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DATE: November 11, 1997

SUBJECT: UGANDA ASSESSMENT REPORT

RE: Cooperative Agreement #HRN-A-00-97-0007-00

Enclosed please find the trip report described below:

- Report title: Strengthening Nutrition-Related Activities in DISH Projects: Preliminary Recommendations
- Dates of trip: July 1997
- Traveler(s): Robert Porter, Nomajoni Ntombela, Ming Hung
- Country(ies): Uganda

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STRENGTHENING NUTRITION-RELATED ACTIVITIES IN DISH PROJECTS: PRELIMINARY RECOMMENDATIONS

July 28, 1997

Kampala, Uganda

Robert Porter
Nomajoni Ntombela
Ming Hung

LINKAGES

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ACRONYM LIST

AED	Academy for Educational Development
AIC	AIDS Information Center
AVSC	Association for Voluntary Surgical Contraception
CRHW	community reproductive health workers
DISH	Delivery of Improved Services for Health
EPI	expanded program of immunization
FAO	Food and Agriculture Organization
FINCA	Foundation for International Community Assistance
FLEP	Family Life Education Program
HIV/AIDS	human immunodeficiency virus/acquired immune deficiency syndrome
HMIS	Health Management Information System
IEC	information, education, and communication
LAM	lactational amenorreah method
MIS	management information systems
MOH	Ministry of Health
NGO	non-governmental organization
OMNI	Opportunities for Micronutrient Interventions
SOMARC	Contraceptive Social Marketing Project
STI	sexually transmitted infection
TASO	The AIDS Support Organization
UDHS	Uganda Demographic and Health Survey
UNICEF	United Nations International Children's Fund
USAID	United States Agency for International Development
WINS	Women and Infant Nutrition Support Project

1. INTRODUCTION

1.1 Scope of Work

The LINKAGES team assessed the future programming possibilities for interventions in maternal nutrition, LAM, infant feeding, and other related nutritional practices within the context of the Delivery of Improved Services for Health (DISH) Project and CARE reproductive health programs.

More specifically, the LINKAGES team:

- Evaluated the epidemiologic, programmatic, and policy situation in Uganda with regard to the nutritional issues listed above. This situation analysis built upon on the Nutrition Assessment conducted by the Women and Infant Nutrition Support Project (WINS) project in 1993 and a variety of other sectoral studies.

- Discussed recent findings and international recommendations regarding breastfeeding and vertical HIV transmission with government counterparts and staff from DISH and CARE, in light of the high HIV/AIDS prevalence in Uganda and concerns about transmission through breastmilk. The team also reviewed the counseling and testing infrastructure being put in place by the AIDS Information Center (AIC) as a first step in exploring individualized breastfeeding counseling strategies based on clients' sero status.

- Identified and assessed programming possibilities to improve focal nutrition practices as part of the DISH and CARE programs. Because these are both reproductive health projects with no specific nutrition objectives (apart from the promotion of exclusive breastfeeding), the team concentrated on identifying compatible and realistic nutrition goals for each project. Discussions with DISH management centered on strategies for integrating nutrition concerns into existing training, supervision, IEC, and MIS plans.

- Initiated a review of the existing training curricula, supervision instruments, and protocols. Recommendations will be made regarding ways to strengthen the nutrition content of curricula and exploiting training methodologies that may be particularly effective for imparting nutrition information, skills, and counseling for behavior change.

- Explored the feasibility of adding nutrition products (such as iron/folate tablets and infant cereals) to the product mix being promoted through the community-based development and social marketing components of the DISH and CARE projects.

- Began planning for technical and other support that could be provided by LINKAGES or other cooperating agencies.

1.2 Team Composition

The LINKAGES team consisted of three persons:

- Robert Porter, senior communications and social marketing specialist at AED, responsible for the behavior change, IEC, social marketing, and evaluation components of the assessment.

- Nomajoni Ntombela, Wellstart senior lactation management fellow, provided expertise in breastfeeding and LAM and was responsible for training and issues related to breastfeeding and AIDS.

- Man Ming Hung, responsible for assessing the broad nutrition situation in Uganda and identifying major programmatic gaps that could be addressed through DISH. Ms. Hung also had prime responsibility for designing an operational plan for LINKAGES support.

1.3 Coordination with OMNI

In discussions with OMNI director Ian Darton-Hill, it was also agreed that Ms. Hung would take a broad look at micronutrient issues as part of her nutrition assessment and identify specific areas for possible OMNI support. Based on her recommendations, OMNI might then field a more specialized micronutrient expert.

2. BACKGROUND

2.1 Major Nutritional Problems

There is a high prevalence of malnutrition in Uganda among children and women of childbearing age. The 1995 Uganda Demographic and Health Survey (UDHS) found that among children under 4 years of age, 38 percent are stunted (short for their age), 26 percent are underweight for their age, and 5 percent are wasted (very thin for their height)[1]. Among the districts covered by the DISH and CARE projects, the prevalence of stunting ranges from a low of 22.7 percent in Kampala District to a high of 57.9 percent in Kasese District[2].

Close to ten percent of non-pregnant women between the ages of 15 and 49 were found to be underweight.[3] Ten percent of the children weighed at birth were found to be of low birth weight (<2.5kg). These findings from the UDHS are validated by a number of other small scale surveys.

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[1] Defined as more than two standard deviations below the median of the reference population

