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Appendix 5A to HB 3, Part I
(TM 3:19) PD-AAC-516-B1

187 p

AGENCY FOR INTERNATIONAL DEVELOPMENT

PROJECT PAPER FACESHEET

1. TRANSACTION CODE: C (A = ADD, C = CHANGE, D = DELETE)

PP

2. DOCUMENT CODE: 3

3. COUNTRY/ENTITY: DSB/N RDA-

4. DOCUMENT REVISION NUMBER:

5. PROJECT NUMBER (7 digits): 931-1010

6. BUREAU/OFFICE: A. SYMBOL: DSB; B. CODE: 10

7. PROJECT TITLE (Maximum 40 characters): Changing Maternal/Weaning Practices

8. ESTIMATED FY OF PROJECT COMPLETION: FY 83

9. ESTIMATED DATE OF OBLIGATION: A. INITIAL FY 79; B. QUARTER (Enter 1, 2, 3, or 4); C. FINAL FY 82

10. ESTIMATED COSTS ($000 OR EQUIVALENT $1 =)

A. FUNDING SOURCE	FIRST FY B. FX	FIRST FY C. L/C	FIRST FY D. TOTAL	LIFE OF PROJECT E. FX	LIFE OF PROJECT F. L/C	LIFE OF PROJECT G. TOTAL
AID APPROPRIATED TOTAL	1212		1212	3560		3560
(GRANT)	( )	( )	( )	( )	( )	( )
(LOAN)	( )	( )	( )	( )	( )	( )
OTHER U.S. 1.						
OTHER U.S. 2.						
HOST COUNTRY						
OTHER DONOR(S)						
TOTALS	1212		1212	3560		3560

11. PROPOSED BUDGET APPROPRIATED FUNDS ($000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	PRIMARY TECH. CODE C. GRANT	PRIMARY TECH. CODE D. LOAN	E. 1ST FY 79 F. GRANT	E. 1ST FY 79 G. LOAN	H. 2ND FY 80 I. GRANT	H. 2ND FY 80 J. LOAN	K. 3RD FY 81 L. GRANT	K. 3RD FY 81 M. LOAN
(1) FN	301			1212		778		865	
(2)									
(3)									
(4)									
TOTALS				1212		778		865	

A. APPROPRIATION	N. 4TH FY 82 O. GRANT	N. 4TH FY 82 P. LOAN	Q. 5TH FY ___ R. GRANT	Q. 5TH FY ___ S. LOAN	LIFE OF PROJECT T. GRANT	LIFE OF PROJECT U. LOAN
(1) FN	705				3560	
(2)						
(3)						
(4)						
TOTALS	705				3560	

12. IN-DEPTH EVALUATION SCHEDULED: MM YY 03 81

13. DATA CHANGE INDICATOR. WERE CHANGES MADE IN THE PID FACESHEET DATA, BLOCKS 12, 13, 14, OR 15 OR IN PRP FACESHEET DATA, BLOCK 12? IF YES, ATTACH CHANGED PID FACESHEET.

1 (1 = NO, 2 = YES)

14. ORIGINATING OFFICE CLEARANCE

SIGNATURE: Martin J. Forman

TITLE: Director, Office of Nutrition

DATE SIGNED: MM DD YY

15. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION: MM DD YY

AID 1330-4 (3-78)

Summary and Recommendations

PART I.

A. Face Sheet

B. Recommendations

It is recommended that a grant be authorized for the Changing Maternal/Weaning Diet Practices Project for the amount of $4,573,000 during a four-year period commencing FY 79.

C. Description of the Project

The possibility of a decline in breastfeeding worldwide has generated widespread concern because of its increasingly well-recognized detrimental effects on the health and well-being of children in their most critical formative years, as well as its undesirable economic, behavioral and demographic effects.[1] The widespread prevalence of deleterious weaning practices and inadequate nutrition of the mother are recognized as important factors as well. This project is a response to these concerns and seeks to assist developing countries in implementing measures which will (a) provide unbiased information on infant feeding at all levels, provide support to breastfeeding women and provide health protection to those infants whose mothers have not been able to breastfeed them for physiological, economic or societal reasons; (b) encourage the introduction of appropriate nutritional supplementation in order to prevent the characteristic early faltering in growth rates that occurs in cultures where breastmilk continues to remain the sole source of nutrients up to 18-24 months of age, long after breastmilk has ceased to provide sufficient nutriment; and (c) promote adequate nutritional intake in pregnant and lactating women.

Program components are described below. The major thrust of this project is service to field projects, and provision is also made for two key supportive areas, i.e., stimulating awareness/motivation at policy level, and applied research. In the former category are the Consultative activities, information clearing house, survey of marketing practices of infant formula and their implications, and legislation affecting it. On the other hand, applied research will be focussing primarily on maternal nutrition--a much neglected area in which questions of operational significance remain unanswered.

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1 See Part IV Project Analysis for detailed discussion.

1. Organizational activities: Aimed at developing a mechanism for continued interest in the problems related to infant and maternal dietary practices, especially a decline in breastfeeding, and an institutional framework to address these problems in the long-term.

   (a) Organize a coordinating and consultative mechanism on infant and maternal nutrition with representatives from lesser developed countries (LDCs), and organizations such as the U.N., bi-lateral agencies, voluntary organizations, and the international medical and scientific community, in order to provide on-going guidance to the community of aid donors and countries on policies and programs and to help draw greater attention and attract greater support to the problem.

   (b) Develop a global information clearing-house which will disseminate information on a timely basis on pertinent scientific and technical developments as well as information on various research, training and other program efforts.

   (c) Provide information on the types of policies and legislation used by some countries to protect pregnant and lactating women and make it easier for them to breastfeed. This will refer to such things as the provision of creches, maternity leave, supplementary feeding programs and child care facilities.

2. Education and Training Programs in LDCs

   (a) Conduct workshops, conferences, and seminars for policy makers and public officials, nationally and internationally, on the importance of breastfeeding, weaning and maternal nutrition needs.

   (b) Develop country-specific mass media and community-based public education programs which promote the importance of breastfeeding, child spacing, adequate weaning practices and maternal nutrition.

   (c) Incorporate information on breastfeeding and weaning practices into the training of various types of community-level workers (and their supervisors) such as village health workers, nutrition educators, school teachers, social workers, extension agents working with women's clubs, supplemental feeding program supervisors, agricultural extensionists, family planning workers and others.

(d) Provide assistance to nursing and medical schools to improve the adequacy of their coverage in the area of maternal and child nutrition. Support awareness-generating programs for nurses and medical professionals.

(e) Provide assistance to review and modify primary and secondary school curriculum to ensure the inclusion of desirable nutrition principles including maternal and child nutrition.

3. Other Direct Impact Programs

(a) Assist countries to develop indigenous food products suitable as breastmilk supplements or weaning foods and special foods for pregnant and nursing mothers. Provide help to countries wishing to undertake programs to motivate mothers to feed young children and infants various home prepared multi-mixes suitable as breastfeeding supplements or weaning foods.

(b) Provide support for strengthening the maternal and infant nutrition components of AID-funded programs for the delivery of integrated health and family planning services.

(c) Determine how food aid programs can become more effective in increasing nutrient intakes among pregnant and nursing women and young children, especially in the 6-24 month age group.

4. Applied Research

A subcommittee of the Consultative Group will form the external advisory body for avoiding duplication in research and coordinating activities of various agencies. Support will be provided to undertake research activities which have a direct bearing on policies and programs. For example:

-- Investigation of the impact of nutrition on pregnancy outcome, and operational means of providing nutrients.

-- Investigation on the interaction of nutrition, lactation, and amenorrhea including an analysis of the effect of contraception on these variables.

D. Implementation

The project will be managed by a DS/N Project Manager with guidance, input and liaison with representatives from each of the Regional Bureaus and other AID offices such as DS/HEA, DS/AGR, DS/ED, WID, DS/POP, and FFP.

The National Academy of Sciences Task Force on Maternal and Infant Nutrition[1] will be kept informed about the progress of the various components of the project and their advice sought regarding particular issues in order to ensure maximum complementarity and mutual reinforcement of efforts with other agencies and institutions. They will play a key role in determining the direction of applied research proposed in this project.

The nature of this project demands the involvement of a large number of entities because in its "direct impact" components, it seeks mainly to modify existing programs and approaches (building in breastfeeding and weaning practices components) by (a) providing tested techniques in education, health care, training, food technology, etc., and (b) sensitizing and drawing the attention of program implementors, fieldworkers and policymakers to the special concerns of breastfeeding and weaning practices, and of maternal nutrition.

The feasibility will be investigated of collaborating closely with existing agencies or institutions in specific developing countries to act as regional or national centers for information collection/dissemination, for coordinating field research, and for program development/administration.

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1 Specially appointed for the purpose.

The project period will be four years to provide sufficient time for developing and incorporating concerns related to maternal and infant dietary practices into ongoing Mission programs. Interim findings will be available continuously throughout the project period through various mechanisms such as technical assistance, the information clearing house, workshops, group meetings, etc.

E. Summary Findings

The project analyses reveal that there is a genuine need for giving greater emphasis in the ongoing programs of nutrition, health, and education to the well-being of the infant and young child, specifically through breastfeeding and weaning practices and maternal dietary patterns. This project is necessary to reinforce existing programs in this respect as well as to create new mechanisms for facilitating this process. There is a clear mandate for AID to develop and undertake a strategy that will enable these to happen (See attachments 1, 2 and 3). The project funds requested are consistent with the type and volume of activities necessary to make a reasonable impact on maternal and infant nutrition problems andare consistent with the capabilities of implementing entities.

A special sub-committee of the National Academy of Science met in January 1978 on the subject of "International Assistance for Maternal and Infant Nutrition in Developing Countries," and provided guidance and recommendations which have been incorporated into this project. The array of activities proposed has been discussed and approved by nutrition leaders from 20 developing countries at a meeting held for this purpose in Brazil in August 1978. Representatives from Regional Bureaus, other AID/W offices and 28 USAID missions discussed these plans and suggested appropriate mechanisms for implementing them at the agency-wide Nutrition Workshop in Coolfont, West Virginia in November 1978. Representatives of six other countries supporting bi-lateral aid in nutrition have endorsed the undertaking of these activities by AID. Consultations have been held with the relevant operating agencies of the United Nations system, who have pledged to cooperate with such an AID project and to coordinate their respective activities with it.

PART II. Project Background and Description

A. Project Background

1. Introduction

It has been recognized for several years now[1], that the group which merits highest priority attention within a nutrition program is women in the latter stages of pregnancy and children in the first few years of life. This resulted from the growing body of research findings which indicated that protein-calorie malnutrition during these stages of life retards the development of the body and brain. This affects the development of a nation's human capital potential and therefore has serious developmental implications. Subsequently, AID and other agencies focussed their attention on nutrition programs for the pregnant and lactating mother and children below 6 years (especially in the 0-3 year age group).

Newer planning methodologies and a variety of approaches in nutrition education, health care delivery, food processing, fortification, supplemental feeding programs, etc., have been used for the purpose of making an impact on the nutritional status of these most vulnerable groups. Two major phenomena have come to light during the past few years - (1) the possibility of a decline in breastfeeding in developing countries, and (2) the persistence of certain nutritionally undesirable dietary practices despite efforts to change them.

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1. USAID 1973. The A.I.D. Nutrition Program Strategy.

It appears now that these two factors together exert a strong enough influence on nutritional status so that the effectiveness of the majority of nutrition programs under way for the highest priority groups could be undermined unless a systematic and focussed strategy is undertaken specifically to arrest or reverse adverse infant feeding patterns including early termination of breastfeeding, and deleterious weaning and maternal dietary practices.

The need for spear-heading a strategy to promote breastfeeding in the developing world has gained added momentum since the economic benefits involved have become known. A poor laborer would need to spend a substantial portion of his wages to provide sufficient breastmilk substitute and LDCs would need to support a large dairy sector and a milk/processing/packaging industry to adequately sustain non-breastfed infants. For the developing world as a whole, the cost of wasted human milk is estimated at more than three-quarters of a billion dollars annually, at the very least (Wade 1974).

2. A.I.D. Programs and Research Related to Maternal and Infant Nutrition

A wide variety of AID programs have an effect on improving the nutritional status of mothers and preschoolers. Some are more directed while others such as agricultural production programs have a rather general effect. The Office of Nutrition in DSB has undertaken broad gauge nutrition programs aimed at strengthening program planning entities in several countries and has allocated resources for specific interventions such as nutrition education, weaning food development and applied research as well. In all of these efforts preschool-age children and pregnant and lactating mothers are identified as the priority beneficiaries.

