
Maternal and Infant Nutrition

Report of Assistance
to Developing Countries
in the Area of
Improving Infant
Feeding Practices
and Diet During Pregnancy

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**Report of Assistance to Developing Countries
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Improving Infant Feeding Practices and
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**Office of Nutrition
Bureau for Science and Technology
U.S. Agency for International Development
Washington, D.C. 20523**

CONTENTS

	<u>Page</u>
1. Introduction	2
2. Project Background	3
3. Review of Activities	4
(a) Primary Health Care and Family Planning	4
(b) Public Education	5
(c) Training	5
(d) Sensitization Workshops	6
(e) Food Supplements	6
(f) Studies	7
(g) Regional Institutions	7
4. Conclusions and Preliminary Results	8
 <u>Appendices</u>	
A. Activities by Country in 1982	9
B. List of Workshops	26
C. Consultative and Coordinating Activities	28
D. Lessons Learned	29

F O R E W O R D

This report describes the activities of the United States Agency for International Development (AID) in the area of improving maternal and infant feeding practices. The report was prepared for two audiences:

1. A.I.D. field mission and Washington based staff
2. Bilateral and multilateral aid agencies

The report provides AID staff with background on the development of programming in this area, an overview of the AID program to improve maternal and infant feeding practices, and information on specific projects.

AID regularly exchanges program information with other bilateral and multilateral agencies working in nutrition to help ensure coordination of our respective programs and this report is being distributed as part of this continuing effort.

The report covers activities over the past three years.

December, 1982

1. Introduction

In developing countries pregnant and lactating women, and children less than three years old are most vulnerable to nutritional deprivation. Maternal and child malnutrition constitute major public health problems in many countries and have serious implications for social and economic development.

Since the mid-1950s the United States Agency for International Development (AID) has provided assistance for maternal and infant nutrition projects. In 1979, an expanded program was started to address these problems more directly, particularly malnutrition during pregnancy, declining breastfeeding, and improper and harmful weaning practices.

This report describes some of the expanded program activities of AID from November 1979 through November 1982. These activities represent a modest but significant U.S. effort to assist developing countries in ensuring that women and children have a better chance for healthy and productive lives.

The major focus of the expanded program has been to help developing countries strengthen breastfeeding, weaning, and maternal-nutrition components of existing programs in health, family planning, and nutrition.

Since 1979, field activities in the following areas have increased.

- a. Primary health care and family planning programs.
National and regional workshops and seminars for primary health care and family planning personnel stimulated awareness of maternal and infant nutrition problems and strengthened outreach capabilities of programs. Scientific and program information was disseminated regularly and programs became more efficient and effective based on that information.
- b. Public education programs.
Formal and nonformal education projects gave millions of people advice on how to keep their families healthy.
- c. Training.
Training programs have been expanded for physicians, nurses, midwives and community health workers. Educational curricula have been revised and developed to include the public health significance of infant feeding practices and maternal nutrition and the skills for prevention, diagnosis and treatment of problems in these areas.
- d. Sensitization workshops.
Workshops were held for medical and health professionals who play a critical role in influencing maternal nutrition and infant feeding behavior.

- e. Food supplements.
Supplemental food was provided for pregnant or lactating mothers and young children, the most vulnerable groups. Programs encouraging use of weaning foods made from indigenous ingredients were started in selected countries.
- f. Studies.
Studies of patterns and determinants of infant feeding practices in low-income urban and rural communities provides data to guide policy and programs.
- g. Regional institutions.
Regional institutions provided assistance to design programs, develop materials and disseminate information on aspects of breastfeeding, and maternal and infant nutrition.

2. Project Background

In 1977, a new section was added to AID's basic legislation, (Foreign Assistance Act of 1961 as amended) "encouraging AID to devise and implement maternal nursing education programs integrated with nutrition and health improvement programs for mothers and children." The Agency was called upon to "intensify and expand upon its ongoing programs by providing technical, financial and material support to individuals and groups at the local level in developing countries."

Following a review in 1977 of ongoing AID programs, AID asked the National Academy of Sciences (NAS) Committee on International Nutrition Programs of the Food and Nutrition Board to prepare guidelines for an expanded international assistance program. The NAS sponsored a meeting (January 1978) in Washington, D.C. to discuss approaches and actions. The report from that meeting provided program priorities to alleviate nutritional problems of pregnant women and young children.

United Nations agencies and other bilateral aid agencies, working in nutrition, reviewed and endorsed the NAS recommendations as the priority activities that AID and other donors should implement. In August 1978, a group of 22 developing country nutrition policy makers and scientists affirmed that the NAS recommendations were appropriate to their needs and were feasible to carry out. The group urged AID to begin implementation.

The AID strategy that emerged from this extensive review focused on the following components:

-- Sensitizing and educating policy makers, medical professionals (pediatricians, obstetricians/gynecologists, hospital administrators, etc.) and paraprofessionals regarding the public health significance of breastfeeding, appropriate weaning and improved maternal nutrition, and how they could play an important role in supporting these practices.

-- Increasing public awareness and motivation by dissemination of information through mass media, school curricula and community workers, on the importance of breastfeeding, weaning, and maternal nutrition and how to deal with common problems.

