the information in the table below to give more details.

**Note for the health agent: some advice for the women when they must go out for some time**

Tell the women:

Don't forget to conserve the gruel or other foods for the children in a covered clean cup and put it in a cool place, like around an earthenware container ("kanari"), or in a thermos bottle or inside a container with some cool water.

Always remember to tell the persons caring for the children to give them snacks in your absence. You can prepare these snacks in advance or the person could prepare them quickly:

- Millet or corn snack ("*cham-cham*")
- Salty doughnuts ("*marinad*")
- Avocado
- Cassava bread with peanut or sesame butter
- Roasted peanuts
- Mango or other fruits like banana

## Infant and young child feeding

### SESSION 12: FEEDING CHILDREN BEYOND 12 MONTHS OF AGE

#### OBJECTIVES:

**At the end of this session, participants will have:**

1. Compared feeding children before 12 months of age with feeding at 12 months of age and beyond.
2. Identified important food categories that should be provided in meals for children beyond 12 months of age.
3. Explained in their own words how children should eat.

#### TIME:

50 minutes

#### METHODS:

Presentation, small and large-group discussions, story, song, skit

#### PREPARATION/MATERIALS:

1. A copy of the child development and feeding chart.

Age	0	6	9	12	24
Child Development					
Food Texture					
Breastfeeding and Feeding					
Participating in Feeding					
Frequency of Feeding					
Quantity of Food					

2. Prepare to explain all parts of the child development chart.

#### STEPS:

1. **Show how to feed children beyond 12 months of age - 15 minutes**

Tell the participants:

*We have already learned some important things on how to feed children 6-12 months old, and we also talked about the importance of food variety and of different foods that are good for all children (and also for adults!). Before the end of this meeting we will learn other important things on how to feed children 12 months to 5 years old.*



Show participants the child development and feeding chart for children 0-24 months old.

Make sure that all the participants can see the chart. Go through the chart, row by row, and ask for a volunteer to explain quickly the columns for 0-12 months. Others can add until the women have done the review themselves.

When they have finished explaining all the points concerning children 0-12 months, add other details as necessary. Then, explain the points concerning children 12-24 months. Tell them, that most of the recommendations for children between 12 and 24 months old are also true for children until 5 years of age. After each row, ask for a volunteer to describe how feeding recommendations change, as children get older. Ask what things do change and what things don't change much.

<b>Child development and feeding chart for children beyond 12 months old</b>	
<b>Child development</b>	<ul style="list-style-type: none"> <li>• Children continue to develop new skills and abilities.</li> </ul>
<b>Food texture</b>	<ul style="list-style-type: none"> <li>• Continue to feed children enriched gruels.</li> <li>• Feed the child other special foods; the food can be chunky, lumpy or chopped soft pieces.</li> <li>• If s/he is still hungry, give a small amount from the family meal.</li> <li>• Increase the variety of foods, as the child gets older.</li> <li>• For children older than 2 years, feed a variety of foods including animal source foods like meat, liver, milk and eggs.</li> </ul>
<b>Breastfeeding and feeding</b>	<ul style="list-style-type: none"> <li>• Continue to breastfeed on demand until the child is 24 months or older so s/he continues to grow well - always breastfeed her/him each time s/he has finished eating and when s/he is hungry.</li> <li>• If the mother is going out for some time, she still can express her breast milk and leave it in a cup for someone to give to the child with a spoon during her absence.</li> </ul>
<b>Participating in feeding</b>	<ul style="list-style-type: none"> <li>• Assist and supervise feeding to ensure adequate intake.</li> <li>• For children older than 2 years, supervise feeding to ensure adequate intake, assist if needed.</li> <li>• Feed slowly and patiently.</li> <li>• Talk to children during feeding, with eye to eye contact.</li> <li>• Encourage children to eat, but do not force them.</li> <li>• Minimize distractions during meals.</li> <li>• Give them liquids with a little spoon out of a clean cup specially set aside for them.</li> </ul>