Among countries supported by AID, those which are participating in macro planning activities and national-level programs, include Chile, Colombia, Costa Rica, Honduras, Panama, and Bolivia with AID loan/grant support between $3.5 to $6 million each, over 3-5 years. El Salvador, Haiti and Guyana in Latin America, and other countries in the Caribbean region have nutrition programs such as training, weaning foods development, national surveys and nutrition education. In the Near East, Morocco and Tunisia have undertaken major programs of nutrition planning, research and mass media (the latter two in Tunisia); Yemen is preparing for a national nutrition survey. In Asia, Indonesia is setting up a surveillance system. Sri Lanka and Nepal have completed national nutrition surveys. Philippines ran a nation-wide radio program to encourage breastfeeding; the national nutrition program

emphasizes breastfeeding and village-level processing of local foods into infant weaning food. In Africa, Zaire and Lesotho have nutrition planning activities and in Zaire, pilot programs to develop interventions. National nutrition surveys have been conducted in Liberia, Cameroon, Togo, Lesotho, Sierra Leone, Egypt with Malawi a possibility in the near future. All the surveys include some information on age at weaning, breastfeeding patterns and intakes of preschool age children.

In the Health Sector, there are underway or proposed, 41 country projects of integrated health services. Some of these have nutrition components directed to mothers and young children. For example, promotion of breastfeeding is included in projects in Mali, Tunisia, Dominican Republic, Honduras and Korea; maternal supplementation in Colombia, Dominican Republic, Thailand, Mali (Iron supplements), Tunisia (Iron supplements) and Afghanistan; development of a weaning food in Mali, Lesotho, Ghana and Tunisia; weight charts to monitor growth of children in Philippines, Pakistan, Mali and Lesotho; and supplementary weaning foods in the projects in Dominican Republic, Philippines, Thailand and Tunisia.

The food shipments under P.L. 480 Title II programs support mother and child feeding activities; school feeding projects; food for work programs and emergency efforts in disasters. At present, over fifty percent of these commodities are blended and fortified high-protein foods, the distribution of which is evenly divided between maternal child health and primary school feeding programs.

Some country programs (Title II) have taken special steps in the area of promoting maternal and infant nutrition. Support is being given to growth surveillance activities of CRS in Tanzania, Lesotho and Ghana. In Egypt, CRS includes breastfeeding education along with food distribution. Pregnant and nursing women are priority beneficiaries in all Title II preschool programs. In the Colombian national nutrition program, Title II commodities constitute fifty percent of the local weaning food mix which is distributed through a food stamp-like program. A majority of the recipients are pregnant and nursing women and children under four years.

Although most AID-assisted, broad gauge nutrition programs and Title II food distribution programs have components which promote and assist breastfeeding, proper weaning and maternal nutrition, there has never been a concerted effort to focus on these specific elements in order to achieve an impact on nutritional problems of the very young child and mother.

During the past year, AID has supported fact-finding activities and has solicited the recommendations of a wide range of knowledgeable people from developed and developing countries, the U.N. and bilateral agencies and private voluntary organizations.

The consensus is that there is a need to strengthen ongoing activities in this field and to extend these and other activities to a broader population group. To the best of our knowledge, at present only the Philippines, Colombia, Chile and Dominican Republic can be said to have significant elements of an AID-program aimed at breastfeeding, weaning and/or maternal nutrition. Title II programs have the potential of becoming far more effective with additional support. Of almost 40 "integrated" health projects worldwide, only a few have provision for nutrition training of health workers and supplies for education and growth monitoring.

AID has not become involved so far in a dialogue with the Medical Universities, for instance, in incorporating nutrition concerns and realities into medical and nursing curriculum. Yet, the decline in breastfeeding and inadequate provisions for maternal nutrition in health centers are problems closely related to attitudes/knowledge and practices of the medical profession.

In terms of research backstopping, the Agency has been attempting to increase understanding of energy and protein requirements of low income, rural pregnant women through a grant project with INCAP (Guatemala).

A beginning has been made by the Agency in lactation-contraception. Research is being supported on progestrogen-only and low estrogen contraceptive pills to determine whether this type of pill affects quantity and quality of maternal milk.

Additionally, field research on the delivery of health and nutrition services is being conducted. Research is being funded on a pill to promote lactation at Johns Hopkins University. Monographs on breastfeeding and population have been published.

AID funded the preparation of annotated bibliography of publications in 1975 entitled "Breast Feeding and Weaning Foods" by D. B. Jelliffe, A. E. Ifekwunigwe and E. E. P. Jelliffe of the School of Public Health, UCLA. Recently, a partially annotated bibliography on Breastfeeding and Infant Health in Developing Countries has been prepared by N. Baumslag, C. Kinney and E. Sabin, of the Office of International Health/HEW under their RSSA with AID.

In early 1976 a grant was provided to the Human Lactation Center to study the status of breastfeeding and weaning patterns and factors responsible for the trend toward earlier weaning. Studies were carried out in 11 communities in nine countries, and a report was published on these findings in 1977 with A.I.D. under their RSSA.

With A.I.D. support, the Human Lactation Center and the New York Academy of Sciences co-sponsored a conference on Human Lactation in March 1977. The meeting brought together a group of renowned international experts and provided for a thorough review of the current state of our understanding of various factors relating to breastfeeding.

The need to coordinate and extend efforts of applied research in these critical areas of nutrition has been expressed several times. Several international donor agencies, universities and voluntary organizations sponsor or conduct or have the potential for information gathering and testing new approaches. There is also no systematic means of sharing newly generated information and program experiences in the area of breastfeeding, weaning and maternal nutrition.

3. Congressional Mandate

The activities of the leading infant formula manufacturers in LDCs have been widely criticized in the U.S. by voluntary organizations, church affiliated groups and public interest groups.

Through campaigns to "write to your Congressman," public pressure was put on Congress to do something about the so-called "Bottle Baby Scandal." Mr. Harrington and others introduced a joint resolution in the House of Representatives in August 1976 (Attachment No. 1) calling upon AID to design a multifaceted strategy to promote maternal and infant nutrition in partnership with LDCs. Subsequently, a new section 118 was added to the Foreign Assistance Act of 1977, encouraging AID to "devise and implement maternal nursing education programs integrated with nutrition and health improvement programs for mothers and children" (Attachment No. 2).

On May 23, 1978, the Senate Health and Scientific Research Sub-committee held hearings on the role of the formula industry in nutrition in LDCs. The Hearings were chaired by Senator Edward Kennedy. Participants included health and nutrition workers from LDCs, public health experts, pediatricians, and representatives from the infant formula industry. A summary report of the Hearings is attached (No. 4).

The need for consistent, comparative data on a large scale was highlighted to better understand the interrelationships of breastfeeding behavior, infant malnutrition and marketing practices. Also apparent was the need for mounting a coordinated interagency program worldwide, for infant and maternal nutrition, on a series of program fronts and on an expanded scale.

4. Program and Research Needs: Recommendation from NAS Conference

In response to an A.I.D. request, the National Academy of Sciences convened a workshop on "International Assistance for Maternal and Infant Nutrition in Developing Countries" on January 30-31, 1978. Participants included a number of

outstanding U.S. nutritionists, nutrition leaders from developing countries, a representative of the World Health Organization, and representatives of two voluntary organizations with deep interest in the subject of infant and child feeding. The report of the Conference is attached (No. 3).

Recommendations contained in the report have been incorporated in this project paper. These plans have been discussed and cleared with nutrition leaders from twenty-one developing countries in a meeting in Brazil at the end of August. These plans have also been coordinated with other bi-lateral aid agencies and the involved United Nations Agencies in a meeting in New York in October 1978. U.N. and bi-lateral agencies are being urged to expand their involvement and join with AID in a well-coordinated global effort.

At the In-Service Nutrition workshop held in Coolfont, West Virginia in November 1978, representatives from 28 USAID missions, Regional Bureaus and other offices in DSB had the opportunity to discuss these plans and provided major input into developing implementation mechanisms for the project (Attachment No. 5). Responses from USAID missions to an AID circular airgram on ongoing programs (May 1977) have been useful in formulating the strategy as well (Attachment No. 6).

5. Role of Other Agencies

1. U.N. Agencies

PAG - The United Nations Protein Advisory Group (PAG) assumed leadership in the dialogue between multi-nationals and formula industry stockholders' groups. In 1972 and 1973, PAG held two international seminars for pediatricians and senior representatives of the infant food industry. These meetings led to the issuance of PAG Statement No. 23, "Promotion of special foods (infant formula and processed protein foods) for vulnerable groups." One of the recommendations made in the seminars was that PAG should collaborate with industry, the medical and health professions, and national governments to establish regional industry councils that would assess and act on problems related to inappropriate infant and young child feeding practices. The first of these seminars was held in Singapore in November 1974, and generated a number of useful recommendations.

The recommendations included (a) clear policy guidelines for feeding practices for young infants, older infants, and young children; and (b) general proposals to the medical and health professions, industry, and government "for action to promote desirable policies, practices." The PAG Bulletin has continued to publish studies relating to bottle-feeding, malnutrition, and mortality rates, and has aided in the dissemination of other relevant studies on nutrition.

The PAG was disbanded in mid-1977. New U.N. arrangements provide for a Sub-Committee on Nutrition of the Administrative Committee on Coordination (ACC/SCN) made up of representatives of the several U.N. agencies concerned with Nutrition. This sub-committee is supported by a small independent advisory group of experts called the Advisory Group on Nutrition (AGN). This group recently appointed a new subgroup on infant feeding, and a first meeting will be held in late February 1979.

WHO - World Health Organization has recently completed a nine-country "collaborative study" of the frequency and duration of breastfeeding and age at introduction of solid foods in diets of preschool children. It is basically a clinical, epidemiological study and includes data on contraceptive methods used, type of health services available as well as the attitudes and content of training materials of health

workers--whether it promotes or discourages breastfeeding in those countries. The countries are: Guatemala, Chile, Zaire, Ethiopia, Nigeria, Philippines, Kenya, Sweden and Hungary. The final report is expected to be available soon.

The WHO is currently planning a global conference on infant feeding practices. Tentatively scheduled for July 1979, the meeting will involve representatives of the formula industry, developing country nutrition policy leaders, selected experts, and various international agencies. AID will be working with WHO and other agencies to help plan and implement the conference. We will share information, supply technical resource personnel, and finance the participation of a number of LDC policy makers and nutrition program leaders.

It is too early to know what role this group will play, but AID has been invited to meet with them to work out a role and to arrange for coordination between our respective activities to avoid overlapping and to enhance opportunities for mutual re-enforcement of efforts.

AID has suggested that all of the concerned U.N., bi-lateral and private agencies join together with developing countries in a single, coordinated effort to make a significant impact on the problem of infant malnutrition. Some mechanism for coordination will be arranged for, and we anticipate no problem of duplication or similar inefficiency.

UNICEF - Breastfeeding, weaning and maternal dietary practices are included in various nutrition, health and education programs sponsored by UNICEF worldwide.

UNICEF is also involved in the discussions regarding a coordinated and perhaps collaborative effort. We are in regular communication regarding our respective activities and are agreed to work together for the most efficient program.

2. Private Voluntary Organizations

Voluntary agencies such as CARE, Catholic Relief Services and others have long been involved in implementing child feeding and other nutrition programs. A good part of these programs have received aid from AID in the form of food grants, technical assistance, training grants, and funds for implementing nutrition projects.

DS/N recently met with all interested volagencies to discuss plans for future collaboration, including volag involvement in promoting better infant weaning practices. This project proposes to provide support for such programs, whether new or ongoing, by making it possible for volags to call on central pools of resources in nutrition education, food technology, health worker training, etc. The volags will also receive information from (and contribute information to) the central information clearing house.

b. Voluntary organizations such as La Leche League International work with women's groups and families directly to promote breastfeeding. These groups have not been previously involved in AID supported programs, but it may be possible to work out mutually agreeable arrangements for their involvement, as appropriate. Discussions have been held with La Leche League and other groups along these lines.