-- Training of service delivery personnel in health, family planning, nutrition and other programs in the skills of early diagnosis and problem-management in breastfeeding, weaning and maternal nutrition.

-- Improving the effectiveness of food distribution programs.

-- Studies to improve our understanding of patterns and determinants of infant feeding and maternal nutrition problems.

Fifty AID officers, including field staff, met in 1978 to plan mechanisms for the initiation of these project activities. Funds were made available in the Fiscal Year 1979 budget for a special global project to implement the program.

3. Review of Activities¹

The major focus of the AID program has been to help developing countries strengthen breastfeeding, weaning and maternal nutrition components of existing health, family planning, nutrition and other programs. Selected program examples are included here to illustrate the range of activities.

(a) Primary Health Care and Family Planning Programs

Assistance is given to strengthen outreach capabilities so that basic health care and family planning services may become available to a larger proportion of the population and urban-rural inequities may be reduced. The training curriculum of village-level workers and their supervisors covers health and nutrition education, and growth monitoring of the nutritionally high-risk groups. Breast feeding, appropriate weaning practices and nutrition during pregnancy are included.

For example, the Village Family Planning/Maternal-Child Welfare Project in Indonesia is targeted to reach five million women and children by 1985. It utilizes growth monitoring of young children to encourage proper infant feeding practices (including breastfeeding) and complements national family planning efforts through improving the health of young children and increasing access to a range of family planning services. AID assistance for these types of activities is also going to Kenya, Rwanda, and Zaire in Africa; Bangladesh and Philippines in Asia; Ecuador, Guatemala and Haiti in Latin America and the Caribbean and Morocco, Tunisia and Yemen in the Near East.

¹ A country by country listing of activities presently assisted by AID is given in Appendix A.

Multi-country training programs include one conducted by the University of Hawaii to produce training modules for use in primary health care programs and AID's family planning training programs.

(b) Public Education Programs

Technical assistance and grant funds are provided to support government and private initiatives to motivate and inform the general public about breastfeeding, weaning, and maternal nutrition. La Leche League International, a non-profit organization that has helped reverse the decline in breastfeeding in industrialized countries, is now helping women in developing countries with breastfeeding problems. The League has helped El Salvador establish a Center for breastfeeding promotion called CALMA. CALMA trains breastfeeding counselors and staff of hospitals and clinics. The center also assists women's organizations who provide support, motivation and information to breastfeeding women in rural and urban areas. The Center provides printed materials to the public and is planning a mass-media campaign to promote breastfeeding. Other Central American countries have field-tested CALMA training curricula and have received technical assistance from CALMA staff.

The governments of Honduras and Panama are presently designing major national strategies to promote breastfeeding, which include public and professional education programs through mass media, seminars and curriculum changes and revised hospital and clinic practices to encourage breastfeeding.

(c) Training

Technical assistance and grant funds are provided to ministries of health and family planning, educational institutions, and private agencies to revise and update curricula and conduct short in-service courses for physicians, nurses, trainers, supervisors and managers involved in delivering health and family planning services. The training emphasizes the public health significance of infant feeding practices and maternal nutrition and skills of prevention, diagnosis and treatment of problems in these areas.

In August, 1982, in-service training seminars were held in Denpasar, Medan, Semarang and Bandung, Indonesia, where faculty of 13 government medical schools and nursing colleges and other key personnel reviewed recent knowledge on infant feeding and developed guidelines for use in health service.

In Tanzania, 18 new training schools have been established. Their curriculum focuses on breastfeeding, proper weaning and maternal nutrition. Trained Tanzanian MCH aides will provide pre- and post-natal services at clinics nationwide.

Among multi-country programs, The Center for Development and Population Activities (CEDPA), a non-profit organization that provides training to mid-level women managers of health, family planning, and other programs, is incorporating maternal and infant nutrition components into their training programs.

(d) Sensitization Workshops

Assistance is provided for seminars and workshops to sensitize medical and health professionals who play a critical role in influencing maternal nutrition and infant feeding behavior. The seminars generally include presentation of findings from recent research, reports on country-specific program experiences, and development of guidelines or recommendations for national or global policy and programs.

The workshops have been carried out with AID assistance and often in collaboration with UN agencies such as WHO, UNICEF, and PAHO in 15 countries², for more than 5,000 health professionals and policy makers.

(e) Food Supplements

Maternal and child feeding programs implemented under PL 480 Title II have the overall goal of improving the nutritional status of malnourished children. In Fiscal Year 1981, 16 million preschool children and pregnant or lactating women in 47 countries participated in Title II maternal-child feeding programs. While distribution of food supplements constitutes the primary focus of these projects, a number of them have begun to include education and basic health care activities as well. In addition to donated foods, expertise in food technology and related disciplines is provided through an agreement with the U.S. Department of Agriculture. This agreement provides technical assistance to countries in using locally available food to formulate nutritious food supplements for weaning age children and pregnant or nursing women.

In Morocco, a Nutrition Development Project was started to stimulate the formulation of new village-and-home-prepared weaning foods. Studies will look at ways to include nutrition education in pilot projects concerned with weaning food distribution. The lessons from these pilot projects will be applied to programs using indigenous local foods to replace donated foods provided under PL 480 Title II.