[2] 1992/93 Integrated Household Survey

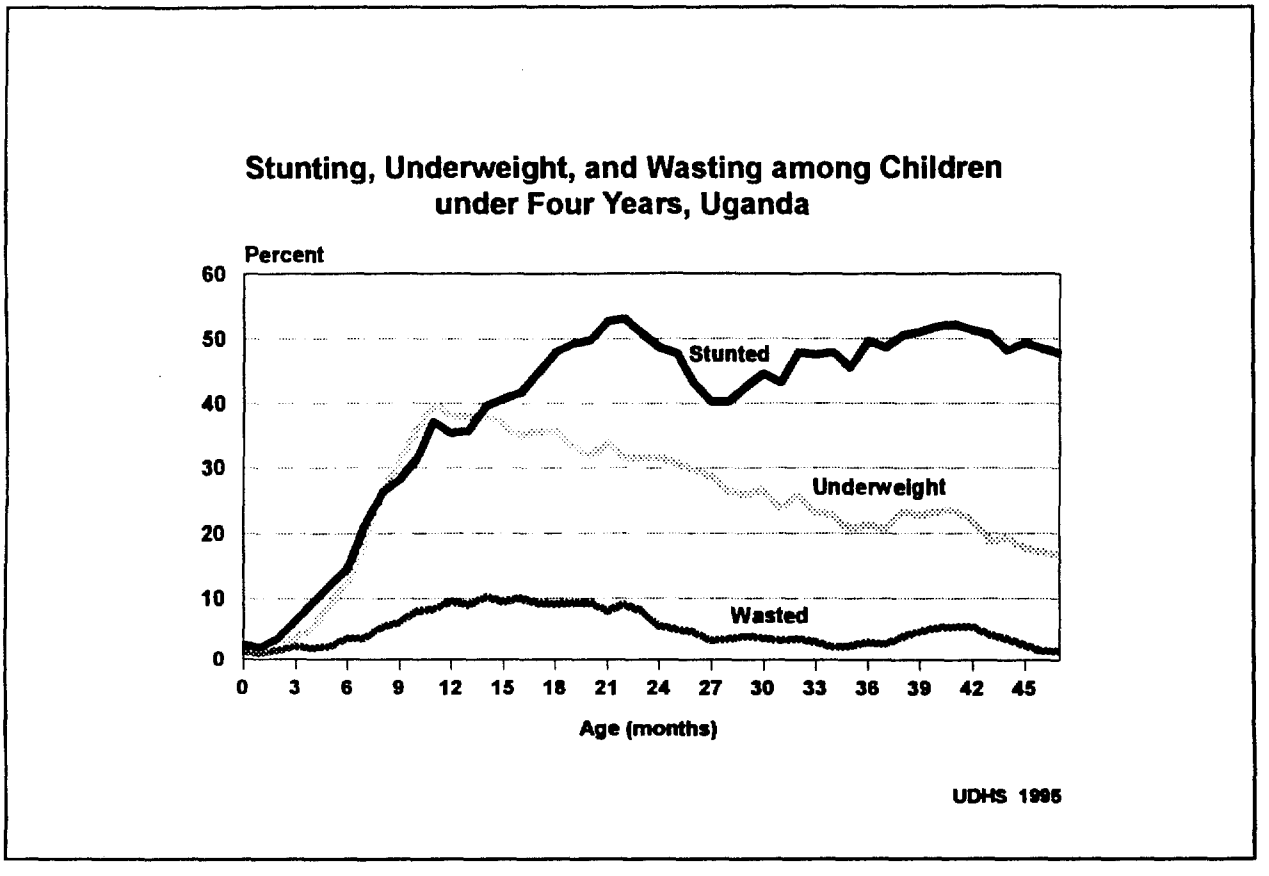
[3] Defined as <18.5 body mass index (BMI), criterion for chronic energy deficiency.

Few surveys on micronutrient status have been conducted. Data have been collected at the district level in the 1993 National Micro-Nutrient Survey but have not been centralized or published (Nutrition Department, Ministry of Health, May 1996). These data may be of uneven quality and reliability, but they do offer some indication of the geographical distribution of vitamin A and iodine deficiencies.

A 1991 survey in Kamuli District found the prevalence of xerophthalmia among children under the age of six to be 5.4 percent, which is of public health significance (Kawuma, J. and Sserunjogi, L., December 1992). Another nutrition survey of children under five years of age conducted in Hoima and Kibale Districts in 1995 (Mudushu, J. et al., March 1995) and a survey of primary school children in Kasese District found insignificant levels of xerophthalmia (Nutrition Department, Ministry of Health, May 1996). This indicates that the severity of the vitamin A deficiency problem in Uganda varies greatly from one geographic region to another. The more arid northern regions may have a more significant vitamin A deficiency problem.

Survey results from five highland districts found severe iodine deficiency disorders, while three other districts presented moderate or mild, or insignificant levels of iodine deficiency disorders.

Data on the prevalence of iron deficiency anemia are not available.



Many underlying and basic factors contribute to malnutrition, but there are two proximate determinants of nutritional status: dietary intake and the state of health. These determinants are themselves interrelated. High rates of malnutrition are due in part to the poor quality of the diets of women and children, but infectious disease also contributes to malnutrition.

The initiation of breastfeeding in Uganda is almost universal, thus the majority of children are protected from malnutrition during the first few months of life. However, rates of malnutrition begin to rise at around three months, indicating that some mothers are practicing less than optimal breastfeeding behavior. The increase in the rates of malnutrition is most rapid between the ages of six and nine months, so that by the age of nine months, they have increased ten fold (see chart above).

By the age of one year, more than a third of children are stunted, and one in ten children is wasted. The stunting rate continues to rise so that by the age of two years, one in two children is stunted. This pattern indicates that when breastfeeding alone becomes inadequate to meet the infant's needs (at around six months), the foods used to complement breastmilk and eventually replace it are deficient in the nutrients required for normal growth. In some areas of Uganda, the rapid increase in malnutrition rates after six months may be due to the late introduction of complementary foods.

The high rate of stunting persists into the third and fourth years. The proportion of children underweight for age begins to fall from around one year. The rate of wasting plateaus from one to two years and then begins to fall. The proportion of severely malnourished children decreases with age, as many do not survive, while the nutritional status of surviving children improves as they begin to reach the age when they can feed themselves and gather foods such as wild fruits and insects to supplement what they receive at home. The effects of undernutrition and disease on children's height during the first two years of life are probably carried over into the third and fourth years, as children do not yet receive adequate nutrition to enable catch-up growth.

2.2 The DISH Project

Implementation of the Delivery of Improved Services for Health (DISH) Project began in September 1994 and the project will continue through September 1999. DISH provides technical assistance, training and other forms of support with the aim of reducing fertility and reducing HIV transmission within ten of Uganda's 39 districts. The project is implemented through a contract with Pathfinder International and sub-contracts with the University of North Carolina, the Johns Hopkins University, and E. Petrich and Associates; buy-ins to the Contraceptive Social Marketing Project (SOMARC), and the Association for Voluntary Surgical Contraception (AVSC) Project; and through grants to Pathfinder (for community-based reproductive health workers), the Foundation for International Community Assistance (FINCA) (for women's microenterprise activities), and the African Medical and Research Foundation.

DISH is the Mission's principal means of achieving its strategic health objective. The purpose of the project is to increase the use of maternal health and family planning services, improve the diagnosis and effective treatment of STIs, and promote behaviors which reduce the transmission of HIV and other STIs.

The specific outputs of the project include:

- *Improved facility-based reproductive health facilities*, achieved primarily through training health workers (nurses, midwives, clinical officers, and physicians) in clinical and counseling skills needed to provide basic reproductive health services. These services include family planning, antenatal, intrapartum, and postnatal care, the syndromic management of sexually transmitted infections, and AIDS prevention, including HIV testing in selected facilities.

- *Expanded community-based reproductive health programs*, resulting from the mobilization and training of Community Reproductive Health Workers (CRHWs) through grants and technical assistance to indigenous NGOs, social marketing of contraceptives and antibiotics, training of traditional birth attendants, and "village banking" or microenterprise activities for established women's groups.