Child development and feeding chart for children beyond 12 months old	
<b>Frequency of feeding</b>	<ul style="list-style-type: none"> <li>• Feed children special meals 3-4 times per day. For the children older than 2 years, feed family meals as well to help them recuperate from malnutrition.</li> <li>• Feed children nutritious snacks 1-2 times per day, such as: corn or millet snack ("<i>cham-cham</i>"), fruits, cassava bread with peanut butter, salted doughnuts ("<i>marinade</i>" with herring), fritters ("<i>benyer</i>"), one egg, mashed eggs with banana, avocado, roasted peanuts, a small piece of meat from the family meal.</li> </ul>
<b>Quantity of food</b>	<ul style="list-style-type: none"> <li>• At each feeding give the child <math>\frac{1}{2}</math> cup #7<sup>1</sup> or more (show cup size).</li> <li>• As the child gets older, give her/him more food at each feeding so s/he may get stronger.</li> </ul>

To make sure the participants understand, ask them what is not clear in what you just said and if they have questions or comments.

## 2. Discussion of important food categories that should be provided in meals for children beyond 12 months of age - 15 minutes

Now tell the women that you are going to discuss some words that you have often heard them say. Listen carefully to those words to tell me what you think.

*I hear people say: "Even when a child can walk s/he is still at risk." - What do you think about this?*

Encourage several answers. Try to bring out in the conclusion that it is important to prepare nutritious special foods for children even beyond 12 months old. They still must get a lot of attention because they are not adults yet.

We all agree that at this age mothers should still prepare special foods for them!

*What do you think, what kind of special foods can we prepare for them at this age? Why?*

<sup>1</sup> 1 local cup #7 is equal to 2 measuring cups U.S.

Listen to several answers and summarize the information in the table below:

**Note for the health agent:**

Here are some examples to help you.

Enriched gruel (better than gruel made with wheat flour only):

Made with wheat flour, millet flour, or corn flour

- With black beans, sugar and some oil (roast the beans to reduce cooking time, start by pounding it, winnowing it to remove the skins, continue to pound it until it turns to flour).
- With peanuts/peanut butter, some sugar and some oil (roast the peanuts, peel and pound them).
- With dried, smoked herring or dried, salted herring (soak in water before using it).
- With cow or goat milk or breast milk.
- With egg (beat one egg and add it to the gruel when it's almost cooked).

Enriched gruel made with WSB

- With herring.
- With sugar and milk.

Other special foods:

- Like mashed plantain with pumpkin or other vegetables with herring sauce or egg sauce or fish sauce or bean puree (bean sauce) or liver sauce.
- Vegetable puree with cereals or tubers, grease and protein-rich foods.
- Dough made with the ingredients of a bouillon (mashed vegetables, plantains, crushed, mashed or torn pieces of meat, add some of the liquid of the bouillon to turn it into a dough - instead of passing the whole thing through the sieve).

Another very important thing to make the women understand especially to help malnourished children recuperate is that:

- Children need a variety of different kinds of **fruits and vegetables** each day.
- They should give their children small amounts (for about 5 gourdes) of **meat** (goat, chicken, beef - not feet, intestines, or bones, but real meat), **liver**, **eggs**, **and fish** as often as possible so that the children's brains develop well.
- At least give children  $\frac{1}{2}$  cup #7 of **enriched gruel or other special foods** each time you feed them.
- If you have  $\frac{1}{2}$  cup #7 of flour to prepare a salty version of gruel, use 2 local measures (pieces="mak") of herring.
- Give children vegetables and yellow fruits rich in **vitamin A** and other nutrients such as: mango, yellow pumpkin, green leafy vegetables (watercress, different leaves like "lyann panyer" and "malanga", spinach, etc.) along with liver, eggs and milk to help them develop well.

Answer all their questions and then tell them: "I also often hear people saying that you must not feed children in the evening." - *What do you think?*

Encourage several of them to answer. Try to bring out in the conclusion that it is important to prepare nutritious special foods for children even beyond 12 months old and that they should also be fed at evening time (around 6 o'clock pm) so they may get stronger. Don't forget: Having a full belly is not the same as eating well. A cup of special enriched foods is much better than a large plate of starchy food that risks inflating the child.