Technical assistance funded by AID has also resulted in the development and demonstration of low-cost extrusion cooking worldwide; test marketing of weaning foods in Sri Lanka and Guyana; development of indigenous foods to replace imported

² A list of the workshops is in Appendix B.

donation foods in Tanzania, Costa Rica and Sri Lanka; and design of programs in which locally-prepared foods can be used effectively in Senegal, Liberia, Sri Lanka, Tunisia, Egypt and Nigeria.

(f) Infant Feeding Studies

Through a contract with The Population Council, New York, funds and technical assistance are being provided to Indonesia, Thailand, Colombia, and Kenya to study patterns and determinants of infant feeding practices in low-income urban communities. The objective of this study is to describe infant feeding practices and to ascertain associated factors that could be determinants of these practices in terms of how they effect the individual mother's decision on how and what to feed her child. New ways of combining anthropological and epidemiological research techniques developed under this project are being tested and used in other countries including Cameroon, Honduras, and Bangladesh. Studies in Bolivia, Guatemala, Haiti, Malaysia, Panama, Congo and Zaire also provide information on infant feeding practices and nutrition.

(g) Regional Institutions

AID assists regional institutions that are giving increased attention to breastfeeding and maternal and infant nutrition. Trainers of village health workers are trained at two regional WHO training centers in West and Central Africa and curricula of nursing schools is being revised. Maternal and infant nutrition is included as a component in these courses. Twenty African countries are eligible for assistance in this program for strengthening health delivery systems in West and Central Africa.

The Caribbean Food and Nutrition Institute (CFNI) has actively participated with Caribbean countries in designing and testing interventions to improve maternal nutrition and promote breastfeeding and good weaning practices for the region. Recent activities include:

- developing guidelines for a breastfeeding and weaning strategy for the Caribbean;
- assisting with action plans for breastfeeding in nine countries, resulting in implementation of these plans in six Caribbean countries;
- participating in research activities at Jamaica's College of Arts, Science and Technology (CAST) in weaning, obstetrical management to promote mother-infant bonding and breastfeeding, and management of iron anemia.

The Foundation for the Peoples of the South Pacific is assisting seven island nations in the South Pacific to strengthen their planning and training capabilities in maternal and child nutrition. The Foundation assists with developing action plans, information exchange through seminars and satellite transmission, and training curricula development.

In support of all of the above types of programs and to reach key individuals who may not be direct participants in these programs, a global information clearinghouse funded by AID provides a newsletter and selected publications in three languages on a regular basis to 10,000 policy makers, training institutions, program managers and researchers in 50 countries.

4. Conclusions and Preliminary Results

Malnutrition in pregnant women, declining breastfeeding and inappropriate weaning practices are issues of great concern in developing countries. Policy makers, program planners, trainers and managers of nutrition programs are greatly interested in U.S. assistance in these areas; requests for assistance doubled in the past two years.

The major focus of AID assistance has been to strengthen infant and maternal nutrition components of existing health, family planning and nutrition programs.³

At the national level, many developing countries have formulated new plans and programs aimed at encouraging breastfeeding. Much of this heightened awareness has resulted from the series of international, regional and national workshops and conferences convened over the past several years.

The nature of requests for assistance in education and training have evolved from ad hoc, short-term, single projects to integrated multi-year, multi-component programs aimed at providing services to a sizeable population. Health professionals' seminars have led to careful reconsideration of existing hospital and clinic practices and medical and nursing curricula.

Breastfeeding-mothers-support groups, such as CALMA in El Salvador and professional organizations for pediatrics, obstetrics and gynecology and nurse-midwives are playing an important supportive role in re-orientation and continuing education in this area.

The imaginative use of mass media, employing the techniques of the commercial advertising industry, has proven to be a cost-effective means of generating public awareness and motivating populations to adopt positive nutrition-related behavior.

Workshops and seminars, dissemination of publications and information, training activities and technical assistance are collectively serving to strengthen existing indigenous institutional programming capability in the area of maternal and infant nutrition and improving overall maternal-child health.

³ Appendix D lists elements of effective programs.

APPENDIX A

COUNTRY ACTIVITIES IN FISCAL YEAR 1982 IN MATERNAL AND INFANT NUTRITION

The following activities currently receive A.I.D. assistance. They are arranged by region and by countries listed alphabetically. This list is not intended to be complete. It provides examples of how breastfeeding, weaning and maternal nutrition activities are integrated with broader programs.

AFRICA

Botswana -

- o Two staff from the Ministry of Health (MOH) are being trained in nutrition in Kenya and the U.S.
- o Almost 100 key health and nutrition professionals and training institutions are associated with the international clearinghouse of information through which a newsletter and selected publications on maternal and infant nutrition are distributed.

Cameroon -

- o Maternal nutrition is taught in refresher courses for MOH personnel within an integrated in-country project for MCH and reproductive health.
- o The Catholic Relief Services (CRS) provides food to approximately 35,000 pre-schoolers and nutrition education to mothers.
- o Infant feeding practices are being studied to determine the causes of the high levels of pre-school malnutrition in the Northern Province.
- o Over 130 training institutions and key professionals receive a newsletter and selected publications on maternal and infant nutrition from the international clearinghouse established for this purpose.