The Interfaith Center for Corporate Responsibility (ICCR) of the National Council of Churches has been extremely active in providing investigative support to stockholder's groups and encouraging them to review marketing practices in the developing world. Other agencies who have helped publicize the problem are church agencies, and affiliated groups, and consumer groups in the U.S. and Europe. While these groups will not be involved in the AID project, per se, we do maintain communication and an exchange of information in order to ensure the maximum mutual understanding.

c. The Nutrition Foundation (supported by U.S. food industry donors) sponsored a Symposium on child feeding practices at Michigan State University in November 1978. The Foundation and various universities may be involved in supporting or conducting related research, and the project will maintain contact to promote coordination.

A number of other universities and institutions in various countries are involved in clinical research and programs relating to different aspects of this problem.

There is a need to coordinate and prevent the duplication of these efforts and AID programs. In this project we propose to promote this coordination through various coordinating mechanisms on a global level and in-country through combined workshops, meetings, etc.

B. Project Description

1. Goal

The goal of this project is the attainment of satisfactory nutritional status among children below 3 years of age and pregnant and lactating women in LDCs through encouraging optimum breastfeeding, weaning and maternal dietary practices.

2. Sub-Goal

The sub-goals are:

(a) to promote full breastfeeding for infants in the first 4 to 6 months of life; provide health protection to those infants whose mothers are unable to breastfeed them for physiological, economic or social reasons;

(b) encourage the introduction of appropriate nutritional supplementation at 4 to 6 months of age in order to prevent the characteristic early faltering in infant growth rates that occurs in cultures where breastmilk continues to remain the sole source of nutrients up to 18-24 months, long after breastmilk has ceased to provide sufficient nutriment.

(c) encourage sound dietary and health practices in pregnant and lactating women, and family planning.

3. Purpose

The purpose of this project is to improve and expand LDC programs and initiate policies which promote better maternal and young child nutrition and to stimulate continued interest in the problems related to infant and maternal dietary practices, especially concern regarding a decline in breastfeeding. At the same time the project will attempt to develop in LDCs, institutional capabilities to better understand the role of various culture-specific factors and also of commercial marketing on maternal and infant dietary practices; to plan and undertake effective education and health projects; and to conduct training and field research in order to address these problems in the long term. The project will strengthen ongoing programs in several countries to promote desirable maternal and infant dietary practices, including breastfeeding and health care.

4. Project Outputs: Outputs from this project will be in terms of the inclusion of maternal-infant nutrition concerns, information and skills in ongoing programs, either through awareness/policy changes or better knowledge (applied research) or through direct involvement in services programs. At the end of the project period there will be a greater component of maternal-infant nutrition in the following areas:

   a. Institutional Framework - greater awareness at policy level and policy changes in health, education, family planning and nutrition programs.

   b. Programs of Direct Impact - health, education and family planning projects will have incorporated nutrition services.

   c. Training - various types of community level workers and medical/paramedical professionals will have better skills and knowledge of maternal-infant nutrition.

   d. Information Base - Some basic questions of program importance will be answered.

   Specific outputs within each major category are described below:

   (a) Institutional Framework:
   A significant amount of program planning, research and project implementation will be undertaken in the LDCs with indigenous technical expertise in order to develop skills and experience and also to set up an institutional framework that will be able to continue this work in the future.

      (i) An International Consultative or Coordinating mechanism will be operational. It will include representatives of bilateral aid agencies, voluntary organizations, the medical and scientific community and other interested entities from all parts of the world, particularly the LDCs. It will provide a forum for exchanging information on programs being undertaken by other agencies/countries and what direction each type of agency can and should take. They will be instrumental in selecting and guiding national and international efforts.

The major contribution of this group will be in two areas: (a) through sharing program information and policy directives of various donor agencies and LDCs, this critical area of breastfeeding/weaning and maternal nutrition will receive special emphasis and avoid duplication of efforts. The group will become aware of the resources and how to utilize them better in conjunction with donor agency programs; (b) through special subcommittees, priorities regarding research, for instance, will become better defined and more timely in filling key data gaps for planning programs.

(ii) A functional information clearing house will be established. A periodic journal or newsletter will be available in several languages. Information will be disseminated on pertinent scientific and technical developments, research, training and other policy and program efforts in order to encourage new program approaches, research, legislation, etc. It will promote the sharing of information and avoid unnecessary duplication.

(iii) Information will be available to LDC policymakers on selected aspects of infant formula promotion such as advertising practices, free sample distribution, use of sales promotion personnel within hospitals and hospital practices with respect to explicit or implicit infant feeding recommendations to new mothers.

(iv) Information will be provided to LDC legislators and policy makers on the types of policies and legislation (stated and in practice) used in several countries to protect maternal and infant nutrition. This will refer to such things as the provision of creches, maternity leave, supplementary feeding programs and child care facilities.

b. Programs of Direct Impact

(i) Consumer and public education programs will promote the importance of breastfeeding, child spacing, adequate weaning practices and maternal health and nutrition. Models for multifaceted programs i.e., using a mix of approaches such as mass media, posters, billboards and face-to-face contact will be developed, tested and expanded wherever feasible. The objective: providing support and status for breastfeeding, encouraging increased nutrient intake during adolescence, pregnancy and lactation, and to motivate mothers to begin feeding young children and infants various multi-mixes suitable as breastmilk supplements or weaning foods from 4 to 6 months of age.

(ii) Expansion of the typical primary health care program package is expected to include problems of breastfeeding, weaning and maternal nutrition. Health programs will become more responsive to the needs of the infant whose mother is unable to breastfeed. For example, the feasibility of the health worker, his/her assistant or supervisor conducting the following types of activities will be assessed: monitor changes in nutritional status through the post-partum period; provide nutritional supplementation; preparation and support of mothers for breastfeeding during pregnancy and post-partum; encourage the safe use of weaning foods in the infants diet from 4-6 months of age; discourage health center or paramedical procedures which inhibit successful breastfeeding; develop a set of risk-factors for mothers and children in order to focus the health workers attention on the most vulnerable within a community.

(iii) Food supplements. Ways of reaching infants and mothers with food supplements will be developed or improved within programs of supplemental food distribution using imported and indigenous commodities. For example, in the P.L. 480 Title II programs, selected sites will be evaluated to determine the impact of such programs on the nutrient intakes of pregnant and lactating women and children below 2 years. After this assessment, program modifications on a pilot scale will be tested with the purpose of developing guidelines to achieve a significant increase in intakes in these groups. Finally a set of case studies will be developed which will indicate the conditions under which such an approach can be effective. It is expected to include considerations such as the form and type of commodity, logistics of procurement, processing and delivery; time and frequency of distribution; type of infrastructure through which distributed; criteria for beneficiary selection; accompanying services and information; information given to the community prior to starting distribution, etc. Other channels of providing food supplements may also be considered such as through low-cost health systems, use of food coupons or food subsidy, and the home and village production of weaning foods.

c. Training and Education

(i) Community-level workers and their supervisors will be trained.

Background information will be collected to determine what these workers are currently being taught about infant and maternal nutrition and what types of activities they are presently participating in. The new training content will cover the nature and magnitude of problems related to breastfeeding, weaning and maternal nutrition, with maximum emphasis on practical training in skills of education, demonstration, identifying and treating cases of malnutrition, technique of and problems of breastfeeding and initiating feeding of semi-solids in the 4-6 month old child, preparation of food supplements from the family's resources etc. In addition to health workers, other types of workers at the community level e.g. extensionists, teachers, coordinators of women's clubs, family planning workers, feeding program supervisors etc. will also be trained.

(ii) In selected countries, workshops will be held to review the curriculum used in nursing and medical schools and units of instruction will be developed for nutrition, including coverage of breastfeeding, weaning practices and maternal dietary practices as important determinants of nutritional status and factors which influence the modification of traditional dietary behavior.

(iii) Materials suitable for primary and secondary schools will be reviewed through country workshops. Appropriate modules will be designed and tested. They will include desirable infant and maternal dietary practices as a part of the total nutrition education package.

(iv) The theme of breastfeeding and infant-maternal nutrition will be introduced into scientific and professional meetings/workshops whenever relevant. In countries where it is a critical problem, and where assistance is requested, specific workshops will be held to review the decline in breastfeeding and the role of the infant formula industry.

d. Information Base

An information base will begin to develop through a series of research and pilot programs. This is expected to guide the planning of new programs and provide important support to ongoing programs. For example:

1. Effects of maternal supplementation during pregnancy on birth weights, weight gain during pregnancy, post-partum weight loss, duration of lactation, composition of breastmilk. This will guide the development of recommended nutrient allowances for pregnant

and nursing women and the nature of nutritional supplements for mothers which should be promoted through education programs.

2. Develop effective contraceptive measures for lactating women. The effect of supplementing the mothers' and infa diet at different levels and ages on the contraceptive effect of breastfeeding will be determined. The effect o specific contraceptives on duration of lactation, breast milk output, composition of breastmilk, and lactation-amenorrhea are expected to be studied.

3. Develop survey methodology for monitoring pregnancy and post-partum weight changes for surveillance and risk-assessment in health care programs; survey methodology for assessing anemia in pregnant women.

4. Cross-cultural study of factors which influence the quality, quantity and duration of breastfeeding. Point prevalence rates of true lactation-failure in various regions. Effects of stress factors, early supplementation of the infant's diet and of maternal nutritional status. The study will cover lactation during pregnancy as well.

5. Reassessment of "standard" growth curves. Norms will be developed based on the growth performance of children from well-to-do- families in LDCs who are breastfed exculsively until 4 to 6 months and then supplemented with cereal-based weaning foods. Morbidity rates on these children will be recorded as well.

6. A survey of legislation affecting maternal and infant nutrition will be conducted. Some countries have taken specific measures to promote breastfeeding. An attempt will be made to collect cost-effectiveness data through site visits in selected countries.

5. Project Inputs - Inputs are described under the heading of each component of the project.

1. Information Dissemination

A suitable agency will be selected to house the global information clearing centre.

Twelve professional person months a year will be requir undertake the collection of materials, prepare abstracts and manage the production of a journal or newsletter and its mailing out to various individuals and entities. Six person months a year for translation, 72 person months of effort are estimated to be required in total over a four-year period. Printing (in English, Spanish, French), paper and postage costs will be covered.

2. Coordinating and Consulting Mechanisms

Travel and per diem for 15 experts from various countries and agencies.

During the project, an International Conference will be funded, with about 350 participants attending. Participation of LDC policymakers in international conferences on this subject will be funded.

3. Study on Infant Formula Marketing

Technical assistance through a U.N. agency or universities in the U.S. and overseas will be provided to host governments to conduct the study on the role of breastmilk substitutes as a factor in infant malnutrition. This will include the study of current infant formula marketing practices in selected countries. A total of 48 person months is expected to be required for site visits and report preparation, assuming six countries will be included in the study. Travel, salary and per diem for contractors as well as for participating counterparts will be provided. Cost of reproducing and distributing the reports will be covered.

4. Review of Legislation Affecting Maternal and Infant Nutrition

A U.S. university or international agency will be contracted to conduct the review in several countries. Each country will have an agency or institution collaborating closely with the contracted agency. Based on the findings of a review, a conference will be convened to provide an opportunity for LDC nutrition policy personnel and legislators to consider the implications of legislation and regulation as a factor in maternal and infant nutrition. Proceedings will be published and disseminated to help sensitize people to this issue.

5. Mass Media, Consumer Education Projects

Six to eight countries are expected to undertake mass media campaigns promoting breastfeeding during the four years of the project and additional technical assistance is expected to be given to six to eight projects conducted by governments or private voluntary agencies. A U.S. contractor will coordinate these activities for the project.

6. Community Based Education-Motivation Projects

Six to eight countries are expected to undertake community-based or interpersonal type education projects chiefly to develop support systems for breastfeeding mothers in urban areas and to promote introduction of weaning foods in diets of four to six month-old infants in rural areas. The increased intake of nutritious food by pregnant women in the third trimester of pregnancy and during lactation will be promoted. Agencies such as private voluntary organizations who have prior experience or potential in LDCs are expected to implement these projects with additional technical assistance from a U.S. contractor to contribute to upgrading their diagnostic and evaluation capabilities. Twenty person months of external technical assistance; and travel, per diem for in-country personnel will be provided. Materials and vehicle support are anticipated.

7. Medical and Nursing Curriculum

Workshops will be held in each of 5-7 countries to decide upon strategies, to develop curriculum and arrange for its inclusion in ongoing training programs. Travel and per diem for participants, meeting costs and reproduction of materials for use in medical and nursing schools will be provided. Salary, per diem and travel for technical assistance.