In the evening, feed children special foods such as enriched gruel, etc., so they may get stronger - this is not going to inflate them. Children who don't eat well in the evening don't sleep well.

### **3. Small-group discussion to prepare their own way of communicating feeding recommendations - 20 minutes**

Now that we have seen all the information in the child development and feeding chart, we're going to do an activity with the chart in small groups:

*You will have 10 minutes to choose one idea from the child development and feeding chart and compose a song, develop a skit or a story to use to communicate those recommendations to other people. Your presentations should not be too long.*

*We must choose recommendations that address mothers of children older than 12 months. We may also decide to talk to other people who feed the children about a better way to do so.*

*Try to limit your presentation to one key idea, such as quantity of food, feeding frequency, participating in feeding children, food texture, etc.*

Ask participants if they have questions and then form small groups of 2-3 members for this task. Circulate among the groups to make sure that they don't choose the same ideas.

After about 10 minutes, ask for a group to volunteer to go first and do the following:

*Present the song, the skit or the story your group prepared about the way to feed children beyond 12 months old.*

The group should tell you the recommendation or topic being promoted. Continue with the next group until all have presented.

Praise each group for its work and correct any errors you notice. Encourage the women to use these methods in real life with other people in the community.

To conclude, rapidly review the child development and feeding chart by age groups 0-6 months, 6-12 months, and 12-24 months.

#### **Review of the chart on child development and feeding**

- Children need to learn to eat and need help and guidance to eat well. That must be done continually.
- Mothers should breastfeed their children at least for the first 24 months and beyond.
- Mothers should participate in feeding their children in order to develop a close relationship with them (the same way this happens when mothers breastfeed) and to make sure that the children will get the amount of food they need.
- As the children get older, increase the number, quantity and variety of feedings.
- Provide children a variety of different foods to assure that they get enough energy, vitamins to protect them from illness and the things they need to grow well.

Ask the participants:

*What questions or comments do you have about the chart?*

Answer all their questions and close the meeting with a song that one of the groups composed.

**Infant and young child feeding**

**SESSION 13: WHAT WE CAN DO TO COMBAT MALNUTRITION**

**OBJECTIVES:**

**At the end of this session, the participants will have:**

1. Identified different forms of malnutrition.
2. Understood the reasons for malnutrition.
3. Discussed what they can do to combat malnutrition and how to prevent it in children.
4. Reviewed children's development stages and ways to feed children 0-59 months.
5. Decided which nutritious foods they will prepare together during the next session and indicated which ingredients they will bring to cook those special foods.

**TIME:**

69 minutes

**METHODS:**

Presentation, story, small and large-group discussions

**PREPARATION/MATERIALS:**

1. A picture that illustrates 2 children's growth paths.
2. World Vision's album of images (picture of 2 children with malnutrition - Kwashiorkor and Marasmus).
3. The child development and feeding chart.

Age	0	6	9	12	24
Child Development					
Food Texture					
Breastfeeding and Feeding					
Participating in Feeding					
Frequency of Feeding					
Quantity of Food					

4. Remember to bring along the list of recipes.

**STEPS:**

**1. Presentation of the activities to do in Mothers' Clubs - 5 minutes**

Tell the women that in this session you will talk about child feeding practices. You are going to present what you know about the subject and you hope to learn also from their own experiences.

After all these sessions we will:

1. Understand different types of malnutrition, their causes, and ways to combat them.
  2. Identify what different kinds of foods children should eat and how often they must eat, etc.
- 2. Story and discussion in paired groups on the reasons why children less than 5 years old are at risk of malnutrition - 14 minutes**

I am going to tell you a story. Listen carefully because these are cases of children just like yours.