- *An institutional and community environment supportive of improved reproductive health,* primarily through communications (IEC) involving mass media and district-level campaigns, improved health information and logistics systems, and strengthened financial management and local accounting and control of revenues generated through cost recovery.

The project components most relevant to strengthened nutrition strategies include training of nurses, midwives and CRHWs; DISH's IEC program; and community-based interventions linked to microcredit schemes and income generation for women's groups.

2.3 Current Efforts to Improve Nutrition

Policy climate

The Government of Uganda recognizes the gravity of the malnutrition problem and is committed to reducing malnutrition and hunger in the country. This commitment is manifested in the development and adoption of the National Food and Nutrition Policy in October 1996 which aims to guarantee national food security and "to improve and promote the nutritional status of the people to a level that is consistent with good health thus facilitating their productive capacity." The multisectoral National Food and Nutrition Council is responsible for the development of this policy and overseeing its implementation. The Council also coordinated a multisectoral task force which prepared the 1996 Uganda National Plan of Action for Nutrition, which provides a

framework for planning and implementation of nutrition improvement programs. Following the policy of decentralization, two district local councils (Kabale and Mubende) have developed district plans of action for nutrition with the assistance of FAO. Ten other districts are in the process of developing their plans. In the district plans, the food and nutrition situation in the district is first assessed and guidelines for its improvement are provided. The improvement of nutrition is also part of the health and nutrition goal in the Uganda National Programme of Action for Children.

The strategies recommended by the LINKAGES team fit well into the national plan and existing district plans of action for nutrition education; growth monitoring and nutrition surveillance; promotion of breastfeeding and complementary feeding; and the production and consumption of nutrient-rich foods.

UNICEF

Of the various international donors assisting Uganda's health system, UNICEF currently plays the leading role with respect to policies and programs targeting malnutrition. The focus of UNICEF's work in nutrition centers on national or central-level health system activities, include:

- development and review of policy guidelines for iron supplementation during pregnancy and vitamin A supplementation for women and children;
- policy support for regulations on the marketing of breastmilk substitutes;
- facilitation of the breastfeeding task force;
- review of Ugandan policies on breastfeeding and HIV/AIDS;
- policy support and advocacy for enforcing legislation on universal salt iodization;
- facilitation from the central level on sugar fortification (vitamin A);
- operational research on weekly iron supplementation to reduce anemia during pregnancy;
- training and equipment for salt iodization.

UNICEF's support for an improved policy environment and strengthened central-level programs in nutrition—particularly with respect to micronutrients—will reinforce DISH's own strengthened focus on nutrition. Yet because DISH is working in ten districts and not at the national level (except for the broader reach of its IEC program and SOMARC's product distribution systems), DISH's relationship with UNICEF will primarily be one of coordination and consultation, rather than direct collaboration in implementing nutrition activities.

2.4 HIV/AIDS and Breastfeeding

Surveillance data suggest that HIV prevalence in Uganda may be declining. According to Professor Francis Mmiro, Director of the Department of Obstetrics at Makerere University Medical School, prevalence of HIV among women receiving antenatal services at Mulago Hospital has declined from a high of 27 percent in the early 1990s to approximately 15 percent

today. HIV infection rates in the early '90s were also highest among 18 year olds, now they are highest among 24 year olds, suggesting that adolescents may be changing behaviors that put them at risk of HIV.

Professor Mmiro also discussed preliminary findings from a longitudinal study conducted at Mulago Hospital on the consequences of HIV on the outcomes of pregnancy. Based on data from 800 women, followed over a period of two years, the study found a vertical transmission rate of 26.7 percent. The study design did not allow investigators to estimate the relative risks of HIV transmission at specific stages in the reproductive process, yet clearly the majority of HIV transmission (60 to 70 percent) occurs intrapartum, and consequently the principal investigators believe that in Uganda the relative risk of HIV transmission through breastmilk is relatively low.

Currently, staff at Mulago Hospital recommend breastfeeding for all women. If a mother knows she is HIV-positive, she and her partner are to be counseled and offered guidance on the risks of HIV transmission through breastfeeding and alternative infant feeding practices and their costs. Hospital staff will support the decision of an HIV-positive woman who wants to bottlefeed if she has the means to do so effectively and safely. But the more general position of the hospital is to promote breastfeeding by all women, irrespective of HIV status, since breastfeeding offers significant protection from infectious disease and malnutrition, the primary causes of infant deaths in Uganda. At this point, none of the available data on vertical transmission in Uganda (the Mulago study being the most relevant) suggest that this general policy on breastfeeding should be reversed.

The MOH Task Force on Breastfeeding has recently prepared a draft consensus statement on HIV transmission based on a consultative meeting held in April of this year. This draft consensus statement reconfirms the policy position taken earlier—that advantages of breastfeeding (in protecting the health and well-being of infants and young children) far outweigh the risk of HIV transmission. This consensus statement then goes on to recommend that in Uganda, exclusive breastfeeding from birth should remain the standard advice to pregnant women irrespective of their HIV status. However, task force discussions continue on more specific counseling guidelines for women who know they are HIV-positive or have clinical signs of AIDS.

A member of the LINKAGES team met with directors and staff from two organizations (supported through DISH) who offer HIV/AIDS counseling—The AIDS Support Organization (TASO) and the AIDS Information Center (AIC). These discussions suggest that the issue of breastfeeding and HIV transmission is usually not directly addressed in counseling on HIV/AIDS.

The AIC provides anonymous, voluntary HIV antibody counseling and testing. It has five main branches and 20 satellite centers throughout the country. Approximately 65,000 counseling and testing sessions are conducted in the centers annually. Since rapid HIV testing methods have become available, it now takes two hours to register, counsel, test, and give results to a client.

The clients are then referred to Social Support Centers/Clubs. At the time of the LINKAGES team visit, the staff was not aware of existing HIV/breastfeeding policies. Nevertheless their de facto practice is to promote breastfeeding regardless of the mother's HIV status.

TASO is an indigenous charitable non-governmental organization. TASO was founded in 1987 to give support to people to who are HIV-positive and living with AIDS. TASO has eight additional centers throughout the country. Through DISH funding, TASO now provides clients with treatment for STIs and offers family planning services. TASO is also a training center for counselors and has recently begun to provide training assistance to other HIV/AIDS projects in the Africa region. TASO management would like to strengthen the nutrition education component of their counseling program and, like AIC, develop more individualized guidelines for breastfeeding.

3. FINDINGS

3.1 Overall Approach

Through its ongoing work in family planning and reproductive health, DISH has developed program strategies that, with some modifications and adaptations, can be more directly focused on breastfeeding, complementary feeding, and maternal dietary practices.

- *Health worker training and supervision.* Training curricula developed by DISH already include information and recommendations regarding optimal nutrition behaviors and counseling strategies for breastfeeding and LAM. These existing curricula and supervisory systems can be strengthened and expanded.