Congo -

- o A national nutrition education program is being undertaken by CARE and MOH which commenced with a survey of maternal and infant nutrition in order to develop an educational strategy to promote improved maternal nutrition and breastfeeding.

- o Primary health care services are being assisted through a grant to CARE. This includes breastfeeding promotion, improved weaning practices and maternal nutrition.
- o Almost 40 policy makers, program planners and training institutions receive a newsletter and selected publications on maternal and infant nutrition.

Djibouti -

- o CRS and MOH operate an MCH program that provides benefits to over 9,000 mothers annually.
- o Some 25 key individuals and training institutions are regularly kept updated on maternal and infant nutrition issues through newsletters and publications.

Gambia -

- o About 30,000 women and infants are registered in under-5's clinics which include growth monitoring educational lectures and provision of food through PL 480 Title II.
- o Project Concern International provides training to trainers of primary health care workers and traditional birth attendants. Nutrition is included in these courses.
- o The use of media in reducing diarrheal disease is being tested with emphasis on oral rehydration therapy. Improved infant weaning practices is a key element of this project in order to reduce the severity of diarrheal episodes and to prevent them by improving hygienic preparation of weaning foods. Continuation of breastfeeding during diarrhea is promoted.
- o In November 1981, a national seminar on maternal and infant nutrition brought together the large number of government and private agencies working in maternal and infant nutrition for the first time, to develop a means for coordination and an integrated strategy in this field.
- o An international clearinghouse on information regarding maternal and infant nutrition keeps over 80 key individuals and institutions updated on recent developments in this field through a newsletter and key publications.

Guinea -

- o Nutrition education is provided through community health programs which emphasize maternal nutrition and infant feeding.
- o Some 35 institutions and individuals are regularly provided information on key maternal and infant nutrition issues through a newsletter and other recent publications.

Kenya -

- o Infant feeding practices and their determinants are being studied in urban low-income groups in Nairobi as a basis for designing programs and policies to promote breastfeeding and good weaning practices. Assistance is provided to the Central Bureau of Statistics and African Medical Research Foundation (AMREF) for this study.
- o Approximately 110,000 mothers and pre-schoolers receive food supplements along with nutrition and health education through the PL 480 program run by CRS.
- o The Family Life Training Program of the Social Services Ministry is providing nutrition rehabilitation and outreach services through community-based centers in rural areas.
- o AMREF and MOH collaborate in a program to train community health workers at the Kibwazi Health Center. This includes teaching maternal nutrition to women of child-bearing age.
- o A new primary health care program in the Kitui area is being planned. Maternal and infant nutrition are expected to be components of this program.
- o Over 150 institutes and key individuals regularly receive a newsletter and recent publications on maternal and infant nutrition.

Lesotho -

- o Training is provided by MOH to nurses and other paramedics which covers breastfeeding, weaning and maternal nutrition. This project enables health workers to be trained for the rural component of a national health services delivery system.

- o CRS provides PL 480 commodities to some 144,000 mothers and children under the Title II program.
- o About 60 training institutions, policymakers and program planners are regularly updated on maternal and infant nutrition issues through a newsletter and other publications.

Liberia -

- o Short-term technical assistance was provided to develop a national nutrition plan (with emphasis on maternal and infant nutrition) and to establish a mechanism for testing weaning foods.
- o Under a rural radio communication project, breastfeeding promotion and messages for improving weaning and maternal diet are expected to be incorporated.
- o Some 85 training institutions and key individuals regularly receive recent publications on maternal and infant nutrition.

Mauritania -

- o MOH is training 200 health workers in prevention diagnosis and treatment of malnutrition.
- o CRS administers the PL 480 program under which mothers and children receive food supplements. This program is in collaboration with the Peace Corps and Mauritanian Red Crescent Society.
- o Newsletters and other publications in this field are regularly distributed to over 20 key individuals and training institutions.

Rwanda -

- o 50,000 pre-schoolers and pregnant and nursing women receive PL 480 food supplements through a CRS program. Nutrition education classes stress the importance of continuing breastfeeding and improving nutrition education.
- o Through a family planning training program nutrition education is provided to mothers. Training in nutrition is given to employees at nutrition centers. Construction of nutrition centers is also supported.

- o Some 38 training institutions and individuals are regularly kept informed of recent developments in the maternal and infant nutrition area through publications and a newsletter.

Senegal -

- o Over 200,000 mothers and children receive PL 480 food supplements through medical dispensaries. Food distribution is administered by CRS.
- o A rural primary health care program in the Sine Saloum region is incorporating growth surveillance and improved weaning practices as components.
- o The national institute of food technology is developing new technologies for millet products which can be used as the base for a weaning food.
- o About 70 training institutions and key individuals receive newsletters and publications on this subject.

Sudan -

- o MOH is to implement a rural health program in the southern and western provinces of Kordofan and Darfur. The MCH component includes refresher training for village midwives, community health workers and traditional birth attendants which encourages breastfeeding and improved weaning practices.
- o The nutrition education component of a family health project run by the Department of Community Medicine in Khartoum University trains village midwives and emphasizes breastfeeding and improved weaning practices.
- o About 75,000 mothers and children receive PL 480 food supplements through the CRS administered Title II program. An education component covers breastfeeding and weaning practices.
- o About 60 institutions and individuals involved in training, policymaking and program design receive current publications in this area.