*This picture shows 2 children's growth paths. The top path shows Toni, a child who is growing well. Toni continues to grow well because his mother takes good care of him. This path is what we would like to see for all children.*

*The child at the bottom is Loulou. Loulou's growth followed a different path. You can see that he did not grow well at all and that at times his weight even went down. Loulou was sick, but after his illnesses he did not gain enough weight and "catch up" the weight he had lost. He also had many illnesses, and after each illness, he never gained enough weight. His weight loss was followed by more illness, and so on, so that over time Loulou became weaker and weaker and malnourished and never gained enough weight to do well in school or grow up strong.*

*Children between the ages of 6 months and 5 years, like Loulou and Toni, are at risk of not gaining enough weight and getting sick and finally malnourished.*

Ask participants if they have questions for clarification or comments about the picture or story.

Ask them to form paired groups to discuss this question:

*What are some reasons of malnutrition in the case of Loulou?*

Ask for volunteers to present what they discussed. Assure that the participants mention the points below; raise them only if they don't.

**Why children less than 5 years old are at risk to become malnourished**

- Foods other than breast milk may have germs; also, children at this age start to put dirty things in their mouths: both of these things can cause diarrhea.
- They might not be eating enough food in addition to breast milk. They may not:
  - eat often enough or eat enough at each meal.
  - get enough nutrients/energy from the food they eat; or
  - eat enough because they are sick.
- Mothers may have weaned the children suddenly, so that the children did not eat enough.
- Mothers may not give their children enough affection.

Thank the participants for their answers. Tell them that you will be examining ways of dealing with many of these issues until the next meeting.

### 3. Discussion on symptoms of malnutrition - 15 minutes

Ask participants: Now that we have seen the reasons for malnutrition, who would like to answer the following question:

*How could we see that a child is malnourished?*

Let several of them answer.

After their answers, show them the picture of the 2 children with malnutrition (album of images) while explaining:

There are 2 forms of malnutrition.

The first is **marasmus** ("dry malnutrition") (point to the first child in the picture).

As we have already said, we see that this child is:

All dried up, with very thin arms and legs; her/his skin is dried and wrinkled, her/his face is like an old man; s/he is always hungry. This is called "marasmus" ("dry malnutrition").

The second is **kwashiorkor** ("bloated malnutrition") (point to the second child in the picture). See how this child is:

Her/his whole body is bloated: feet, legs, hands... her/his hair is red and very thin; s/he cannot eat, s/he cannot keep herself/himself straight, her/his face is depressed and sad, s/he complains a lot. This is called kwashiorkor ("bloated malnutrition").



Ask participants:

*What questions do you have on these 2 forms of malnutrition?*

Answer their questions and then ask them:

*Who of you has seen children like the ones in this picture before? (show picture again)*

*What usually happens to malnourished children like the ones in this picture?*

Listen to their answers and use the information in the table below to complete anything they missed.

**Note for the health agent:**

Marasmus and kwashiorkor are the serious forms of malnutrition. Both of them cause death in children. The first symptom of malnutrition is when the child has not gained weight for some time or s/he has lost weight, i.e. her/his body has not grown well enough for her/his age.

**4. Discussion of what to do to help children with malnutrition recuperate - 10 minutes**

Ask participants to discuss this next question in paired groups for 5 minutes:

*What should we do for a malnourished child?*

At the end of the 5 minutes, ask the paired groups:

*Who would like to begin to tell us what to do for a malnourished child?*

Listen to their answers; ask the other groups to add new elements. When they have finished, use the table below to add the points they did not raise.

**Note for the health agent:**

- Give them more food at each feeding and feed them nutritious foods more often (special foods, enriched gruel).
- Give them foods that stimulate appetite, their favorite foods.
- Encourage them to eat as much as possible.
- If the child is sick, ask the health agent for advice immediately.
- If s/he has marasmus or kwashiorkor, take him to the health center right away.

## 5. Presentation of the child development and feeding chart for children less than 5 years old – 10 minutes

Show the child development and feeding chart and explain the information in each section one after the other.

Since this is the first time the participants are seeing this chart, make sure they can see it well and insist a lot on the following points:

In the columns, from left to right, we see the children's ages: 0-6 months, 6-9 months, 9-12 months, and 12-24 months. Most of the recommendations for children between 12 and 24 months old are also true for children until 5 years of age.