8. Training Health and other Community Workers

Out of the AID health delivery projects currently planned, or underway, technical assistance will be provided in countries requesting such assistance for incorporating breastfeeding, weaning and maternal nutrition into the training courses of health workers. Travel, salary and per diem for technical assistance, equipment and some education materials will be covered. This project will augment existing funds for training allocated within the health and family planning projects. Training other community-level workers: Supervisors, field workers and administrators from supplementary feeding programs, agricultural extension, women's clubs and other rural development programs. Salaries, travel and per diem of in-country and foreign experts will be covered, also meeting costs, travel and per diem of participants,and educational materials.

9. School Curriculum and Training School Teachers

Consultations with UNESCO, other AID programs, and national agencies will be held to review the present manner in which maternal and infant nutrition is taught in primary and secondary schools and to plan and conduct the programs to improve such teaching. Provision will be made to cover the costs of travel and per diem for participants and travel, salary and per diem of experts. Design, testing and replication of education materials will also be funded.

10. Weaning Food, Supplements

Funds already allocated under the RSSA with USDA will be utilized for costs such as technical assistance, travel, materials and equipment. No additional inputs from this project are proposed.

11. Activities Related to FFP Programs

A large number of preschool age children and pregnant/nursing women are being provided with supplemental FFP programs. New activities are expected to be undertaken such as the study of nutrient intakes of the 6-24 month age group and mothers. Modifications of various implementation strategies will be tested to increase these intakes. Technical assistance (travel, salaries, per diem), training,

materials, and expenditures related to surveys will be provided.

12. Applied Research

A number of supportive research activities will be undertaken on such subjects as:

(i) Maternal supplementation and pregnancy outcome
(ii) Lactation Contraception
(iii) Risk assessment indicators for mothers
(iv) Factors influencing lactation

Provision for technical assistance, travel, per diem (international and in-country), equipment, salaries, data analysis, vehicles, printing reports and survey materials will be made.

PART III. Implementation

The project will be managed by the Office of Nutrition, DSB in order to provide centralized technical control, supervision, distribution of results, guidelines etc., and interpretation of findings for Agency-wide policy and programming purposes. A DS/N nutrition officer will be project manager.

Implementation plans for each of the sub-projects have been grouped together under two sections. Section A consists of four components which are expected to be started in the first phase of the project. These are:

1. Information Clearing House
2. Study of the Role of Formula in Infant Nutrition in LDCs
3. Coordinating and Consultative Activities
4. Nutrition Education and Training.

Section B will be written and presented as the second phase of the project and consists of activities which are expected to begin later. These are:

1. Study of Legislation Affecting Maternal and Infant Nutrition
2. FFP (Title II) Pilot Programs
3. Research.

Implementation details for each sub-project are discussed under the following headings:

1. Purpose
2. Rationale
3. Program Content
4. Financial Plan
5. Implementation Schedule
6. Logical Framework.

This arrangement is an attempt to allow the reader to grasp the full picture by presenting details of each sub-project all in one place, starting from its objectives and rationale, through implementation details and, at the end, illustrating its relation to the overall project purpose and goal through the Logical Framework.

Implementation Plans - Phase I

Activities

1. Information Clearing House.
2. Study on the Role of Infant Formula.
3. Coordinating and Consultative Activities
4. Nutrition Education and Training.

Each activity is described under the following headings:

1. Purpose
2. Rationale
3. Program Content
4. Financial Plan
5. Implementation Schedule
6. Logical Framework

1. Information Clearing House on Infant Feeding and Maternal Nutrition

Implementation Plan

PURPOSE: This activity is one element in the education-sensitization process necessary for providing factual, unbiased and timely information to LDC program implementers and technicians on an ongoing basis on the subject of infant feeding (and maternal nutrition).

This activity will be carried out over a four years period to coincide with a period of augmented program activity by AID, other donors, and developing countries. It is designed to support the other activities by providing a mechanism for a rapid dissemination of information to (a) program planners and operators in developing countries and (b) medical personnel who make and/or implement maternal and infant nutrition policy.

At the conclusion of the four year period, it is contemplated that this information dissemination will either (a) be taken over and provided by continuing support by the sponsoring agency or some other agency (the newsletter producing organization would have some indication whether it could be financially self-sufficient from paid subscriptions to an additional public able to pay costs), or (b) be absorbed by other newsletters dealing with broader nutrition and health matters. AID may wish to keep open the option of a fifth year of financial support to permit

an orderly transition if this is indicated by an evaluation and conditions at the time.

Information exchange on new program initiatives, policy changes and research is expected to promote cross-fertilization of ideas and development of new, more relevant programs and policies at an accelerated pace.

RATIONALE: 1. The need for a clearing house has been felt more acutely since the "Infant Formula Controversy" escalated in the past two to three years. Information on infant nutrition, often biased and presented under the guise of 'scientific fact,' has begun to be distributed widely. Most often the information recipients do not have access to objective and factual material and may not know where to seek clarification.

2. A large volume of information from diverse subject areas (endocrinology, marketing, law, food technology, economics, OB/GYN, etc.) is being produced at an accelerated rate. Some of it is germane to program development and needs to be disseminat widely. It was recommended, therefore, that a small, easily read publication be distributed which would simply report on results of well conducted research, describe different types of programs being undertaken and report on policy initiatives affecting maternal and infant nutrition worldwide, without editorial comment. The publication would have two distinct parts -- a "vernacular" part addressed to program operators, supervisors and planners and a more technical part addressed to the medical community, primarily

The medical community would receive both, while the planners/ implementers would receive only the "vernacular" newsletter.

TYPE OF IMPLEMENTING AGENCY

Consideration has been given to using an existing clearing house publication, adding this subject matter to an existing publication arrangement as a special piece, or creating a new and separate piece. Analysis revealed that no existing publication would reach all of the target audience and one publication that would have a reasonably good audience overlap (Salubritas) would not want to incorporate this subject into their existing publication with the amount of space and material required but would consider working on a companion newsletter. The procurement of services will therefore invite proposals for a separate newsletter or one associated with an existing distribution.

(1) The Agency under whose technical guidance the publication would go out should have sufficient technical credibility to be accepted as an authority on the subject. It should be an established, experienced entity preferably specializing in the major subject area (public health, pediatrics, nutrition) and be accepted as such by readers who are the most key to decision-making in a program sense (i.e. hospital administrators, trainers of health paraprofessionals and of doctors and nurses) as well as by people who make policy or influence policy in this sector (i.e. in public health, nutrition, medical/nursing education) including religious and private non-profit organizations.

(ii) The Agency should have a mechanism for establishing the necessary network; one that would reach the required readers on a continuing and timely basis. On the other hand, information flows from the field (to a large extent from developing countries) regarding programs, policy and research findings should be comprehensive as well as rapidly transmitted back to the central clearinghouse.

(iii) Cost-effective translation facilities were an important consideration since this is an education intervention--using as an evaluation criteria, its ability to supply information to LDC personnel, many serving in remote areas and close to "grassroots". The material will be distributed in Spanish, French and English. Permission will be given for translation and printing locally in other languages.

The different possibilities for implementing the Project are:

1) The American Public Health Association already has a newsletter in three languages called Salubritas, but this is restricted to public health concerns and does not reach many of the LDC nutrition workers who would comprise the target audience. However, there is interest in running the maternal and infant nutrition information clearing house as a separate publication.

2) The Community Systems Foundation currently implements the A.I.D.-supported project on Nutrition Planning Abstracts and already has a network of about

135 cooperating institutions in developing countries.

3) Community Nutrition Institute (Washington, D.C.) now publishes a very successful and widely read nutrition newsletter. It has experience only with U.S. programs and has a U.S. readership but it believes it could handle an international newsletter and would like to do so.

Competitive bidding is planned to select an appropriate contractor from among groups such as these.

PROGRAM CONTENT

The proposed system will provide three services:

a. A periodical containing abstracts or short descriptions of research and action programs and policy changes in the area of infant feeding, maternal nutrition.

   The periodical will be of a "newsletter" type and will have between six and eight pages. Its frequency will be three times a year. It will be available in three languages, i.e., Spanish, English and French. Numbers of copies reproduced will be 5,000 to 7,000 per issue (in all languages combined). The expected readership is an average of three readers per copy or 15,000 to 21,000 readers.

b. Questions of general interest will be answered through a readers' column. Included will be suggestions concerning the availability of technical assistance and other program resources whenever relevant.

   Training aids will be available to LDC institutions from the repository of materials developed through training programs in this Project.

   Materials Collection: Individuals and institutions in various countries

will be identified continuously and, if necessary, sub-contracted for obtaining materials within their designated region on a regular basis.

Distribution: The periodical will be made available free of cost initially. A majority of the users are intended to be in developing countries and widely dispersed within those countries. The readership will consist of the categories listed below. Medical doctors will receive both the scientific/medical as well as the "vernacular" pieces; others will receive only the "vernacular" newsletter.

1. Hospital Administrative Staff in major cities and towns, including nurses and dietitians, chiefs of maternity wards, departments of OB/GYN, Pediatrics.

2. Regional and Provincial-level health administrators and practicing doctors, including district, sub-division hospitals, health centres in rural areas.

3. Medical and nursing schools and their professional associations, especially of Pediatrics and OB/GYN.

4. Medical universities, colleges teaching nutrition.

5. Local and international non-profit organizations and church groups involved in nutrition, health, women in development, education and social welfare programs, especially food distribution programs.

6. Government ministeries and departments of health, nutrition, planning, education, social welfare.

Prior to the end of the four-year project period, the status of the project wil be reviewed to determine what it has accomplished by way of making available accurate and objective information to technicians and individuals in policy-making and administrative/supervisory positions in LDCs on the subject of maternal and infant nutrition, especially breastfeeding, weaning and maternal dietary practices.

Editorial Advisory Board: A committee will be established to provide continuing technical and policy guidance to the overall maternal and infant nutrition project. The committee will be composed of (a) representatives of the regional bureaus and other concerned offices within AID (b) members of the NAS/CINP sub-committee on maternal and infant nutrition, and (c) selecte policy and program leaders from the less developed countries. This same committee or a sub-group thereof, will serve as an "editorial advisory board" to the information clearing activity.

They will advise specifically on the following:

(1) A communications network at country, regional (if found to be necessary) and central levels for all functional aspects of implementing the project;

(2) A mechanism for finding and translating materials;

(3) Criteria for selecting materials and allocation of space for different subjects;

(4) Locating potential users;

(5) Appropriate index and classification schemes;

(6) Review and advise on overall plan prior to starting publication.

An independent external evaluation of the project will be conducted by an entity other than the implementing contractor at the end of the second operational year of the project and will be terminated if not found to be cost effective.

Project Activities: The project will consist of the following steps:

1. Identify potential sources of documents.

2. Contact sources and work out arrangements for transmitting documents including sub-contracting if necessary.

3. Estimate volume of materials for abstracting over the next 12 months.

4. Identify potential users. (This activity should be sub-contracted if necessary to ensure complete coverage of the target readership).

5. Design appropriate indices.

6. Establish "Editorial Advisory Board."

7. Participate in initial meeting of the Board to review all aspects of the program.

8. Prepare mailing lists. Make contact with users informing them of the publication.

9. Develop a mechanism for screening all incoming documents and guidelines for accepting or rejecting them.

10. Identify personnel who will do the abstracting and translations.

11. Receive bids for publishing the newsletter, select one and sign contract. Include the mailing function with the publication.

12. Finalize arrangmeents for storing original, complete materials/ documents.

13. Re-evaluate budget and make modifications.

14. Prepare materials for first 3-4 issues and begin implementation.

INFORMATION CLEARING HOUSE

Financial Plan ($'000)

1.	One Professional @ 28,000 x 4	112
	One Research Assistant @ 15,000 x 4	60
	One Secretary @ 10,000 x 4	40
2.	Translation, production & mailing for 7,000 copies x 3 times a year= 21,000 @ $15,000 a year x 4 years	60
3.	Office space & overheads	20
4.	Reimbursement to in-country agencies for materials collection & translation	64
5.	Evaluation	4
		360,000

Note: If an existing clearing house/newsletter bids on the RFP, the budget for salaries could be lower by 60,000 - 100,000.