- *Information, education, and communication.* DISH employs an integrated mix of electronic and print media that already reaches caretakers and community influentials—key audiences for nutrition communications. The IEC component also provides direct support to health worker training and service delivery by providing teaching materials for in-service courses; production and distribution of client-counseling materials; and leaflets, posters, and newsletters distributed to health facilities and other community outlets.

- *Community action, primarily through NGOs and their community-based health workers.* The NGOs supported by DISH (through Pathfinder) are variously engaged in a range of other community outreach, mobilization, and development activities, offering potential entry points for reducing barriers to food availability and utilization among poorer households.

DISH's (and LINKAGES') overall approach to improving the nutritional status of infants, children, and women is to look for opportunities to add nutrition activities to these existing

program components. Together DISH management and the LINKAGES assessment team have also sought to identify opportunities for more closely linking these components to other ongoing activities within DISH supported projects (such as microcredit and income generating activities) to achieve greater program synergies and impact.

Building nutrition interventions into ongoing program components offers efficiencies that stand-alone projects in nutrition cannot. Yet working within the parameters of an ongoing project also means that new activities are constrained by prior commitments in time, staffing, and financial resources:

- Time. There are only two years left in the DISH project. Work plans are being finalized, and scheduling and deadlines for ongoing project activities have already been or soon will be established. Additional planning for nutrition-focused activities will need to fit within DISH's broader processes of scheduling and management. Two years is also a very short time frame for developing and implementing interventions that will have a significant behavioral impact on caretakers and other key audiences. Performance indicators need to realistically reflect what can be accomplished within this two year horizon

- People. LINKAGES is able to provide focused technical assistance to support DISH managers, staff, and project counterparts in planning and designing nutrition-related activities, such as formative research, curriculum development, message planning, and monitoring and evaluation. LINKAGES support, however, and the nutrition activities we jointly undertake should not require the addition of local project staff or field-level personnel.

- Money. Funding available from the Africa Bureau (and other potential sources) to strengthen DISH's nutritional focus (and for technical support through LINKAGES) is fairly modest. Our recommendations for short-term nutrition interventions are set within the context of current and FY98 budgets. Some proposals for activities that exceed current or planned funding levels are offered, but at this stage they are only meant as ideas for further discussion.

3.2 Emphasis Behaviors

Improving the Nutritional Status of Infants and Young Children

Malnutrition increases a child's risk of dying from many diseases, particularly measles, pneumonia, and diarrhea. In Uganda, it is estimated that 40 percent of all deaths among children under five years of age is related to malnutrition, and that moderate, rather than severe, malnutrition contributes to the great majority (85 percent) of these deaths (1995 UDHS). DISH's efforts to promote even modest improvements in behaviors and services related to nutritional well-being will have a positive impact on mortality rates over time.

In the next two years, DISH will more directly focus on three nutritional areas: exclusive breastfeeding, complementary feeding (beginning at six months), and maternal dietary practices (including increased caloric intake and dietary diversification). Primary emphasis will be given to exclusive breastfeeding and helping mothers (and other caregivers) better manage the introduction of solid foods to older infants.

Exclusive Breastfeeding

Optimal breastfeeding practices include:

- early initiation of breastfeeding,
- exclusive breastfeeding for six months, and
- continued breastfeeding to two years and beyond.

In Uganda, neither early initiation of breastfeeding nor continued breastfeeding to two years is a significant problem. Exclusive breastfeeding, however, is.

> *Mothers should exclusively breastfeed their infants for six months with intervals no longer than four to six hours between feeds.*

During the first six months of life, dietary intake is optimized by exclusive breastfeeding. Studies have demonstrated that the early introduction of complementary foods (at less than six months) only replaces breastmilk and does not result in increases in caloric intake. Because breastmilk is generally higher in nutritional value than the initial complementary foods used, replacing breastmilk typically has negative effects on the child's nutrient intake.

Exclusive breastfeeding, in addition to immunizations, can prevent many illnesses that put infants at risk. Exclusively breastfed infants are at a much lower risk of diarrhea and acute respiratory infections than those receiving other foods. Even the addition of water or other liquids can double the risk of diarrhea compared to those exclusively breastfed.

Complementary Feeding

Complementary feeding is the process of introducing the first soft foods into a child's diet to complement, not replace, breastmilk. Infants should start being fed other foods in addition to breastmilk at six months of age. It is important to complement breastmilk at this time because additional energy and vitamins/minerals are needed that breastmilk alone cannot provide. Feeding practices for children six months and older (up to about five years) and the management of childhood illnesses, particularly diarrhea, are the caretaking behaviors that most directly influence growth faltering. Interventions targeting these behaviors are likely to have the greatest impact on the nutritional status of infants and children in Uganda.

Although complementary feeding practices may vary greatly across communities and

households, and even from child to child, the consensus among nutritionists is that optimal feeding behaviors depend largely upon the *age* of the child.

Complementary feeding, two or three times a day, should be started at six months of age.

In Uganda there is considerable regional variation both in availability of specific foods and local beliefs concerning which foods are appropriate (or inappropriate) for infants and young children. Health workers need clear guidelines for identifying and evaluating alternative complementary foods that are both nutritionally appropriate for children at different ages and are locally acceptable and feasible.

Increase feeding frequency with increasing infant age, and during and after illness.

- *feed 3-4 times per day for 9-11 month old infants*
- *feed 4-5 times per day for 12-23 month old children*

In the second year of life, increasing total intake is the greatest challenge because of the usually small quantities of solid food consumed at a meal. The child needs to be part of family meals to receive the widest variety of food available, but still needs special attention to ensure more frequent feeds and adequate amounts of food at each feeding.

Increase food quantity with infant age while maintaining frequent breastfeeding.

Localized guidelines on the amounts and types of foods for the three age groups (6-8 months, 9-11 months, and 12-23 months) will need to be developed for specific regional and community settings. These selected foods will also need to be assessed for their contributions of micronutrients.

Improving the Nutritional Status of Women

By the time women reach adulthood, it is not possible to reduce stunting, thus optimal nutrition behaviors begin in childhood. The proper feeding of girl children is especially important because growth in early childhood affects adult stature, nutrient stores, and subsequent reproductive health and risk of maternal mortality.

Energy balances for women in Uganda are often less than optimal because of low caloric intakes and high work loads. Consequently,

During pregnancy and breastfeeding, women should:

- *eat more often (four times a day)*
- *eat enough different kinds of food (foods high in energy, protein, and micronutrients)*

Pregnant women should also consume iron/folic acid daily during the last six months of pregnancy.

As with young children, it is difficult for women to obtain sufficient iron through a diet low in animal products or low in calories. Because of menstruation and pregnancy, iron requirements are higher in women than men, and thus diets that are sufficient in iron for men can lead to iron deficiency in women.