To the left, on the rows, you see the following information:

- Child Development
- Food Texture
- Breastfeeding and Feeding
- Participating in Feeding
- Frequency of Feeding
- Quantity of Food

Today we are going to talk about some important points on how to help malnourished children under 5 recuperate.

### Note for the health agent:

- "0-6 months" means: from the day of birth to the day before its 6<sup>th</sup> month.
- "6-9 months" means: from the day the child is 6 months old to the day before its 9<sup>th</sup> month.
- "9-12 months" means: from the day the child is 9 months old to the day before its 12<sup>th</sup> month.
- "12-24 months" means: from the day the child is 12 months old to the day before its 24<sup>th</sup> month.

<b>Children between 6 months and 5 years</b>	
<b>1<sup>st</sup> row Child development</b>	This row shows how children change, grow, and develop. Just as children learn how to sit, crawl and walk, they also learn how to eat. This row helps us to remember how children develop as they get older. You can then see how the recommendations on how to feed them change according to their stages of development. Different stages require different foods.

	<b>Children between 6 months and 5 years</b>	
<b>4<sup>th</sup> row Participating in feeding</b>	<ul style="list-style-type: none"> <li>• Children <b>6-12 months</b>: Feed infants directly, and feed slowly and patiently.</li> <li>• Children <b>12-24 months</b>: Assist and supervise feeding to ensure adequate intake.</li> </ul> <p>For children <b>older than 2 years</b>: Supervise feeding to ensure adequate intake, assist if needed.</p> <ul style="list-style-type: none"> <li>• Talk to children during feeding, with eye to eye contact.</li> <li>• Encourage children to eat, but do not force them.</li> <li>• Feed them in their own bowl.</li> <li>• Give them liquids with a little spoon out of a clean cup.</li> </ul>	
	<b>Children 6-9 months</b>	<b>Children 9 months to 5 years</b>
<b>5<sup>th</sup> row Feeding frequency</b>	<ul style="list-style-type: none"> <li>• Feed the child enriched gruel or other special foods 2-3 times per day.</li> <li>• Give nutritious snacks to the children 1-2 times per day, such as: pureed or mashed fruit, cassava bread with peanut butter, salty doughnuts ("<i>marinad</i>" with herring), fritters ("<i>benyer</i>"), one egg, avocado.</li> </ul>	<ul style="list-style-type: none"> <li>• Feed children special meals 3-4 times per day. For the children older than 2 years, feed family meals as well to help them recuperate from malnutrition.</li> <li>• Feed children nutritious snacks 1-2 times per day, such as: corn or millet snack ("<i>cham-cham</i>"), fruits, cassava bread with peanut butter, salted doughnuts ("<i>marinade</i>" with herring), fritters ("<i>benyer</i>"), one egg, mashed eggs with banana, avocado, roasted peanuts, a small piece of meat from the family meal.</li> </ul>
<b>6<sup>th</sup> row Quantity</b>	<ul style="list-style-type: none"> <li>• Each time you feed the child, give several small spoonfuls to equal 2-4 large spoonfuls until s/he eats at least a <math>\frac{1}{4}</math> cup #7<sup>1</sup>. (Show the participants the size of spoon and cup you are talking about.)</li> </ul>	<ul style="list-style-type: none"> <li>• Progressively increase the quantity each time you feed so that the child gets to eat at least <math>\frac{1}{2}</math> cup #7 when he is 12 months old. (Show the participants the size of the cup you are talking about.)</li> <li>• Children older than 12 months: At each feeding give the child <math>\frac{1}{2}</math> cup #7 or more.</li> <li>• As the child gets older, give her/him more food at each feeding so s/he may get stronger.</li> </ul>

<sup>1</sup> 1 local cup #7 is equal to 2 measuring cups U.S.

Now say these words:

*Children that age (specially those between 9-12 months) are like a small lamp that can't hold much gas. As they are very active - they are always moving - and their stomachs are small, we must fill it often, the same way as a small lamp, if you are using it all the time, you must fill it often.*

Ask participants what questions or comments they have on the examples you used to explain the points covered.