IMPLEMENTATION SCHEDULE

1.	PIO/T written	5/20/79
2.	PIO/T approved	5/25/79
3.	Program description or RFP written	6/01/79
4.	Competitive Bidding Process Solicitations Evaluation of Proposals Final Selection	8/15/79
5.	Contract negotiated, signed	8/25/79
6.	Mobilization and begin functioning	9/15/79
7.	Advisory Editorial Board meeting	11/01/79
8.	First issue of newsletter published and mailed with questionnaire concerning baseline information for evaluating the newsletter.	2/80
9.	Mid-term evaluation	2/81
10.	Final evaluation	2/82
11.	Review, terminate/extend project	9/82

AID 1020-20 (1-72)

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project:
From FY 71 to FY 81
Total U.S. Funding $4,770,000
Date Prepared 1/12/79

Project Title & Number: Changing Maternal/Diet Practices - 931 1010

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Program or Sector Goal: The broader objective to which this project contributes: 1) To improve the nutritional status of preschool children, pregnant and nursing women-especially in low-income groups in LDCs; 2) To increase nutrient consumption in children under 5 years of age, pregnant and nursing women.	Measures of Goal Achievement: 1) Reduction in: a. Infant mortality rates (under 12 months); b. Child mortality rates (1 to 5 years); c. Percentage of low birth-weight births; d. Incidence of stunting and wasting in children under 5 years of age; e. Incidence of anemia in children under 5 years, and pregnant and nursing women. 2) Increased consumption of calories, protein, iron and Vitamin A by target groups.	1a) Record of deaths per 100,000 live births; 1b) Record of deaths per 100,000 pop. in this age group; 1c) Survey of weighing sessions in target areas; 1d)Data on a statistical sample of target pop. regarding weight for height, and height for age of children under 5 yrs.; 1e) Hemoglobin estimations on blood samples of statistically sampled pop.--of target groups. 2) Quantitative estimations of nutrient intakes through household dietary (See attached Continuation Sheet)	Assumption for achieving goal targets: 1) The advantages of increased nutrient consumption will not be completely offset by inadequate biological utilization in target groups due to infection disease resulting from poor water supply, hygiene and sanitation and inadequate health services. 2) Projects will operate at a level of efficiency that guarantees the minimum level of inputs (educ, health services). (See attached Continuation Sheet)
Project Purpose: 1) Improve and expand IEC programs which promote the following set of practices: a)Full breastfeeding of infants for the first four to six months of life. Incorporate into health outreach programs mechanisms for providing special health protection to infants who are not breastfed in the first 4 to 6 months of life. b)Introduction of significant nutrient supplementation through hygienically prepared and fed semi-solid foods starting from four to six months of (See attached Continuation Sheet)	Conditions that will indicate purpose has been achieved. End of project status. 1) Incremental percentage of target pop. which follow desired practices a,b,& c as a result of the program (in project countries). 2)Availability of accurate information at implementation levels (administrators, policy-workers, technicians in LDCs) regarding infant feeding and maternal nutrition.	1) Knowledge, attitude, practices (KAP) surveys in project countries of target groups (low income families in rural and urban areas) regarding infant feeding practices and maternal nutrition mentioned in Project Purpose, i.e. prevalence of (a1) breastfeeding in the infants 4 to 6 months of age, introduction of adequate semi-solid supplements at 4 to 6 months of age, etc. 2) KAP surveys at implementation levels regarding programs (See attached Continuation Sheet)	Assumption for achieving purpose: 1) Consistency among major donor agencies regarding infant feeding and related issues e.g., use of infant formula, legislative/policy requirements necessary to support these. Coordination among agencies at country-level to avoid duplication and rivalry. 2) Level of inputs in each project country should be the minimum necessary, provided (See attached Continuation Sheet)
Outputs: Global Information Clearing House will reach approximately 20,000 program implementers, policy-makers and technicians in LDCs with factual information regarding infant feeding practices and maternal nutrition. Both technical and program policy-oriented materials will be presented through a newsletter type of publication.	Magnitude of Outputs: Publication of a newsletter four times a year in English, Spanish and French with a mailing list of 15,000 to 20,000 people.	Verified at reader level through questionnaires administered prior to and after 2 years of publishing the newsletter. Questions will refer to quality, timeliness of the newsletter; relevance and pratical applicability of information received.	Assumptions for achieving outputs: Availability of resources.
Inputs: Total: $510,000 . 72 person months . Two meetings of an advisory Editorial Board.	1) Hiring of one professional, one research assistant and one secretary for 4 years; 2) Collecting materials from institutions and agencies in LDCs and other countries; abstracting and translating materials sufficient for four issues of the newsletter per year; 3) Production and mailing of 7,000 to 10,000 copies of the newsletter	Project implementation records maintained by contractor/grantee and project monitor.	Assumptions for providing inputs: Resources availability.

NARRATIVE SUMMARY Continued	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
		expenditure surveys. Data should be specific for preschoolers and mothers, taking into consideration intra-family food dispersion.	motivation by community workers, etc.) for the minimum period of time (without major interruptions) and covering a large enough target population which is necessary to bring about the desired change in nutrition and health status.
age and increasing consistently to keep up with the infants' growth requirements (For infants who cannot be breastfed, determine alternatives to breastmilk which are practical, safe and adequate.). c)Adequate consumption of nutrients by women especially during pregnancy and during lactation. Increase supply and utilization of health and family planning services for and by women respectively. 2) Increase the understanding and awareness of policy-makers, technicians, programmers in donor agencies, LDCs, in the subject.		and policies desirable for bringing about improved nutritional status of young children(specifically through improved infant feeding practices) and of mothers.	without interruption and for a long enough period of time to bring about the desired change in infant feeding practices and in maternal dietary and health practices.

2. Study on the Role of Infant Formula in LDCs

Implementation Plan

PURPOSE: To obtain data on infant formula needs and marketing practices that will provide insights into the role of formula as a factor in infant nutrition.

RATIONALE: (1) Congress has mandated that AID conduct such a survey in LDCs. (2) A controversy has developed over the use of infant formula by low-income urban and rural families, over the extent to which infant formula distributors/manufacturers are promoting artificial feeding, and over the extent to which women in LDCs need to depend upon a substitute for breastmilk. (3) The data resulting from such a study could have important implications for legislation and policy in a number of ways e.g. the decision of LDC governments whether or not to restrict formula or bottles/nipples from being sold, formula import restrictions, regulations to restrict certain types of promotion activities, the decision of infant formula companies on what policies and practices to employ in the marketing of their products, the decision of countries to issue availability of formula for working women, etc.

PROGRAM CONTENT: The controversy has brought forth two positions on the subject of formula use in LDCs. One, by critics of the formula industry, which consists of the following: (1) certain marketing practices, (in particular the use of mothercraft

personnel) dissuades mothers unnecessarily from breastfeeding. There is misrepresentation of the scientific fact that exclusive breastfeeding is the best method of feeding infants (in the first 4 to 6 months of life); (2) Formula does not provide the nutrients and immune bodies in the way breastmilk does and therefore is not an acceptable substitute; (3) It is expensive for lower income families, and leads to overdilution; (4) Bottlefeeds are highly likely to be contaminated in the unsanitary environments most commonly found in LDCs; (5) The use of formula as a supplement to fill in the nutrient gap whenever breastmilk is insufficient is not acceptable either because of cost considerations and the fact that bottles and nipples (not easily cleaned and highly prone to contaminating anything in the bottle) should not be encouraged; and (6) The formula industry subsidizes the health infrastructure in LDCs by funding equipment, research, conferences, etc. and expecting in turn that the use of their products be encouraged. "Education" of medical professionals should be left to more objective authorities.

The position of the formula industry, in general (there are differences among them), is as follows: (1) Formula is purchased

almost exclusively by the upper income classes, presumably those who can afford to buy sufficient quantities and prepare them hygienically; (2) While they agree breastfeeding is ideal, there is a critical need sometimes for substitutes, even in low income families; for instance, where the mother has died; has insufficient milk to feed more than one ie. twins; has an infectious disease or one affecting breastmilk production/release; after 2-3 months when breastmilk appears to become insufficient; and where the child is born premature, underweight or with a congenital malformation and cannot suckle (at all or) strongly enough for normal lactation to be established; (3) In addition, some women are the chief source of earnings for the family and cannot breastfeed or do not wish to breastfeed the infant during the day; (4) As far as marketing practices are concerned, several manufacturers have started regulating their promotion activities in developing countries, in some instances withdrawing mothercraft personnel altogether or restricting them, and refraining from advertising directly to the consumer. The bulk of promotion activities is now centered around "health professionals", (pediatricians, OB/GYN, general practitioners, hospital administrators, nurses, compounders, etc.). These include usual pharmaceutical promotion activities e.e. ads in journals, mailing reprints of selected journal articles, medical detailing (visits by salespersons)

and giving free samples of products; (5) According to industry spokesmen, medical professionals should know what is best for the infants' health; the decision should be left to them.

The survey proposed in this project will collect information related to the issues described above. It is divided into three parts:

(1) Assessment of the need and desire for breastmilk substitutes in LDCs among different income levels;

(2) Assessment of types of infant formula marketing practices in use in LDCs - estimated numbers and characteristics of people being reached;

(3) Assessment of Infant feeding practices and determinants of such practices. The role of formula promotion in influencing feeding trends compared to other factors;

(4) Assessment of the extent of impact of formula on infant nutrition.

A methodology suitable for this study will be devised under the guidance of a small committee with representatives from LDCs, AID regional bureaus, and the scientific community.

IMPLEMENTATION: An RFP will be sent out for competitive bidding. Expertise will be required in epidemiology, anthropology, market surveys, etc. Countries will be selected on the basis of USAID mission and counterpart interest in participating and a rapid rate of urbanization and therefore a high probability of a change in infant feeding patterns. Six

countries are expected to participate. Surveys will be made by suitable sub-contracted institutions in the country region.

An attempt will be made to follow the same general methodology in each country to allow comparative analyses. Data analysis and interpretation will be done jointly with or by the chief counterpart agency involved. In each country, a workshop will be held to discuss results of the study and implications for action.

FINANCIAL PLAN: The contract will obligate $582,000 for the study to be conducted over a 3-year period.

-- Principal contractor -----for methodology testing, communication and travel to 12 countries to select sub-contractors and monitor progress, convening of sub-contractors, for training, compilation and analysis of data, and report preparation

Sub Total	$234,000
. Staff (principal investigators, assist. Secretary)	$155,000
. Travel and Per Diem	$ 43,000
. Analyses and reports	$ 36,000

-- Sub-contractors ------for training staff, translating and printing survey materials, travel and per diem of investigators, preparation of reports, etc.