3.3 Strategies

Strategies for promoting these emphasis behaviors center on nutrition communications, health worker training, and community-based interventions. Also, because improvements in caloric intake are often not possible without increases in family income, LINKAGES and DISH will explore ways of linking these strategies to income generating activities. Each one of these strategies is discussed separately.

Information, Education, and Communication

Background

The IEC Component of the DISH project has followed a phased campaign approach to communication programming. Intensive campaigns on family planning and HIV/AIDS prevention were launched in 1995 and 1996, and are now continuing in a maintenance mode. Two more intensive campaigns—one focusing on STI prevention, diagnosis, and treatment, and the other on maternal health services—are currently underway. A fifth campaign, promoting HIV/AIDS testing and counseling services, is in the early planning stages.

LINKAGES and DISH initially considered the possibility of a separate nutrition campaign, centering on breastfeeding and maternal nutrition. However, if DISH is to meet the performance objectives for breastfeeding set out in the project's results framework, breastfeeding promotional activities will need to begin quickly.

Our approach, consequently, is not to mount an entirely separate program of breastfeeding and nutrition communications, but to build upon and extend the maternal health communications activities now underway. We recommend that the maternal health communications program be extended by another several months. Breastfeeding and nutrition messages will be added to maternal health radio programming and print vehicles, and additional support materials for health facilities and health workers will be developed.

Audiences

An additional reason for building on the maternal health campaign is that the primary audience for nutrition and maternal health messages is the same—women 16–35 years old in rural areas of the DISH districts who live within ten kilometers of a health facility.

Secondary audiences include:

(1) fathers/husbands of women in the primary target audience;
(2) senior relatives and community members who may influence breastfeeding and maternal dietary practices;
(3) service providers offering antenatal and postpartum care and counseling; and
(4) staff working in allied sectors involved in nutrition education (e.g., school teachers, agricultural extension workers, home economics officers, etc.) and other community influentials.

Because men largely control discretionary spending and food allocation within Ugandan households, they are an important audience for communications focusing on the nutritional needs of women.

Communication Objectives and Formative Research

Specific communication objectives are to be established through collaborative planning and formative research. We know the basic nutrition behaviors we want to promote. But additional research may be necessary to identify the perceived benefits of these behaviors, and more importantly, to better understand the *barriers* to exclusive breastfeeding, improved maternal nutrition, and complementary feeding.

Existing research offers a number of insights on reasons for less than optimal breastfeeding (see especially *Breastfeeding in Uganda: Beliefs and Practices*, Nutrition Division, Ministry of Health and Wellstart, 1994) but a particularly important gap in our knowledge concerns reasons for delaying appropriate complementary feeding. According to the 1995 UDHS, 36 percent of Ugandan mothers wait until nine months before introducing their children to solid foods. Reasons for this delay are not known; they are not clearly addressed in any of the survey research reviewed nor are they dealt with (to our knowledge) in any of the more local, in-depth studies on Ugandan weaning practices.

Formative research is also necessary to develop locally appropriate complementary feeding messages and message strategies. Mass media (radio and print) can create broad awareness of such general issues as feeding at six months (not earlier and not later), feeding frequency for children at different ages, feeding children under two from a separate plate, and so forth. Yet more specific feeding solutions and recommendations must be based on traditional diets and available foods and are inescapably local. Also, it is important for messages to be tailored to the needs of the child and the particular family circumstances

Activities

- Continue the literature review begun during this preliminary assessment.

- Design tightly focused formative research to guide further message design. We should consider a two-phased research effort: phase one, to develop messages (including key benefits and supporting points) for mass media; phase two, to identify means of enriching complementary foods within different ecological and dietary zones. This second phase of formative research will primarily guide community-based counseling and other interventions and should draw upon rapid, participatory research methods, including recipe trials in communities with differing staple diets.

- Finalize communication strategies, media plans, and formats for creative materials, based on project needs and budgets. After preliminary discussion with DISH management, priorities include:

  1) A several month extension (beginning in June 1998) of radio programming with a gradual shift towards nutrition messages, giving priority to improved breastfeeding and maternal dietary practices.

  2) Pamphlets and simple counseling materials that can be quickly produced and distributed to community-based workers (who currently have no materials for counseling or group discussions) and as well as clinic-based health workers.

  3) A flipchart or a package of counseling cards (format to be determined) combining maternal nutrition and child nutrition from conception to five years. We have discussed this concept—of organizing mother/child nutrition counseling materials around the child's growth stages—with health workers, their supervisors, DISH trainers and managers, and it has generated considerable interest everywhere. Development of this kind of highly visual counseling aid will require a significant period for research, development, refinement, and final production. If we decide to invest in this project, materials may not be available for use in the field until the final year of the project.

Special Considerations

Communications on complementary feeding. The need to tailor nutrition counseling to the age and the nutritional status (determined through growth monitoring, where possible) of infants and young children suggests that interpersonal or small group counseling is the best means for promoting appropriate complementary feeding behaviors. A package of field worker materials to support interpersonal counseling should also help health workers to personally demonstrate food preparation methods with locally available foods. Food demonstrations and practical strategies

for enriching complementary foods should also be a part of training programs and curricula.

Maternal nutrition and food insecurity. Communications can achieve gains in awareness and knowledge of women's nutritional needs in relative isolation from other supporting services or interventions. However, behavior change leading to sustained improvements in the nutritional status of poorer, rural women and children will only be achieved if communication strategies and messages (including interpersonal nutrition counseling) are linked in some way to interventions that address issues of food insecurity and the allocation of household income.

Message receptivity. The behavioral objectives of nutrition communications may appear to be more complex than those already being addressed through DISH's other campaigns. Yet foods and feeding practices are the stuff of everyday rural life; almost all rural women in Uganda engage in some kind of gardening or farming. Nutrition-related behaviors are largely public and observable and they are not subject to the kinds of moral sensitivities associated with family planning, or the stigma and secrecy often surrounding management of STIs and HIV/AIDS. People like to talk about food. Health workers tell us that their clients are interested in nutrition, and based on our conversations, so are many of the field workers themselves.

Training and Supervision

Approximately 850 nurses and midwives from DISH districts, including NGO staff and private midwives are to be trained in clinical and counseling skills during the life of the project. Approximately 450 of have received DISH sponsored in-service training to date. A modular, in-service curriculum in basic reproductive health has been developed and is currently in use. It emphasizes client-centered service delivery algorithms to encourage the provision of an appropriate package of maternal health, family planning, STI, and HIV services during any single patient/provider encounter.

By integrating nutrition into the nurses' and midwives' pre-service and in-service training curricula, the project can ensure that these health workers also have the necessary skills to provide nutrition interventions to women during pregnancy, lactation, and weaning.