Answer their questions and tell them that we will review all those points during the next meeting.

## **6. Preparation for the next session - 15 minutes**

Tell the participants:

In the recommendations we talked about enriched gruel and other special foods.

Ask:

*According to you, what does "enriched gruel" and "other special foods" mean?*

**Note for the health agent:**

Here are some examples to help you. Use them to complete the participants' answers.

Enriched gruel (better than gruel made with wheat flour only):

Made with wheat flour, millet flour, or corn flour

- With black beans, sugar and some oil (roast the beans to reduce cooking time, start by pounding it, winnowing it to remove the skins, continue to pound it until it turns to flour).
- With peanuts/peanut butter, some sugar and some oil (roast the peanuts, peel and pound them).
- With dried, smoked herring or dried, salted herring (soak in water before using it).
- With cow or goat milk or breast milk.
- With egg (beat one egg and add it to the gruel when it's almost cooked).

Enriched gruel made with WSB

- With herring.
- With sugar and milk.

Other special foods:

- Like mashed plantain with pumpkin or other vegetables with herring sauce or egg sauce or fish sauce or bean puree (bean sauce) or liver sauce.
- Vegetable puree with cereals or tubers, grease and protein-rich foods.
- Dough made with the ingredients of a bouillon (mashed vegetables, plantains, crushed, mashed or torn pieces of meat, add some of the liquid of the bouillon to turn it into a dough - instead of passing the whole thing through the sieve).

Tell the participants that in the next session we will form 2 groups to prepare special foods like enriched gruel and mashed plantain in order to see the kinds of foods children eat and how to enrich those foods.

Ask the participants:

*From all that we have said here, what would you like to put in the enriched gruel and to add to the mashed plantain?*

**Note for the health agent - some advice to guide the mothers:**

- salted gruel (with herring)
- sweet gruel (with sugar, beans, peanut/peanut butter, milk, eggs, some oil)
- use WSB to make gruel if you can find it.
- plantain with pumpkin or green leafy vegetables with herring sauce (use the vegetables in season).

Encourage the participants to say which recipes they plan to prepare. Look at your list of ingredients for each recipe.

Ask the women to discuss this question in pairs:

*Why do we want to put all these things in the gruel or the mashed plantain?*

**Note for the health agent - some examples to help you**

**Nutrients in the foods that are good for children:**

<b>Foods</b>	<b>Nutrients</b>
Herring (dried fish):	Iron and protein to protect children and to make them grow.
Pumpkin, carrots, yellow sweet potato, green leafy vegetables, WSB:	Vitamin A to protect children.
Beans, peanuts, peanut butter, WSB:	Protein to protect children and make them grow.
Eggs, milk:	Protein and vitamin A to protect the children.
Plantain, WSB, wheat flour, sugar, vegetable oil:	Energy to give strength.

Ask the participants what questions they have. Answer their questions and plan with each of them what kinds of foods they will bring to the next meeting.

Plan with them where the food will be cooked, who will bring wood, water, utensils (pots, plates, spoons, cups, etc.)