. Staff	$35,000
. Travel and per diem	$18,000

- Analyses and Reports	$5,000	
	58,000	per country
	X 6	countries
	348,000	
TOTAL	582,000	

IMPLEMENTATION SCHEDULE

1.	PIO/T Approved	5/25/79
2.	RFP Written	6/01/79
3.	Competitive Bidding and final Selection	8/15/79
4.	Contract Signed	8/25/79
5.	Survey starts in first country	12/15/79

LOGICAL FRAMEWORK

Project Title & Number: Changing Maternal/Diet Practices - 911-1010

Time Period: From FY 79 to FY 82
Total US Funding $9,770,000
Date Prep. 4/12/79

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Program or Sector Goal: The broader objective to which this project contributes: 1) To improve the nutritional status of preschool children, pregnant and nursing women especially in low-income groups in LDCs; 2) To increase nutrient consumption in children under 2 years of age, pregnant and nursing women.	Measures of Goal Achievement: 1) Reduction in: a. Infant mortality rates (under 12 months); b. Child mortality rates (1 to 5 years); c. Percentage of low birth-weight births; d. Incidence of stunting and wasting in children under 5 years of age; e. Incidence of anemia in children under 5 years, and pregnant and nursing women. 2) Increased consumption of calories, protein, iron and Vitamin A by target groups.	1a) Record of deaths per 100,000 live births; 1b) Record of deaths per 100,000 pop. in this age group; 1c) Survey of weighing sessions in target areas; 1d)Data on a statistical sample of target pop. regarding weight for height, and height for age of children under 5 yrs.; 1e) Hemoglobin estimations on blood samples of statistically sampled pop.--of target groups. 2) Quantitative estimations of nutrient intakes through household dietary (See attached Continuation Sheet)	Assumption for achieving goal targets: 1) The advantages of increased nutrient consumption will not be completely offset by inadequate biological utilization in target groups due to infectious disease resulting from poor water supply, hygiene and sanitation and to adequate health services. 2) Projects will operate at a level of efficiency that guarantees the minimum level of inputs to the health services. (See attached Continuation Sheet)
Project Purpose: 1) Improve and expand IDC programs which promote the following set of practices: a)Full breastfeeding of infants for the first four to six months of life. Incorporate into health outreach programs mechanisms for providing special health protection to infants who are not breastfed in the first 4 to 6 months of life. b)Introduction of significant nutrient supplementation through hygienically prepared and fed semi-solid foods starting from four to six months of (See attached Continuation Sheet)	Conditions that will indicate purpose has been achieved: End of project status. 1) Incremental percentage of target pop. which follow desired practices a,b,& c as a result of the program (in project countries). 2)Availability of accurate information at implementation levels (administrators, policy-makers, technicians in LDCs) regarding infant feeding and maternal nutrition.	1) Knowledge, attitude, practices (KAP) surveys in project countries of target groups (low income families in rural and urban areas) regarding infant feeding practices and maternal nutrition mentioned in Project Purpose, i.e. prevalence of full breastfeeding in the infants 4 to 6 months of age, introduction of adequate semi-solid supplements at 4 to 6 months of age, etc. 2) KAP surveys at implementation levels regarding programs (See attached Continuation Sheet)	Assumptions for achieving purpose: 1) Consistency among major donor agencies regarding infant feeding and related issues e.g., use of infant formula, legislative/policy requirements necessary to support these. Coordination among agencies at country-level to avoid duplication and rivalry. 2) Level of inputs in each project country should be the minimum necessary, provided (See attached Continuation Sheet)
Outputs: Study of the Role of Formula in Infant Nutrition and of Marketing Practices in LDC's is expected to contribute towards a clarification of the "Infant Formula controversy" and encourage programs to proceed with a more balanced approach for resolving the infant nutrition problem.	Magnitude of Outputs: Methodology developed for the study. Study conducted in 6 countries. Results should include analysis of how infant formula affects infant nutrition in LDCs and what types of marketing practices are being used. Workshops held in each of the 6 study countries.	Reports of the contractor and USAID mission; Site visits to observe the survey.	Assumptions for achieving outputs: 1) Availability of resources. 2) At least 6 LDCs accept survey methodology and request the study.
Inputs: Total: $582,000 One professional, assistant and secretary hired for 18 person-months each; - Survey teams of 4 persons each hired for 6 months per country. Two of these, for 12 months; - Total of $42,000 per country plus $200,000 to cover costs including travel, data analysis, salaries, workshops.	Implementation Target (Type & Quantity) 1) Hiring of the contractor team and subcontracting with 6 country agencies 2) Conduct Surveys in the 6 countries over a 12-month period. 3) Workshops convened at the end of each country survey and analysis.	Contractor reports; USAID mission reports Site visits; Report from workshops.	Assumptions for providing inputs: Resources Availability

NARRATIVE SUMMARY Continued	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
		expenditure surveys. Data should be specific for preschoolers and mothers, taking into consideration intra-family food dispersion.	motivation by community workers, etc.) for the minimum period of time (without major interruptions) and covering a large enough target population which is necessary to bring about the desired change in nutrition and health status.
age and increasing consistently to keep up with the infants' growth requirements (for infants who cannot be breastfed, determine alternatives to breastmilk which are practical, safe and adequate.). c) Adequate consumption of nutrients by women especially during pregnancy and during lactation. Increase supply and utilization of health and family planning services for and by women respectively. 2) Increase the understanding and awareness of policy-makers, technicians, programmers in donor agencies, LDCs, in the subject.		and policies desirable for bringing about improved nutritional status of young children (specifically through improved infant feeding practices) and of mothers.	without interruption and for a long enough period of time to bring about the desired change in infant feeding practices and in maternal dietary and health practices.

3. Coordinating and Consultative Activities Implementation Plan

PURPOSE: To provide a forum for exchanging information on the priorities of LDCs and donor agencies in Infant Feeding and Maternal Nutrition in order to build up and sustain a high level of concern and support for this key area in nutrition programming. The group is addressed to the needs of policy-making and policy influencing levels .

RATIONALE: (1) Among U.N., bi-lateral, and private voluntary agencies there has been a recent increase in interest in Infant Feeding and Maternal Nutrition, and this will be reflected in an increase in LDC programs. It is necessary to coordinate and mutually support these activities along with AID programs so that unnecessary duplication of effort and conflicting policies are not propagated in programs. At present, there is no forum where donor agencies can exchange information regarding priorities and plans on this subject. This coordinating and consultative group will help to assure a harmonized approach in a global program, without overlap and with joint involvement in projects where this is indicated. Missions/PVOs and contractors involved in implementing AID projects in this field will be encouraged to continue involving other donor agencies at country level in their meetings, etc.

(2) Dozens of LDCs will be involved in accelerated programs in this area and it is expected there will be fairly rapid developments in policies and programs in different countries. LDC nutrition leaders should have an opportunity to share ideas and experiances with one another and to have a major input into the making of policy and plans by donor agencies. At present there is no such forum in existence, besides the controversial nature of the Infant Feeding area calls for caution on the part of donor agencies and a careful consideration of LDC needs. This project will provide for such LDC involvement by funding the cost of meetings among LDC nutrition leaders and between such leaders and the donor agencies.

LOGICAL FRAMEWORK

From FY 79 to FY 82
Total U.S. Funding $4,770,000
Date Prepared: 1/12/79

Project Title & Number: Changing Maternal/Diet Practices - 931-1010

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Program or Sector Goal: The broader objective to which this project contributes: 1) To improve the nutritional status of preschool children, pregnant and nursing women especially in low-income groups in LDCs; 2) To increase nutrient consumption in children under 2 years of age, pregnant and nursing women.	Measures of Goal Achievement: 1) Reduction in: a. Infant mortality rates (under 12 months); b. Child mortality rates (1 to 5 years); c. Percentage of low birth-weight births; d. Incidence of stunting and wasting in children under 5 years of age; e. Incidence of anemia in children under 5 years, and pregnant and nursing women. 2) Increased consumption of calories, protein, iron and Vitamin A by target groups.	1a) Record of deaths per 100,000 live births; 1b) Record of deaths per 100,000 pop. in this age group; 1c) Survey of weighing newborns in target areas; 1d) Data on a statistical sample of target pop. regarding weight for height, and height for age of children under 5 yrs.; 1e) Hemoglobin estimations on blood samples of statistically sampled pop.--of target groups. 2) Quantitative estimations of nutrient intakes through household dietary (See attached Continuation Sheet)	Assumptions for achieving goal targets: 1) The advantages of increased nutrient consumption will not be completely offset by inadequate biological utilization in target groups due to infectious disease resulting from poor water supply, hygiene and sanitation and inadequate health services. 2) Projects will operate at a level of efficiency that guarantees the minimum level of inputs (educ, health services, (See attached Continuation Sheet)
Project Purpose: 1) Improve and expand IDC programs which promote the following set of practices: a) Full breastfeeding of infants for the first four to six months of life. Incorporate into health outreach programs mechanisms for providing special health protection to infants who are not breastfed in the first 4 to 6 months of life. b) Introduction of significant nutrient supplementation through hygienically prepared and fed semi-solid foods starting from four to six months of (See attached Continuation Sheet)	Conditions that will indicate purpose has been achieved: End of project status. 1) Incremental percentage of target pop. which follow desired practices a,b,& c as a result of the program (in project countries). 2) Availability of accurate information at implementation levels (administrators, policy-workers, technicians in LDCs) regarding infant feeding and maternal nutrition.	1) Knowledge, attitude, practices (KAP) surveys in project countries of target groups (low income families in rural and urban areas) regarding infant feeding practices and maternal nutrition mentioned in Project Purpose, i.e. prevalence of full breastfeeding in the infants 4 to 6 months of age, introduction of adequate semi-solid supplements at 4 to 6 months of age, etc. 2) KAP surveys at implementation levels regarding programs (See attached Continuation Sheet)	Assumptions for achieving purpose: 1) Consistency among major donor agencies regarding infant feeding and related issues e.g., use of infant formula, legislative/policy requirements necessary to support these. Coordination among agencies at country-level to avoid duplication and rivalry. 2) Level of inputs in each project country should be the minimum necessary, provided (See attached Continuation Sheet)
Outputs: Coordinating and Consultative Group. Promote a harmonized policy among donor agencies regarding infant feeding and maternal nutrition so that unproductive duplication and conflict is avoided in country programs; Incorporate IDC needs into this aspect of donor agencies' nutrition program policy.	Magnitude of Outputs: (i) Meetings held once a year for three years with ten persons attending. Recommendations from them published and disseminated to approximately 5,000 readers; (ii) International Center, held in FY 82; (iii) IDC leaders participate in other meetings, conferences on the subject.	(i) Reports of implementing agency and missions; (ii) Project Manager will be present at the meetings.	Assumptions for achieving outputs: Resources available, finding an appropriate implementing agency; other donor agencies desire to cooperate.
Inputs: Total budget $220,000 over 4 years covering travel, per diem, secretarial costs, rent, publications for meetings and similar expenses for the international conference.	First meeting held in 10/79 and subsequently in 10/81. International conference in the end of FY 82.	Reports, attendance at meetings and conference.	Assumptions for providing inputs: Resources, Collaborating agencies sponsor their representatives.

NARRATIVE SUMMARY Continued	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
		expenditure surveys. Data should be specific for preschoolers and mothers, taking into consideration intra-family food distribution.	motivation by community workers, etc.) for the minimum period of time (without major interruptions) and covering a large enough target population which is necessary to bring about the desired change in nutrition and health status.
age and increasing consistently to keep up with the infants' growth requirements (For infants who cannot be breastfed, determine alternatives to breastmilk which are practical, safe and adequate.). c)Adequate consumption of nutrients by women especially during pregnancy and during lactation. Increase supply and utilization of health and family planning services for and by women respectively. 2) Increase the understanding and awareness of policy-makers, technicians, programmers in donor agencies, NGOs, in the subject.		and policies desirable for bringing about improved nutritional status of young children(specifically through improved infant feeding practices) and of mothers.	without interruption and for a long enough period of time to bring about the desired change in infant feeding practices and in maternal dietary and health practices.

PROGRAM CONTENT

For the purpose of technical and policy guidance and in order to ensure coordination among donor agency programs, the Maternal and Infant Nutrition Program will function with the following coordinating and consultative mechanisms:

A. National Academy of Sciences Task Force: This group, appointed by NAS, will perform the following functions - (1) Delineate research priorities in the area of maternal and infant nutrition.
(2) Provide technical guidance on questions referred to the group by A.I.D. from time to time (3) Maintain liaison between A.I.D. and the special consultative group to the AGN of the ACC/SCN of the U.N. in the area of maternal and infant nutrition.

B. Internal Steering Committee in A.I.D.: This group will consist of representatives from Regional Bureaus and DSB. Functions: (1) Facilitat information exchange from NAS Task Force and Steering Committee meetings to the missions and vice versa (2) Promote the development and implementation of various activities in this program in missions in a timely and relevant manner (3) Provide technical inputs.

C. L.D.C. Nutrition Leaders: Nutrition leaders from L.D.C.s will be selected to partifipate in reviewing programs and policy in their countries and provide input to donor agency policy. The Nutrition Programmers' Forum will be used for the purpose of bringing this group together.

All three groups (A,B, AND C) will meet together and separately depending upon the needs of the program during the four years. At least once a year, selected members from each of the three groups will meet together as the Editorial Advisory Board for the Information Clearing House in this project.

<u>Implementation</u>: (1) This project will support meetings of selected LDC personnel (Nutrition Programmer's Forum and others) and members of the National Academy of Science special committee on Maternal and Infant Nutrition in order to serve a coordinating and consultative function. Other donor agencies are expected to support the attendance of their own representatives at these meetings. Should it later become necessary and desirable, a small grant may be given to the ACC/Sub-Committee on Nutrition or other entity to perform secretarial services for the meetings of the group. (This practice is followed successfully with a contractor serving as secretariat for the AID-supported International Consultative Groups on Iron Deficiency Anemias and Vitamin A.)