Virtually all categories of health workers have received some training in maternal and child nutrition in their pre-service training and, for some, during in-service training. Coverage of nutrition, however, is incomplete; current curricula do not equip the health worker with the necessary skills to assist mothers and families to adopt appropriate feeding behaviors.

UNICEF has provided support for training in vitamin A and distribution of vitamin A capsules in conjunction with EPI in 25 districts to date. The MOH/Department of Nutrition plans to extend the training and vitamin A distribution to the remaining 20 districts, but funding for this is uncertain.

Activities

- The pre- and in-service training curricula for nurses and midwives will be carefully reviewed by LINKAGES, and the content on maternal and child nutrition in the relevant modules will be expanded and updated.

- The *Reproductive Health Skills for Nurses and Midwives Handbook* developed by DISH already contains sections on nutrition and nutrition counseling, including breastfeeding and complementary feeding in the sections on antenatal and postnatal care. The handbook will be expanded to include nutrition counseling skills for different developmental stages (from pregnancy to early childhood).

- Nutrition content emphasizing appropriate techniques for problem solving and counseling will be added to the relevant modules in the curriculum for community-based reproductive health workers. The curriculum will be expanded to include training lesson plans on counseling skills. Lesson plans for breastfeeding will also be reviewed and updated.

- DISH trainers will provide refresher training as scheduled in the project's ongoing work plan and will use the revised nutrition curricula and supporting teaching materials in the already planned refresher course.

- Trainers of nurse-midwives and of community-based workers will also be taught to use the revised curricula. In addition, they will be provided with training of trainers skills in interpersonal communications and the use of nutrition IEC materials.

- Trainers will carry out follow-up supervision of nutrition activities as an integral part of their supervision activities.

Community Health Programs

NGO activities supported under the DISH umbrella offer another opportunity to strengthen ongoing nutrition activities. The multiple factors contributing to malnutrition call for actions that cut across several sectors. Women need to know what to do to meet their children's and their own nutritional needs. The appropriate foods must be available. The adoption of new feeding and dietary practices requires supportive social environments. Community programs can best provide the integrated approach necessary to successfully tackle the malnutrition problem.

Background

DISH is currently working with 865 community reproductive health workers (CRHWs); 545 are associated with seven local NGO programs under the DISH Project, and 320 are supported through the CARE Community Reproductive Health Project. CARE and three of the local

NGOs work only in reproductive health. Three other local NGOs work both in reproductive and child health. The Family Life Education Program (FLEP) of the Busoga Diocese and the family planning and reproductive health activities of the YWCA are also part of wider integrated development programs.

The CRHWs' work in child health is primarily in health education, carrying out group education or awareness-raising activities, usually once a month, and making more frequent home visits to clients requiring their services. These workers are already providing nutrition education, usually in group sessions and through some individual counseling. In addition, CRHWs assist health workers from the health facilities when they visit the community to carry out the expanded program of immunization (EPI) and mobilize mothers to bring their children to clinics for vaccination. CRHWs weigh the children who attend the EPI sessions and provide nutrition counseling to mothers whose children are found to be underweight.

Problems and Opportunities

The quality and effectiveness of the CRHWs current nutrition activities is questionable, however. The CRHWs typically advise mothers to eat or feed a balanced diet by selecting foods from the *'three food groups'*. The concept of the three food groups is difficult to grasp and the classification of foods and the values they represent do not usually correspond to local cultural categories or meanings. The messages given are vague and do not provide specific instructions on quantities or frequencies.

The growth monitoring activity carried out during EPI sessions is also problematic. It does not fulfill the purpose of preventing growth faltering by catching the problem early and providing timely nutrition counseling. Usually women only bring their children who need immunization to these sessions, and though encouraged to do so, do not often bring their children *just* to be weighed. After completing their immunization schedule, the weighing of children usually ceases altogether. Thus, children are usually weighed only at one, two, three, and nine months of age. Their growth is not monitored at all during the critical weaning period (between six and nine months and after they receive their last vaccination for measles at nine months). Often there is not enough time to provide in-depth nutrition counseling even when a problem is identified, as many other children are waiting to be weighed and receive their vaccinations.

Motivating volunteer workers is another problem confronting community-based programs. The current policy—justified in terms of program sustainability—is to not provide remuneration to community-based volunteers workers. Without some monetary incentive, however, it is difficult to motivate volunteers to give the time and effort required by the program. Worker productivity is low and the attrition rate is high in some programs.

A considerable number of people can be reached through the extensive CRHW network in the rural communities of DISH and CARE districts. The CRHW is well-placed to conduct nutrition activities and offer nutrition counseling and support to mothers in her community. She has been

selected and is well-accepted by her community. She has intimate knowledge of local dietary practices, attitudes, and beliefs. She is easily accessible when community members need advice and help. By strengthening the nutrition activities of the CRHW, the project will increase her scope and credibility, offering opportunities for wider contact with families and additional entry points for other services such as family planning.

The CRHWs are often food producers and sellers. Surplus food grown in their household gardens are sold by family members in the local market. They can thus be easily involved in the promotion of nutrient-rich foods in the community and provide demonstrations of the production and utilization of these foods.

Activities

- *Nutrition education* can be strengthened through training all CRHWs to provide more effective nutrition counseling and group education. The focus of training and supporting client education materials should be on specific feeding behaviors.

- *Growth monitoring* of young children also can be strengthened by training CRHWs who currently work in child health to better organize and conduct this activity. Through discussion and negotiation with the community, workers can identify growth monitoring strategies that do not make too many demands on the mother's time and that will motivate the mother to attend. For example, the children can be weighed when the community meets for the monthly health education session. Children that show signs of growth faltering can be identified, and the workers can follow up with home visits when she can provide in-depth nutrition counseling in the privacy of the home.

- *Microcredit and income generating schemes* can be opened up to the CRHWs themselves which will provide additional incentives to these volunteers while simultaneously enhancing the sustainability of NGO programs. The microfinancing scheme can also be used to encourage food production and utilization, increasing household food security and food availability for the most vulnerable groups of women and children.

Microcredit and income generating activities can be tested on a pilot basis in some of the NGO programs, beginning initially with the older and better-established programs such as the Family Life Education Program (FLEP) whose scope of operations extends beyond reproductive health. There is strong solidarity among these CRHW groups. And some CRHW groups in the FLEP are already engaged in trading of food and other relevant income-generation activities. With encouragement from the NGO, they have pooled their resources for activities that require more capital than can be provided by any one individual.

Microcredit schemes can be established which tie nutrition into income generation, and provide incentives such as lower interest rates to promote the production and marketing of target foods (e.g. small dried fish, dark green leafy vegetables, groundnuts). The CRHWs can be organized

into credit and savings groups, and receive a revolving loan from a lending institution, such as the Foundation for International Community Assistance (FINCA).