Tanzania -

- o USAID has built 18 MCH training schools throughout Tanzania and assisted MOH to prepare curriculum now used in these training institutions. MCH aides training emphasizes the importance of breastfeeding, proper weaning and maternal nutrition to equip them for pre- and post-natal care and services.
- o CRS administers the PL 480 Title II program which provides food supplements to about 75,000 mothers and children.
- o Recent publications and a newsletter keep over 150 training institutions and key individuals regularly updated on developments in this field.

Zaire -

- o The National Nutrition Planning Center in MOH designs and field tests interventions to improve infant feeding practices and maternal nutrition.
- o The rural primary health care program of MOH includes nutrition education with emphasis on breastfeeding, weaning and maternal nutrition.
- o CRS administers the PL 480 Title II program which provides food supplements to mothers and children. Nutrition education and preventive health services are also provided.
- o Newsletters and recent publications on this subject are regularly provided to 165 training institutions and key individuals.

Other countries in Africa in which A.I.D. supplies maternal and child nutrition activities through providing PL 480 Title II food supplements or educational materials and publications on maternal and infant nutrition include Benin, Burundi, Ethiopia, Ghana, Guinea-Bissau, Cape Verde, Madagascar, Malawi, Niger, Nigeria, Sierra Leone, Swaziland, Seychelles, Somalia, Togo, Uganda, Upper Volta, Zimbabwe and Zambia.

ASIA

Bangladesh

The following programs emphasize breastfeeding, weaning and maternal nutrition:

- o The Salvation Army provides nutrition assistance through under-fives and ante-natal clinics. Nutrition rehabilitation at Centers and nutrition outreach services are supported.
- o Women health workers are trained to provide MCH and family planning services under the Palli Chikitsak (Village Medic) program of MOH.
- o CARE administers a program which provides for the training of faculty from twelve institutes where rural based female paramedics are trained in MCH and family planning.
- o Asia Foundation provides grant support to local agencies for family planning services which also include training, mothers' clubs, day care and clinical services.
- o MOH develops and reproduces educational materials such as growth charts.
- o Newsletters and recent publications are provided to some 300 training institutions and key individuals to keep them regularly updated on maternal and infant nutrition information.

Burma

- o MOH is undertaking a National Primary Health Care program in which volunteer health workers and auxiliary midwives are trained with an emphasis on improved infant feeding practices.
- o Over 100 individuals and training institutions are regularly updated on maternal and infant nutrition publication via a newsletter and publications.

India

- o The MOH is conducting a training needs assessment to determine knowledge and practices of government health workers and community level health volunteers. Knowledge about breastfeeding, weaning foods and maternal nutritional needs are included in the study.

- o Over six million preschoolers and pregnant or nursing mothers receive PL 480 Title II food supplements which are distributed by CARE and CRS. A small proportion of the Title II foods are further processed with local commodities to produce appropriate weaning foods. Efforts are underway to design a program which will greatly increase the effectiveness of the PL 480 Title II programs in selected regions and will include emphasis on breastfeeding, weaning as well as as interventions to reduce the high incidence of low birth weight.
- o Newsletters and publications are regularly distributed to over 400 key individuals and institutions on maternal and infant nutrition.

Indonesia

- o The National Institute of Health Research and Development of MOH is participating in a four-country study on infant feeding practices with Diponegoro University in Semarang to assess the determinants of trends in urban low-income communities as a basis for improved programs and policies for promoting breastfeeding.
- o A series of workshops are being held in four provincial capitals to enable medical and nursing school faculty to jointly review and update the maternal and infant nutrition content of existing training programs as one element of a national strategy to promote breastfeeding and good weaning practices.
- o Through the national rural family planning program conducted by BKKBN village level workers are trained to promote breastfeeding and good weaning practices in conjunction with growth monitoring activities.
- o Approximately 115,000 mothers and preschoolers receive PL 480 Title II food supplements through programs administered by CRS and Church World Services (CWS).
- o MOH regularly distributes 500 newsletters "Mothers and Children" and other recent publications to keep training institutions and key individuals updated in this field.

Pakistan

- o MCH curriculum for female mid-level health workers is being revised to emphasize breastfeeding and improved weaning practices.

- o The MCH curricula of family planning workers is being reviewed to assess the adequacy of nutrition, especially breastfeeding and weaning components.
- o Newsletters and other recent publications on maternal and infant nutrition are distributed to over 75 training institutions and key individuals nationwide.

Philippines

- o The regional development council in Panay in collaboration with national nutrition programs train and equip Barangay health workers to deliver primary health care services including food supplements to about 10,000 malnourished preschool children and nutrition outreach services. This program covers 600 selected high-risk Barangays.
- o The MOH is training Barangay health aides in two provinces of the Bicol region in collaboration with other agencies, which includes nutrition education, growth monitoring, distribution of food supplements, referral of the severely malnourished to health centers and a food production campaign. This project will provide grinders and scales needed by home management technicians for the preparation of weaning mix and for growth monitoring.
- o The Nutrition Center of the Philippines is designing and testing interventions to reduce the high prevalence of anemia especially during pregnancy and to lower the incidence of low birth weight through providing supplements to women during pregnancy.
- o The pediatric curricula of medical schools nationwide has recently been revised to place stronger emphasis on breastfeeding and infant nutrition. Educational materials are being developed to support this effort.
- o Over 580,000 mothers and preschoolers receive food supplements provided under PL 480 Title II through programs administered by CARE and CRS.
- o Nutrition education and family planning are components of training given to families of fishermen under an agro-marine project designed to provide alternate income generating sources.
- o The Institute of Cultural Affairs through a program in 30 villages of Cebu and Davao is building preschool nutrition centers in each village for nutrition outreach services.