(2) Grants will be given to suitable LDC institutions each year to conduct the meetings of LDC leaders, joined by NAS committee members. The institutions will act as the secretariat and perform the following functions: (1) Rent a suitable site to accommodate the meetings (2) Send out invitations and arrange travel (3) Arrange field visits to programs in the vicinity in the area of Infant Feeding and Maternal Nutrition and (4) Publish a report of each meeting.

The Nutrition Planners Forum will provide a mechanism for convening LDC nutrition leaders and selecting LDC representatives to meet with donors--USAID staff will be involved in selection of participants from their countries.

If possible, the meetings will be held to coordinate with any major conference on a related subject e.g., Pediatrics, Medical Education, Nutrition, World Hunger, etc.

(3) Additional travel has been budgetted to allow AID to sponsor LDC or PVO personnel to other meetings and conferences (e.g. sponsored by the U.N. or professional societies) in order to increase LDC/PVO participation at these meetings in the area of maternal and infant nutrition.

(4) Special expert advisory groups may be formed to provide technical guidance in highly specialized areas which may not be covered by the expertise available through any of the three coordinating and consultative mechanisms described previously in this section.

International Conference FY 82

International Travel and per diem for participants @ $1,200 x 50 =	$60,000
Rentals, administration, secretary, etc. =	$30,000
Proceedings of the conference - published and mailed =	$10,500
Sub Total	$100,500
Grand Total	$220,000

IMPLEMENTATION SCHEDULE

1.	PIO/T Approved	5/25/79
2.	Program Description Finalized	7/20/79
3.	Institutions Contacted and One Selected for FY 79 Meeting	8/20/79
4.	Grant made to the Institution	9/15/79
5.	Participant List Finalized	8/01/79
6.	First Meeting of Consultative Group	10/15/79
7.	Second Meeting	10/80
8.	Third Meeting	10/81
9.	Fourth Meeting in conjunction with an International Conference	8/82

LOGICAL FRAMEWORK

From FY 79 to FY 82
Total U.S. Funding $4,770,000
Date Prepared: 1/12/79

Project Title & Number: Changing Maternal/Diet Practices - 911-1010

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Program or Sector Goal: The broader objective to which this project contributes: 1) To improve the nutritional status of preschool children, pregnant and nursing women especially in low-income groups in LDCs; 2) To increase nutrient consumption in children under 2 years of age, pregnant and nursing women.	Measures of Goal Achievement: 1) Reduction in: a. Infant mortality rates (under 12 months); b. Child mortality rates (1 to 5 years); c. Percentage of low birth-weight births; d. Incidence of stunting and wasting in children under 5 years of age; e. Incidence of anemia in children under 5 years, and pregnant and nursing women. 2) Increased consumption of calories, protein, iron and Vitamin A by target groups.	1a) Record of deaths per 100,000 live births; 1b) Record of deaths per 100,000 pop. in this age group; 1c) Survey of weighing newborns in target areas; 1d) Data on a statistical sample of target pop. regarding weight for height, and height for age of children under 5 yrs.; 1e) Hemoglobin estimations on blood samples of statistically sampled pop.--of target groups. 2) Quantitative estimations of nutrient intakes through household dietary (See attached Continuation Sheet)	Assumptions for achieving goal targets: 1) The advantages of increased nutrient consumption will not be completely offset by inadequate biological utilization in target groups due to infection disease resulting from poor water supply, hygiene and sanitation and inadequate health services. 2) Projects will operate at a level of efficiency that guarantees the minimum level of inputs (educ, health services, (See attached Continuation Sheet)
Project Purpose: 1) Improve and expand IDC programs which promote the following set of practices: a) Full breastfeeding of infants for the first four to six months of life. Incorporate into health outreach programs mechanisms for providing special health protection to infants who are not breastfed in the first 4 to 6 months of life. b) Introduction of significant nutrient supplementation through hygienically prepared and fed semi-solid foods starting from four to six months of (See attached Continuation Sheet)	Conditions that will indicate purpose has been achieved: End of project status. 1) Incremental percentage of target pop. which follow desired practices a,b,& c as a result of the program (in project countries). 2) Availability of accurate information at implementation levels (administrators, policy-workers, technicians in LDCs) regarding infant feeding and maternal nutrition.	1) Knowledge, attitude, practices (KAP) surveys in project countries of target groups (low income families in rural and urban areas) regarding infant feeding practices and maternal nutrition mentioned in Project Purpose, i.e. prevalence of full breastfeeding in the infants 4 to 6 months of age, introduction of adequate semi-solid supplements at 4 to 6 months of age, etc. 2) KAP surveys at implementation levels regarding programs (See attached Continuation Sheet)	Assumptions for achieving purpose: 1) Consistency among major donor agencies regarding infant feeding and related issues e.g., use of infant formula, legislative/policy requirements necessary to support these. Coordination among agencies at country level to avoid duplication and rivalry. 2) Level of inputs in each project country should be the minimum necessary, provided (See attached Continuation Sheet)
Outputs: Coordinating and Consultative Group. Promote a harmonized policy among donor agencies regarding infant feeding and maternal nutrition so that unproductive duplication and conflict is avoided in country programs; Incorporate IDC needs into this aspect of donor agencies' nutrition program policy.	Magnitude of Outputs: (i) Meetings held once a year for three years with 15 to 20 persons attending. Recommendations from them published and disseminated to approximately 5,000 readers; (ii) International Center held in FY 82; (iii) IDC leaders participate in other meetings, conferences on the subject.	(i) Reports of implementing agency and missions; (ii) Project Manager will be present at the meetings.	Assumptions for achieving outputs: Resources available, finding an appropriate implementing agency; other donor agencies desire to cooperate.
Inputs: Total budget $267,000 over 4 years covering travel, per diem, secretarial costs, rent, publications for meetings and similar expenses for the international conference.	First meeting held in 10/79 and subsequently in 10/81. International conference in the end of FY 82.	Reports, attendance at meetings and conference.	Assumptions for providing inputs: Resources, Collaborating agencies sponsor their representatives.

NARRATIVE SUMMARY Continued	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
		expenditure surveys. Data should be specific for preschoolers and mothers, taking into consideration intra-family food dispersion.	motivation by community workers, etc.) for the minimum period of time (without major interruptions) and covering a large enough target population which is necessary to bring about the desired change in nutrition and health status.
age and increasing consistently to keep up with the infants'growth requirements (For infants who cannot be breastfed, determine alternatives to breastmilk which are practical, safe and adequate.). c)Adequate consumption of nutrients by women especially during pregnancy and during lactation. Increase supply and utilization of health and family planning services for and by women respectively. 2) Increase the understanding and awareness of policy-makers, technicians, programmers in donor agencies, LDCs,in the subject.		and policies desirable for bringing about improved nutritional status of young children(specifically through improved infant feeding practices)and of mothers.	without interruption and for a long enough period of time to bring about the desired change in infant feeding practices and in maternal dietary and health practices.

4. Nutrition Education and Training Implementation Plan

PURPOSE: 1. This component of the Maternal and Infant Nutrition Project aims at making available a pool of technical assistance and project funds which can be drawn upon by LDCs and PVOs

for the purpose of supporting education and training programs which indend to promote the following practices: a) Full breast-feeding for the first four to six months of life. Infants who cannot be breastfed up to this age should be selected for special care by community nutrition workers. This "special care" includes: frequent home visits, weight monitoring, identification of a suitable alternate method of feeding, education of the mother in its safe preparation, diarrhea control and oral rehydration as necessary. b) Consumption of semi-solids of significant nutrient value by the infant, starting from four to six months of age (and gradually increasing) through the frequent use of hygienically prepared and fed foods. c) Adequate consumption of calories, protein, iron and Vitamin A by women of child bearing age, especially during pregnancy and lactation. Increase the effectiveness and utilization of health and family planning services for and by women.

2. Contribute towards a better understanding of the trends in infant feeding and maternal nutritional status, and their public health/economic implications. Each action program is expected to begin with a careful baseline survey of these patterns, their determinants and what changes may be expected in the near future.

3. Sensitize medical doctors and nurses to current issues in maternal and infant nutrition and incorporate these areas into their educational curriculum more fully.

Background: 1. It has been known for many years that delayed supplementation of the fully breastfed child's diet with adequate foods is a primary associated cause of malnutrition which typically peaks at 12 to 24 months of age and is prevalent on a very large scale in LDCs. Efforts to change this dietary pattern have been inadequate and only marginally successful. There is a need to augment this key element of nutrition programs in LDCs.

2. The early termination of breastfeeding (in the first four to six months of life) is known to be associated with high mortality and morbidity rates during infancy in unsanitary environments such as those found in rural and poor urban communities. On the other hand, data in the past few years indicates that the numbers of women who are unable to start and sustain breastfeeding for the first four to six months is increasing even in "traditional" cultures. There is a need to incorporate appropriate skills and knowledge into community oriented programs (of all types) to encourage mothers to continue breastfeeding. It is equally important to begin finding acceptable alternatives and be prepared to deal with problems known to result from the substitution. This problem may affect a far smaller proportion of the total population, today, but is likely to grow much faster as urbanization progresses. Now is an appropriate time to address this public health problem.

3. Since this education and training element is part of a larger package containing mutually supportive elements, there is a greater likelihood of impact. Other components of the project which are closely linked to this one are: the Study of Infant Formula Marketing and Role of Formula in LDCs; the Study on Legislation and Policies Affecting Maternal Nutrition and Infant Feeding Practices; Global Information Clearing House, and Nutritional Supplementation. For example, information from Study of Infant Formula will be fed into education and training activities; these activities will be used to support the Nutritional Supplementation sub project. The Information Clearing House will keep the trained workers and supervisors up-to-date with current information.

4. Past experiences with education programs have shown the need for a better understanding of the determinants of behavior. More work needs to be done on quantitative measures of nutrient consumption--a key element in the design and evaluation of such programs. Also, the decision of whether or not to breastfeed and if so, for how long, appears to be influenced by a host of difficult-to-measure social attitudes and economic forces. Resources spent on modifying behavior will not be well-utilized unless more is invested in such methodological/analytical questions first. The controversial nature of the subject demands careful definition of what the practices are, why and how they should be modified.

5. The attitudes and practices of medical and nursing professionals have been shown to play a key role in the decision-making process of the mother regarding infant feeding. There is, consistently, a high

correlation between exposure to health professionals and a tendency to not breastfeed. Also, infant formula companies have focussed their marketing and promotion activities more and more on them. There is a need to provide the medical community with comprehensive and factual information regarding breastfeeding and infant nutrition in particular.

6. AID has assisted a number of missions in the design and implementation of nutrition education and training programs. Another project currently being developed in DS/N aims at transferring technology to countries which request such assistance, mainly through workshops and short-term technical assistance (it is called Technical Assistance in Nutrition Education). The following are major distinguishing characteristics of these two DS/N projects.

Technical Assistance in Nutrition Education

1. Aims at increasing country capability in overall nutrition education for later application.

2. The technology transferred could affect any of a broad range of nutrition-related beliefs and practices.

3. Project activities (consistent with #1 above) are made up of workshops, educators conferences, short term technical assistance, and data collection (such as case studies). No campaigns or programs affecting the target population are proposed.

Maternal and Infant Nutrition Project (MINP)

1. Is action oriented, and immediate effects on practices are desired.

2. Deals with specific sets of beliefs and practices a) transition from breastfeeding to the adult diet, b) maternal nutrition,

3. Project activities are media campaigns, training of fieldworkers, development and production of text materials, etc.

4. Is related to other activities such as Study of Formula in LDCs, Food Supplement Programs etc., within the MINP.

5. Heavy emphasis on the health sector in terms of training, media support and utilizing this infrastructure for the delivery of education/messages.

PROGRAM CONTENT

1. Sensitization of Health Professionals

1) The contractor will review existing literature regarding maternal and infant nutrition in medical and nursing curriculum, and data from KAP surveys, if any exist, on medical doctors and nurses on the subject of maternal nutrition and infant feeding practices.

2) Country-or-task-specific agreements will be signed with the contractor after requests are received from missions.

3) Prior to arriving in the country, the contractor will collect materials suitable for medical and nursing professionals on infant nutrition

4) In the country, the contractor will assist missions in identifying suitable institutions and personnel who could be subcontracted for technical assistance and for conducting workshops, conferences, etc. Additional materials e.g. data from surveys, slides, films available in country will be gathered.

5) An authority on medical education and nursing education in the regi or country will be sub-contracted to review infant nutrition components of curricula, and hospital practices.