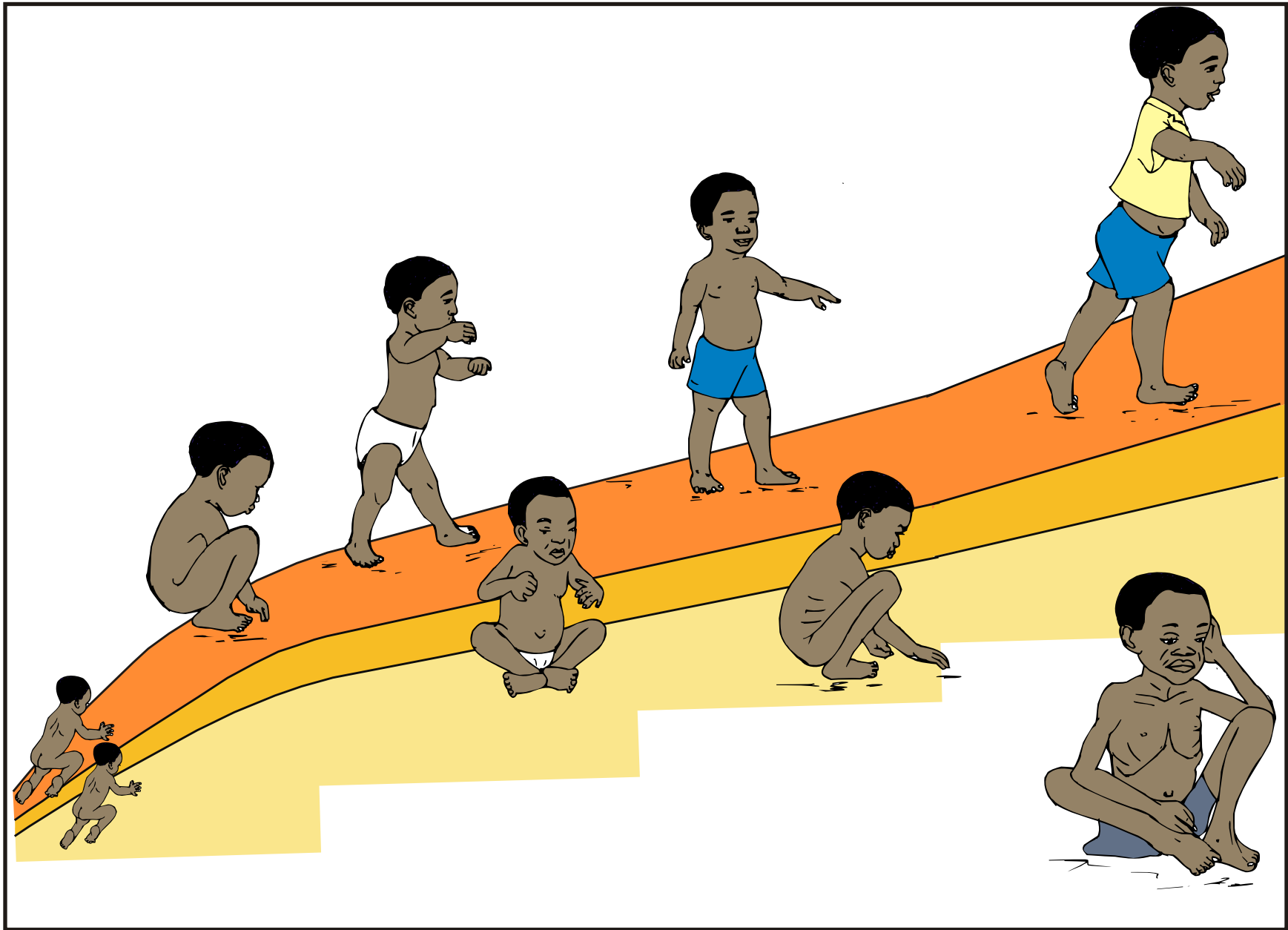
**Note for the health agent:** Write down the names of the participants and what each will bring.

Tell the participants that in the next session they are all going to work together to prepare nutritious foods they can give the children to complement breast milk when the children start to eat other foods. The food will contain the things they usually give to the children. They will only add other things they can find locally to make it more nutritious.

Ask the participants if they have any questions or comments.