FINCA is currently working under a grant from the DISH Project to establish 'village banks,' savings and loan schemes for women's groups in DISH districts. Group members receiving small loans are required to make weekly interest payments, eventually repaying the loan in full, while maintaining a minimum level of savings. Those who repay their loan successfully can become eligible for larger loans. FINCA can capitalize these 'banks', manage the loans and provide the training to the groups in loan administration, banking operations, bookkeeping, accounting, and small business administration. Another potential source of funding for the microcredit scheme is PRESTO Project, a USAID-funded project promoting small enterprise.

The Health Financing Advisor of the DISH Project is interested in providing technical assistance together with LINKAGES in the design of this activity and the preparation of a proposal to PRESTO for funding of the microcredit schemes.

Special Considerations. Experience elsewhere has found that increased household food security and income do not necessarily result in improved nutritional status of the children. LINKAGES can assist these NGOs to identify strategies and provide guidance on how these activities can link income generation and nutritional status improvement and provide technical assistance in the monitoring of progress towards nutrition objectives. FLEP can provide follow-up supervision and technical support for the groups' income generating activities, and ensure that they support the health and nutrition objectives of the project.

Nutrition can also be integrated into other ongoing or planned development activities of DISH supported NGO. Promising opportunities include:

- The functional literacy program of the Kasese Family Health Promotion Project of the Church of Uganda.
- The FLEP launched microcredit scheme. This microcredit scheme involving women's groups began in 1996; the first loans were given out in November 1996. This scheme in Masese targets single mothers and the repayment rate has been good so far.
- Food production projects with the YWCA. Although these activities do not have clear nutrition objectives, they could be oriented towards increasing target food availability and use, and thus contribute to improvements in the nutritional status of women and children.

The district-level home economics officers of the Ministry of Agriculture who have had training in agricultural extension, and whose mandate is in food diversification and utilization, can also be involved in this activity, providing additional support to the work of the CRHWs. The home economics officers are already providing nutrition education, but most of them have not had any specific training in nutrition, particularly in maternal and child nutrition. They can be provided training together with the CRHWS, offering opportunities for joint strategy development and work planning. Home economics officers can also provide technical support to CRHWs engaged

in food production activities as well as to the broader community, in addition to more general promotion of the production of targeted foods.

3.4 Monitoring and Evaluation

The DISH Project has two separate systems for monitoring services delivered through fixed health facilities and through more mobile, community-based workers. It appears that the system for monitoring the community-based component of the program is more flexible, and thus more amenable to addressing nutrition concerns.

Monitoring

The DISH Project uses the Health Management Information System (HMIS) of the Ministry of Health to monitor family planning activities in the health facilities. Duplicate monthly reports from the ten districts and from 92 sentinel sites are collected and analyzed by the project. The only nutrition information collected through the HMIS is the number of underweight children presenting at measles vaccination and the number of children weighed. This information is of limited use as it represents the nutritional status of nine month old infants only. The number of these children and their mothers who are given vitamin A supplements at the vaccination sessions are also reported. Birth weights are recorded in the Maternity Register but low birth weight is not reported. The project, however, is not in a position to modify the HMIS in order to include more information for monitoring nutritional status or activities at this point in time. Modification of the system will require intervention at the national level.

The NGOs have established management information systems to monitor the delivery of community reproductive health services. They use a standard reporting format for the CRHWs' family planning activities and STD/HIV referrals. The CRHW records her activities in a printed diary, from which service statistics are compiled monthly using a printed reporting form. There is no standard reporting format for other activities of the CRHW, however.

The CRHWs in FLEP use two separate notebooks to record EPI and IEC activities and a third notebook to report monthly service statistics. Monthly reports flow from the CRHW to the health unit worker with whom she works, to the zonal manager and then to the FLEP manager, DISH coordinator, and the District Medical Officer.

In the notebook used as the EPI register, the CRHW records the name, birth date, and mother's name of all the babies born in her community. The types and dates of vaccinations received by each child is recorded when they attend immunization sessions. Although the weights of children attending EPI sessions are recorded in their individual health cards, weights are not recorded in the register, meaning that information for monitoring the impact of the program is not collected at present. However, as the headings and columns in these notebooks are handwritten, they can be modified easily to record nutrition information. Columns can be added in the EPI register to record the date when the child is weighed and his weight status (using a

symbol to indicate normal weight or underweight) can also be recorded and totaled. Thus the level of CRHW activity (number of children weighed) and the nutritional status of the children in her community (percent of children underweight) in a given period can easily be monitored. The nutrition IEC activities can be recorded in the IEC notebook along with other IEC activities.

These recommended changes in reporting will create only a minimal additional burden for the CRHW. The information collected will primarily be used at the local level by the CRHW, her supervisor, and her community. This information also can be compiled at the NGO and at the project levels and used by project managers to monitor project performance and results.

The supervisors of the health facility workers and CRHWs also monitor their activities through supervisory visits during which service statistics reports are reviewed and worker performance observed. After training, supervisors will be able to include nutrition activities as part of routine supervision.

Evaluation

Evaluation of program performance will be based in part on the UDHS (the 1995 survey offering baseline measures for some variables; the year 2000 survey providing end of project measures) as well as two community surveys conducted in health facility catchment areas. The first community survey is about to be fielded—a sampling frame has been developed, men's and women's questionnaires drafted and pre-tested; interviewers recruited; and field work will begin shortly.

Community survey questionnaires include mainly items drawn directly from the UDHS instruments. Employing standardized questions will help to ensure comparability between performance data collected through the DISH community surveys and the UDHS.

However, the performance indicator for infant nutrition behavior needs to be reformulated. The indicator for infant nutrition is the "percentage of infants exclusively breastfed at four–six months in target facility catchment areas." The National Food and Nutrition Policy has as one of its Nutrition Specific Objectives "to promote exclusive breastfeeding up to at least six months of age." The indicator should therefore conform to this policy, which is consistent with current UNICEF/WHO guidelines. The indicator should be reformulated as "percentage of infants exclusively breastfed up to the age of six months."

The measurement of current practice of exclusive breastfeeding should normally be among infants just under the age of six months as mothers are encouraged to start introducing complementary foods from around six months. However, the planned community survey will not be able to capture enough women with five-month old infants to provide a representative sample size that can be used for comparison with the results of a repeat survey. One solution is to over-sample women with five-month old infants but this option would significantly increase the cost of the survey.

A better solution is *not* to base exclusive breastfeeding estimates on infant feeding practices from the day before the interview. Instead, we would prefer to ask mothers with children up to the age of two years about the age (in months) at which the youngest child was first given liquids other than breastmilk or solid foods. This question will measure past as well as current practice—mothers who have not started giving supplementary feeds will reply that they have not started.