- o Some 330 training institutions and key individuals regularly receive newsletters and recent publications on maternal and infant nutrition.

Sri Lanka

- o CARE and MOH are distributing a locally blended food supplement called Thriposha to about 590,000 pregnant and nursing women and weaning age children. A recent evaluation demonstrated a significant improvement in growth of children participating in this program.
- o Through a project for upgrading a slum community at Kirillapone, Save the Children Federation and the Urban Development Authority are providing maternal and infant nutrition education to families with an emphasis on local weaning foods.
- o Newsletters and recent publications on maternal and infant nutrition are regularly distributed to over 85 training institutions and key individuals.

Thailand

- o Over 88,000 village volunteers, village health communicators and their supervisors, have been trained through an MOH rural primary health program which emphasizes breastfeeding and improved weaning practices and referral/treatment of the severely malnourished. This project focuses on community based nutrition activities such as monthly weighing of under fives and local production of weaning foods. Other basic health services include early childhood immunizations, oral rehydration to treat diarrhea and prevention/treatment of intestinal parasites.
- o Mahidol University is conducting a study of low income urban households in Bangkok to assess infant feeding practices and their determinants as a basis for developing improved breastfeeding policies and programs.
- o Asia Foundation is supporting a training, research and demonstration facility of the Prince Songkhla University in Southern Thailand which focuses on developing village capability in food production, processing and distribution.
- o MOH is undertaking a comparative study on the effects of various nutrition education components on nutritional status in 30 villages. Changes in child feeding attitudes and practices associated with various nutrition surveillance activities are being studied in 13 villages.

- o Newsletters and recent publications on maternal and infant nutrition are provided on a regular basis to over 120 training institutions and key individuals.

LATIN AMERICA

Bolivia

- o Under a national nutrition improvement project, urban breastfeeding practices are being surveyed to design better programs and policies. A mass media campaign was undertaken in three regions to test the effectiveness of this approach for improving infant feeding practices and maternal nutrition. The results of these activities are being disseminated through reports and seminars.
- o CRS/CARITAS is utilizing PL 480 Title II resources to promote breastfeeding via a program through 1450 mothers club. Some 200,000 mothers and children receive food supplements.
- o Newsletters and other recent publications on maternal and infant nutrition are distributed regularly to about 80 training institutions and key individuals.

Costa Rica

- o The National Health Research Institute (INISA) has undertaken comprehensive field research on breastfeeding and its implications for infant mortality and morbidity. In a carefully evaluated program with MCH, the effectiveness of postpartum mother-child rooming in and human milk banks in reducing morbidity rates are being demonstrated. In a rural population, the determinants of low birth weight are being investigated to develop effective maternal nutrition intervention.
- o The Food Technology Institute (CITA) is developing weaning foods using local products based on careful community studies and acceptability tests.
- o Over 70 training institutions and individuals are regularly updated on breastfeeding, weaning and maternal nutrition via newsletter and current publications.

Ecuador

- o A model program of training, research and delivery of family planning services in MCH, is being established at four training centers for physicians, nurses and midwives which emphasizes maternal and infant nutrition. Training is also being provided at these centers to health professionals at all levels under a rural health services program.

Haiti

- o The rural primary health care program includes implementation of village level nutritional surveillance, education, food supplements and rehabilitation using village health agents, agricultural extension agents and nurses.
- o At the central level MCH training for nurses includes maternal and child nutrition.
- o Through CRS and Church World Service almost 50,000 mothers, and children receive PL 480 Title II food supplements.
- o Newsletters and other recent publications are distributed to over 60 key entities involved in training, research and planning in maternal and infant nutrition.

Honduras

- o A coordinated multiagency effort to promote breastfeeding nationally is being developed by MOH, Social Security and other agencies. It is to focus on in-service training of health staff at all levels, mothers support groups and public education via mass media.
- o Infant feeding practices and their determinants are being studied in Tegucigalpa, including hospital practices, in order to provide a basis for the new national program to promote breastfeeding.
- o CARE and CRS provide PL 480 Title II food supplements to about 110,000 mothers and preschool children.
- o Over 75 training institutions and key individuals are regularly updated on maternal and infant nutrition through newsletters and other recent publications.

Jamaica

- o Methods of improving the effectiveness of PL 480 supplementary feeding programs for mothers and children are being developed.
- o Training materials emphasizing breastfeeding, weaning and maternal nutrition for MOH and manuals for community health aides are proposed.

- o Almost 70 training institutions and key individuals are regularly updated on current maternal and infant nutrition issues through a newsletters and recent publications.