**Encourage the participants to continue to put into practice all that they have learned today.**

Two children's growth paths



DiDacAfts, Mars 2003

Infant and young child feeding

**Session 6:** Start giving other rich foods to complement breast milk when children are 6 months old

**Session 11:** Protecting your food - protecting your children / **Session 13:** What we can do to combat malnutrition



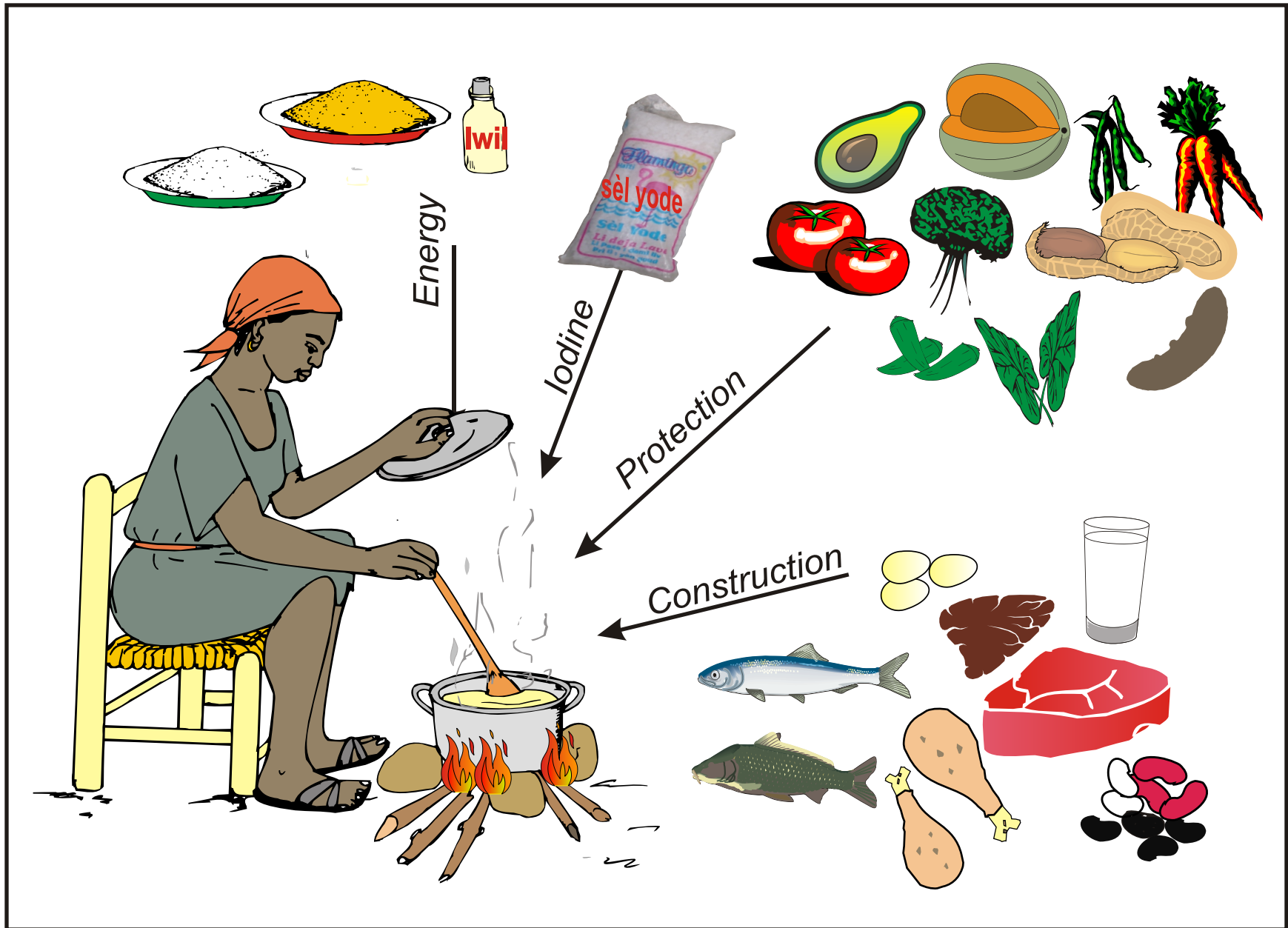
Use clean utensils



DidacArts, Mars 2003

Infant and young child feeding  
Session 11: Protecting your food - protecting your children

Variety of food



Infant and young child feeding

Session 10: Variety of food combinations appropriate for children 6-12 months

Wash hands with soap and water



Infant and young child feeding  
Session 11: Protecting your food - protecting your children