To evaluate the impact of the interventions aimed at improving complementary feeding and maternal dietary practices, we also recommended that a question on maternal food intake and a question on the child's food intake in the form of a 24-hour dietary recall be included in the community surveys. This will enable us to measure the frequency of consumption of the recommended foods. Additional effort will be required to collect this data but its value outweighs its cost. This is essential information, not only for evaluation but for planning intervention strategies and activities as well.

The team has provided an example of the wording and coding format for the dietary recall question to DISH research and MIS personnel (see Appendix I).

4. Conclusions and Next Steps

There are a number of opportunities and entry points within the ongoing or planned programs of the DISH Project for strengthening and focusing nutrition-related activities. Our assessment and recommendations center on three program components: health worker training; information, education, and communication; and community action. Activities will be conducted primarily through NGOs and their community-based health workers (see the outline of a preliminary work plan, below).

In providing support to DISH in these three areas, LINKAGES' mandate is defined by DISH's broader project parameters. DISH is working in ten districts and not at the national level, except for the wide reach of its media-based IEC activities and SOMARC's product-marketing channels. Consequently, LINKAGES' relationship with international donors (such as UNICEF) or government ministries and departments working on nutrition will be primarily one of coordination and consultation, rather than direct collaboration.

DISH is already committed to improving breastfeeding practices, primarily through IEC and health worker training. We believe that breastfeeding can be successfully addressed with the relatively modest resources at the project's disposal. Arguably, a much more severe problem in Uganda is the stunting among older infants and young children, indicating widespread problems in complementary feeding. Stunting is both more intractable and its solution would require a much larger commitment of project resources. Interventions to reduce stunting are necessarily rooted in strategies for changing feeding behaviors and enriching children's diets at the level of the household and the local community. We propose to collaborate with the NGOs supported by DISH to guide and strengthen CRHWs' outreach and counseling in the area of complementary

feeding, while also building on local microcredit and income generating projects. The primary aim of this component, however, is to develop, test, and assess promising pilot interventions that might be more widely replicated in other areas in later years.

Discussions with DISH management and the Mission indicate that, at this time, there is not room for adding food fortification initiatives and for the distribution or marketing of iron/folate tablets, vitamin A capsules, or centrally-processed weaning foods to the project's already crowded agenda. Food fortification would constitute an entirely new initiative for DISH; however, it is currently being vigorously pursued by UNICEF. The social marketing of iron/folate tablets or vitamin A is also not a project priority at this time. There is little data available on the prevalence of anemia to guide an intervention focusing on iron supplementation. According to available data, the problem of vitamin A deficiency appears to vary widely across regions—and is probably most serious in Uganda's northern districts, an area not covered by DISH. In any event, any new product-marketing initiatives must wait until some more auspicious date as the social marketing of kits for STD diagnosis and treatment is the project's current priority.

Planning for concrete activities to support DISH's work in nutrition began during the team's visit and will continue through the end of this fiscal year. An outline of activities to be carried out with LINKAGES assistance follows.

Next steps are to finalize a schedule of activities and an overall budget for LINKAGES. collaborative work with DISH over the coming year.

LINKAGES and DISH activities for 1997–1998
Result #1: Increased health worker training and supervision
1.1 Revise training curricula for nurses and midwives, and for Community Reproductive Health Workers.
1.2 Train nurse and midwife trainers and pretest revised curricula for maternal nutrition, breastfeeding, and complementary feeding for infants.
1.3 Train trainers of Community Reproductive Health Workers and pretest nutrition curriculum.
1.4 Train Community Reproductive Health Workers in nutrition counseling and education.

LINKAGES and DISH activities for 1997–1998
Result #2: Increased breastfeeding and nutrition information, education and communication activities
2.1 Literature review/secondary data analysis on breastfeeding and complementary feeding knowledge, attitudes, and practices in Uganda.
2.2 Conduct rapid ethnographic assessment of maternal nutrition and complementary feeding practices.
2.3 Conduct assessment of nutritive value of traditional weaning foods and weaning and weaning food trials.
2.4 Strategy design meeting for breastfeeding IEC interventions.
2.5 Develop, pretest, and produce materials for breastfeeding IEC.
2.6 Design and pretest nutrition education flipchart/counseling cards.
2.7 Finalize and print nutrition education materials.
2.8 Design monitoring and evaluation plan for nutrition interventions (IEC, training, and CRHW).
2.9 Disseminate breastfeeding IEC materials/messages.
2.10 Monitor and evaluate reach and effectiveness of breastfeeding IEC interventions.
Result #3: Increased community action, primarily through NGOs and their community based health workers
3.1 Design nutrition income generation project with FINCA and FLEP.
3.2 Distribute nutrition education materials to nurses, midwives, and CRHWs.
3.3 Develop strategy and implementation plan for integrating nutrition into CRHW activities with NGO project managers/coordinators.
3.4 Develop strategy and implementation plan for linking income generation and improvement of nutritional status in small economic activities of CRHWs with FLEP and YWCA project managers/coordinators.
3.5 Develop tools for monitoring nutrition activities to be incorporated into existing MIS and evaluating the progress of income generation activities towards achieving nutrition goals.

APPENDIX I
24-Hour Dietary Recall

There should be two questions, one for the woman who is pregnant or lactating and one for her child under the age of 36 months.

QuestionCodes

What did you/your child eat and drink yesterday from the time you/your child got up to the time you/your child went to bed?
(*Instructions: Start with what was eaten in the morning, followed by afternoon and then evening. Record only one food on each line. For sauces and dishes made up of several ingredients, record the name of the dish and then record the main ingredients used to make the dish in the next column. There is no need to record spices and ingredients for flavouring that are used in very small amounts.*)

(*After recording the list of foods eaten, ask:*)
Did you/your child eat anything else between the meals?

	Foods/dishes eaten	Ingredients
Morning		
Mid-day		
Evening		

N° of meals _____

Food	Frequency
Maize	_____
millet/sorghum	_____
rice	_____
wheat flour/bread	_____
plantain	_____
cassava	_____
yam/taro	_____
sweet potatoes/ Irish potatoes	_____
oil/ghee/cooking fat	_____
butter/margarine	_____
groundnuts	_____
simsim	_____
beans	_____
fish	_____
fish, small whole (Ngenje)	_____
liver	_____
meat/chicken	_____
egg	_____
milk	_____
yoghurt/cheese	_____
green leaves	_____
carrots	_____
pumpkin	_____
other vegetables	_____
mango/pawpaw	_____
other fruits	_____
fruit juices	_____

Coding: first count the number of times the subject has eaten and record it in the space provided. Then count the number of times each food or kind of food was eaten and record it in the space provided. Coding should be done after and not during the interview. It should be checked by the supervisor to reduce coding errors.

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