Panama

- o A national breastfeeding commission has been formed by the Ministry of Health to develop and implement a new strategy for promoting breastfeeding seminars for in-service training of health staff at all levels and mass media campaigns are planned.
- o Over 230,000 mothers and children receive food supplements under the PL 480 Title II program administered by CARE and CRS.
- o Almost 90 training institutions and key individuals are regularly updated on maternal and infant nutrition issues via newsletters and other publications.

El Salvador

- o The La Leche League International supports a centre for breastfeeding proportion (CALMA) which has trained over 250 breastfeeding counsellors for work in low income communities public education campaigns through mass media and printed materials, technical assistance to other countries, monitoring breastfeeding practices in El Salvador and development of a training curriculum are other activities of this organization which is considered exemplary not only in the region but worldwide as well.
- o Nutrition education and food supplements are distributed to over 110,000 mothers and children via the CRS administered PL 480 Title II program.
- o Approximately 180 training institutions and key individuals regularly receive newsletters and other recent publications on maternal and infant nutrition.

Guatemala

- o MCH is expanding coverage and effectiveness of rural integrated health services which include maternal and infant nutrition components.
- o Nurse-midwives are trained in pre and post natal care including family planning, breastfeeding and infant nutrition. A special nutrition module was carefully designed and field tested for this purpose.

- o Over 250,000 mothers and children receive food supplements through PL 480 Title II programs administered by CARE and CRS.
- o Newsletters and publications on this subject are regularly distributed to over 40 training institutions and key individuals.

Guyana

- o The viability of manufacturing a weaning food (CEREX) based largely on locally producible agricultural commodities is being tested through a program in which collaborators include the Guyana Pharmaceutical Corporation, MOH and the National Nutrition Council. Cerex is marketed commercially at subsidized cost and distributed free through MCH clinics. At present PL 480 Title II is the source of commodities.
- o Over 35 training institutions and key individuals regularly receive newsletters and recent publications on maternal and infant nutrition.
- o Under the CARE administered PL 480 Title II program almost 60,000 mothers and children are receiving food supplements.
- o Over 100 training institutions and key individuals are receiving newsletters and other recent publications on current maternal and infant nutrition issues.

Peru

- o Approximately 100,000 mothers and children are receiving PL 480 Title II commodities through programs administered by CRS, Church World Service and Salvation Army.
- o Newsletters and other recent publications on maternal and infant nutrition are being received by 175 training institutes and key individuals.

NEAR EAST

Egypt

- o PL 480 Title II food supplements are provided for over 1,200,000 mothers and children in programs administered by CRS and CARE.
- o Newsletters and other recent publications are provided to almost 400 training institutions and key individuals in the maternal and infant nutrition area.
- o Maternal and infant nutrition are included as components of integrated health and family planning programs.

Jordan and West Bank

- o Almost 40,000 mothers and children receive PL 480 (II) food supplements through CRS programs.
- o Newsletters and other recent publications are received by over 25 key individuals and training institutions in maternal and infant nutrition.

Morocco

- o A package of basic health services including weaning foods for malnourished infants, iron for anemia and education are provided through a community based family planning program by MOH.
- o Over 450,000 mothers and children receive PL 480 Title II food supplements through community centers. An evaluation of this program demonstrated the positive nutritional benefits of the program.
- o Education and demonstration activities focus on maternal and infant nutrition including breastfeeding and weaning practices in a Ministry of Social Services program aimed at improving effectiveness of the present PL 480 Title II program and phasing over to local resources.
- o Almost 100 training institutions and key individuals receive newsletters and other recent publications on maternal and infant nutrition.

Tunisia

- o The Institute of Child Health, MCH is upgrading skills of medical and para-medical personnel in mother/child nutrition especially breastfeeding, weaning and diarrhea control.
- o MCH is undertaking a program in central Tunisia to improve the quantity and quality of health services through an effective primary health care program including maternal and child nutrition.
- o CRS and CARE provide PL 480 (II) food supplements to mothers and children in collaboration with the Ministry of Social Affairs. Nutrition education activities in these programs stress breastfeeding promotion, improved weaning practices/and maternal nutrition.
- o Save the Children Foundation focuses on home weaning foods and breastfeeding through a community based rural development program in Siliana.
- o Over 150 training institutes and key individuals are kept updated on maternal and infant nutrition issues via newsletters and other French language publications.

Yemen

- o CRS is training community health workers in maternal nutrition education. Within a primary health care program in Tihana over a third of the training curriculum of village level workers is devoted to maternal and child nutrition.
- o Newsletters and other recent publications are regularly distributed to over 30 key individuals and training institutions in the field of maternal and infant nutrition.

APPENDIX B

A.I.D. Assisted Workshops

Thailand - For 22 regional participants from 11 countries taking part in the Third Asian Congress of Pediatrics.

Philippines - Annual Convention of Maternal/Child Health Association of Philippines.

Indonesia - Second National Symposium on Breastfeeding Promotion following the Indonesian National Conference on Pediatrics Gastroenterology, attended by 400 participants.

Brazil - Pre-Congress National Seminar on Breastfeeding and Supplementary Foods for Children sponsored by Federacao Brasileira das Associacoes de Nutricionistas (FEBRAN).

Nepal - For National MCH program staff.

Colombia - Andean countries and the Dominican Republic experts met to discuss current knowledge and program considerations to promote breastfeeding.

Peru - For over 40 private agencies and government health officials from the five regions of the country on integration of nutrition into curriculum and alternative techniques of training health workers.

Panama - Seminar on breastfeeding and maternal/child nutrition for 250 Panamanian health professionals sponsored by the Sociedad Panamena de Pediatria.

Lesotho - National strategy designed.

Kenya - Guidelines for programs in MCH developed.

Sierra Leone - For National MCH groups.

South Pacific - National strategies were drafted for seven island countries.

Sri Lanka - A worldwide conference co-sponsored by UNICEF and the International Union of Nutrition Sciences explored applied technology to improve maternal and child nutrition.

Gambia - National strategy developed.

Philippines - Over 40 policy makers and scientists from 37 developing countries discussed implications of recent research findings for action needed to improve maternal and infant nutrition.

Jamaica - Breastfeeding mothers support groups, voluntary agencies and government representatives met to share ideas on strengthening the role of mothers support groups in national strategies for breastfeeding promotion worldwide.

APPENDIX C

Consultative and Coordinating Activities

Coordinating and consultative mechanisms are being used for the purpose of providing technical and policy guidance. In addition they ensure coordination among donor agency programs. Several groups organized include:

1. National Academy of Sciences (NAS) Subcommittee on Maternal and Infant Nutrition - This group has been appointed by NAS to delineate research priorities in the area of maternal and infant nutrition and to provide scientific and technical guidance to AID.
2. Internal Steering Committee in AID - This group consists of representatives from AID's Regional and Policy Bureaus and the Bureau for Science and Technology. Their functions include facilitating information exchange; promotional development and implementation of various projects in USAIDs in a timely and relevant manner, providing technical inputs and feedback.
3. Developing country leaders - various nutrition/health professional leaders participate in program and policy reviews. Some of these are under the sponsorship of The Nutrition Programmers' Forum, an informal organization of developing country nutrition leaders.
4. Editorial Advisory Panel - American Public Health Association's Mothers and Children Newsletter receives editorial policy guidance for this publication from a panel of U.S. and developing country nutrition leaders.
5. Project Review Board - The four country study on determinants of infant feeding patterns receives guidance from an independent multi-disciplinary panel of U.S. and developing country experts.
6. Other donor agencies - Experts from other donor agencies participate in these various panels. In addition, the scientific and programming issues of the various multi-lateral and bilateral aid agencies' programs are discussed at regular meetings which bring these agencies together. This helps to ensure coordination and promotes collaboration on many activities. A number of projects are co-sponsored and jointly funded with other agencies.

APPENDIX D

Lessons Learned - Some Considerations when Planning New Programs

Work on the effectiveness of maternal nutrition and infant feeding components of integrated programs has yielded new insights which have led to the design of more effective programs. Among these "lessons learned" are:

- o It is critically important to supplement maternal diets to improve birth weight and lower death rates of newborns. These results are from studies in Guatemala, India, and Peru where calories and iron, and in some instance folate, were the key nutrients provided.
- o Effective screening mechanisms are needed to identify undernourished pregnant women if food supplementation and other interventions are to be cost-effective.
- o Where there is a high prevalence of anemia, and in individuals with moderate to severe anemia that may be complicated by parasitic infestation or pregnancy, a therapeutic supplementation program may be more effective than fortification because fortification alone will not correct the deficiency quickly enough. Food fortification in the long-term is a cost-effective preventive approach for maintaining adequate iron nutriture.
- o Non-dietary factors during pregnancy can have a significant impact on the nutritional status of the fetus. For example, hard physical work during pregnancy can both divert needed energy from fetal growth as well as reduce uterine blood flow to the fetus; amniotic fluid bacterial infections can cause shorter gestations and lowered birth weight.
- o One of the most effective components of an intervention program can be growth monitoring of children less than five years of age to detect early growth retardation. This can be followed with education or food supplements and is a means of alerting mothers to the need for improving feeding practices.
- o Oral rehydration programs need to incorporate infant feeding as an integral part of diarrheal disease control and mortality reduction by emphasizing continuation of breastfeeding and increase in food intake during and immediately following diarrhea in infants and young children.

- o Programs encouraging the introduction of food supplements should be designed cautiously in rural, traditional communities, not only to prevent diarrheal disease and a possible decline in breast milk production, but also because supplementation is closely linked with the resumption of menstruation and onset of ovulation, thereby reducing birth intervals.
- o Individual mother-infant pairs demonstrate great variation in the adequacy of breast milk available for the growing infant. Decisions regarding introduction of food supplements should be individualized, if possible, and be based on criteria such as growth performance of the infants. For aggregate planning purposes, and in the absence of effective outreach services, four to six months still remains a generally valid guideline for introducing supplements in the diet of breast-fed infants.
- o Food distribution programs should be targeted to malnourished individuals, households, or communities and sufficient quantities need to be provided to compensate for intrafamily food sharing and increased needs of rapidly growing children.
- o In hospitals, a number of factors can effect the initiation and duration of breastfeeding. These include rooming-in of breast-fed infants with their mothers, skin-to-skin contact and nursing of the new-born within a few hours after birth, avoidance of bottle feeds, supportive attitude of the hospital staff and accuracy of information given to mothers.