6) A series of conferences will be held to bring together medical doctors and nurses working in the public and private sector to present information on infant nutrition and feeding practices in the country as well as trends worldwide. The "formula controversy" and its implications for the country's programs will be presented.

7) Technical assistance will be provided to any institution interested in curriculum development in maternal and infant nutrition. Project funds can be used for producing text materials also.

Several USAID missions have already participated in DS/HEA program related to nursing curriculum. There have been other institutional linkages with medical schools through research and other projects in the past also.

Some of the linkages with other components of the MINP package are:

(1) Medical and nursing staff could provide important support to community-level workers in training, and supervision if this subject is covered at all levels in the health sector.

(2) Medical schools in country could be motivated to apply for research funds under Phase II of this project to resolve questions in their countries relating to less understood areas.

(3) They would be better able to deal with formula marketing practices, counterproductive to the infant's health.

(4) Medical professionals could play a key role in policy and legislation affecting maternal nutrition and infant feeding practices, e.g. those relating to extended maternity leave, prescription of formula or bottles and nipples, day-care provisions, etc.

2. Education and Training (see appendix for details on each activity)

1) The contractor will review existing literature on infant feeding and maternal nutrition and develop general guidelines for assessing infant feeding practices and their determinants. It will include speyifying data needs and how to obtain data, and type of analysis necessary.

2) Once a mission or PVO request is received, the Project Manager will sign an agreement authorizing an appropriate level and type of activity for the contractor to undertake in that country. (All PVO requests will be cleared by missions.)

3) Missions/PVOs would identify suitable LDC counterparts and possibilities for obtaining technical assistance from in-country and regional institutions in conjucntion with the contractor, keeping in mind the nature of the work planned. The contractor will continue to backstop these in-country entities throughout the project.

4) The first phase of the project will be data collection from primary and secondary sources dealing with infant feeding

practices and maternal nutritional status, their determinants and projection for the future, specifically for the target area and communities selected for the program. Analysis would be based on anthropological, economic, household expenditure, food beliefs and practices, anthropometric and clinical data.

5) Once a pattern has been established, its trends over time, and the relative importance of various determinants, the contractor could assist counterparts in devising an appropriate education/communication strategy. This would be based on existing communication networks of both media and interpersonal contact. Media needs will be defined as well as the size and nature of training programs necessary.

6) The contractor could assist the missions in identifying suitable programs which have potential.

7) The contractor would be able to help in planning an implementation schedule and evaluation format.

8) Through appropriate sub-contracting processes the contractor would be able to assist missions/PVOs in the implementation of each aspect of the project such as running training workshops, mass media campaigns, or design and printing of text materials for school children. Similarly, evaluation surveys and analysis could be done by the contractor if necessary.

Some countries or PVOs might want to undertake one of the education or training activities alone; others might opt for a combination or the entire range of activities (See Appendix for details of each activity).

In some countries, WHO and UNICEF have already taken major steps in education/sensitization programs in infant feeding and in data collection/analysis to determine infant feeding practices. The contractor could help missions identify areas for possible collaboration and make recommendations for preventing duplication. DS/N will continue to remain in close contact with UNICEF and WHO headquarters informally, and through a consultative group. The contractor will be continuously briefed on developments and future initiatives of the various donor agencies who have also recently resolved to step up their level of effort in the area of infant feeding in LDCs.

The Information Clearing House sub-project of MINP is intended to continually update information on infant feeding and maternal nutrition, and to provide this information to a broad range of program implementers. Training programs and the dissemination of media/materials will be coordinated with the newsletter by expanding readership to institutions involved in training and education activities in the country. Also, materials will be collected from them for inclusion in the newsletter. The Clearing House will act as a repository of training aids and educational materials developed for

inter-country, inter-regional use as appropriate.

The linkage of nutrition education with the Food Supplementation sub-project is an important one. For example, if the analysis of data on feeding practices indicates the need for specially formulated foods for mothers or children (in addition to education), there will be technical assistance available in this field of specialization. Conceivably, a mission could use resources in this sub-project (Nutrition Education Training) very effectively to strengthen the educational component of Title II preschool feeding programs.

IMPLEMENTATION: Two RFPs will be put out for open competitive bidding.

1. Sensitization/Curriculum Design/Training of Medical and Nursing Professionals.

2. Community Level Education and Training

   (i) Comunity-level workers training;

   (ii) School Curriculum and School Teachers Training;

   (iii) Pilot programs in Participatory or Community-based education;

   (iv) Mass Media Campaigns and design and production of educational materials to provide media support for the above interpersonal, intensive type of programs.

Included in each of the community-level efforts will be a base-line assessment of infant feeding practices, determinants and trends. Expertise in this investigative work will be specified in the RFP. It is very likely that Universities and consulting firms will need to cluster together in order to provide expertise in the range of approaches

outlined above. In this way, the project expects to coordinate the different approaches to make them mutually reinforcing and have greater impact. AID/W will maintain this pool of talent for use by missions, who would draw upon them from time to time. Specific contracts will be signed to assist specific LDCs and PVOs whenever a mission requests this activity be undertaken. The request may be for one or more of the activities listed above and may include other sub-projects in the MINP such as Nutritional Supplementation, Research, etc. as well.

By having ready this pool of experienced and skilled technical assistance and/or funds in three or four different areas under one major program, missions can respond more quickly and be flexible in their choice of interventions and specific activities (within the broad guidelines described here) to suit the particular LDC or PVO need. Technical assistance for project design will be available also.

Experts from within the country or within the region will be specially encouraged to fill technical assistance positions. Major contractors will help identify such expertise and will sub-contract in a manner which encourages this arrangement.

FINANCIAL PLAN

	FY 79	FY 80	FY 81	FY 82	Total
I. 1) Field Worker Training	150	130	200	100	580
2) Community Based Education	70	150	65	100	375
3) School Curriculum and Teacher Training	-	120	65	130	325
4) Media and Materials Support	200	100	150	120	570
Sub Total	420	500	480	450	1850
II. Medical and Nursing Professionals Sensitization and Curriculum	-	200	175	125	500

IMPLEMENTATION SCHEDULE

1.	PIO/T Approved	5/25/79
2.	RFP Written	6/1/79
3.	Competitive Bidding RFP published Responses received Evaluation and Selection	8/15/79
4.	Contract Signed	8/20/79
5.	(i) Methodology for analyzing infant feeding practices developed for education/training subproject	10/30/79
	(ii) Preliminary survey of literature and Materials Collection for sensitization, etc. of medical professionals subproject	
	(iii) Identify countries with missions and Regional Bureaus	
6.	Respond to first mission requests	11/15/79
7.	Evaluation and Reports	11/80 11/81 11/82

APPENDIX

Through the Maternal and Infant Nutrition Project, a central pool of technical assistance and funds will be identified and maintained in order to respond to Mission requests at relatively short notice. The following are details of the types of assistance proposed to be provided in the various Education and Training activities.

1. Field Worker Training

In the MINP, community-level workers are viewed as the greatest single resource for bringing about improvements in practices. There is provision to support their work with mass media and other educational materials as well. The following approach is expected to be used in assisting missions. Some may avail of assistance for all the steps listed below, other missions might opt for a few, depending upon similar projects already underway.

1) Missions and PVOs would identify the cadres of field workers who are to be trained. These would be mostly from ongoing programs such as the following:

Village Health Workers

Auxiliary Nurses

Midwives (indigenous and other)

Family Planning Workers

Feeding Programs (Title II or other) staff

Women's Clubs Coordinators

Agriculture Extensionists

Home Economists

School Teachers (If the mission wanted to do the project on school curriculum, school teacher training should ideally be combined with it.)

2) The contractor would assist the mission/PVO in identifying a suitable training institution and experts from the country or region who could provide the technical assistance. There would be a period of orientation for the team including field visits and interviews.

3) Before arriving in the country, the contractor would have collected and reviewed training materials suitable for community-level field workers in the area of infant feeding and maternal nutrition and made preliminary modules by subject and region.

4) Subsequently, existing curricula and materials used for field worker training would be reviewed by the team in country. They would analyze the educational background, skills and knowledge, and job descriptions of cadres to be trained and come up with a training curriculum, a schedule and an assessment of materials necessary.

5) The methodology developed at the beginning of the contract will be used to determine infant feeding practices prevalent. If necessary, additional data collection would be sub-contracted out. In some instances, trainers might be involved in this survey work.

6) Materials preparation and logistical arrangements for training.

7) Training program consisting of training the trainers or leaders first, followed by satellite training dispersed in the different regions of the country.

Course Content

Each session for trainers or leaders would typically run for one week. Each team of trainers will plan satellite training programs at the end of the course, with the assistance of the contractor. The contractor (or sub-contractors) will assist in running these satellite courses as well. Each of these would also be of the same duration as described above. The relative importance given to each subject covered in the course will vary with the type of field worker being trained. The following is a general outline: (i) Self-analysis by field workers of their job description. Relationship with maternal and infant nutrition problems. Community needs as perceived by field workers. (ii) Methods of communication, motivation and participatory involvement of the community for successful behavioral modification, use of educational tools. (iii) Infant feeding practices - public health significance. Major emphasis on skills training - technique of breastfeeding, dealing with problems (changing family structure, urbanization, stress, media). Antagonistic forces in the environment against successful breastfeeding and dealing with these. (iv) Maternal Nutritional Status - public health significance; diagnosis; monitoring; determinants; importance of birth spacing; (v) Other subjects of specific interest for the group. (vi) Work with job descriptions; time allocation to various duties; weekly schedules including home visits, etc.. (vii) For trainers, work up schedule of satellite training program.

Training Techniques: Participatory training, drawing upon the experience of workers and dealing with their own attitudes is extremely important. Skills training in communications in addition to the subject area will be emphasized.

An estimate of costs for these training programs is based on the assumption that 5 to 7 countries/PVOs will request such assistance each year. Each country program is expected to request, on an average, $35,000 to $50,000 per training project. Missions would work out the proportion of total cost and what categories can be covered by counterpart funds e.g., in-country transportation and per diem of participants, rental of training facilities, etc. Some countries may not need external technical assistance, such projects can be funded based on the mission's recommendation and request.

Since this project is of short-duration and therefore catalytic or demonstrative in nature, it is hoped that continuous re-orientation through training will be taken up by LDCs, PVOs, mission and regional projects. The chief objective of the MINP is to conduct a heightened level of activities geared towards maternal and infant nutrition during a four to five year period and then phase-out, leaving behind an increased number and intensity of activities in this area within the longer-term programs.

In the past few years the need for linking up field worker training with mass media programs in order to become mutually reinforcing has been expressed repeatedly. These two elements actually form 75% of the education and training budget of the MINP; it is divided equally between mass media/materials support and field worker training. Missions/PVOs will be encouraged to request for these two elements of the Education/Training package together. In this way, they can be planned together and a high level of consistency in messages, and coordination in implementing them, can be achieved.

Another important linkage is with the newsletter project. Copies of training materials will be available through the Clearing House. Training institutions and key experts who participate in training will be added to the readership of the newsletter.

2. Community-Based Education: Some newer concepts in education and training for community development need to be encouraged and field tested more widely. For example, Freire's "Conscientization" philosophy; other "self-actualization" (Srinivasan's) and participatory or learner-centered approaches; the "Mother-to Mother" approach (LaLeche League) especially relevant to this subject.

Regardless of the particular approach used, the objective of the project should be to promote desirable infant feeding practices and maternal nutrition in a given community. Each would consist of the following types of activities:

1) Community needs assessment
2) Baseline survey of the community to determine nutrition and feeding patterns, trends, key determinants(with maximum involvement of community members).
3) Devise an implementation schedule with the community for the types of services/inputs found to be necessary after the analysis.
4) Run training programs, arrange for other services
5) Monitor effects of the additional or modified program on maternal nutrition and feeding patterns
6) Modify the approach/plan to increase effectiveness - series of mid-point corrections.

7) **Determine cost-effectiveness of the adapted approach and define conditions under which it would be most appropriate.**

Typically, such projects are best implemented by PVOs (local, ternat'onal) or certain departments of universities e.g., Community Medicine/Pediatrics or Rural Extension, who also use them as a training ground for students. A greater degree of flexibility in the use of project resources is possible in this type of activity as compared with field worker training, mass media, school curriculum, etc. A total of $300,000 has been budgeted, assuming on an average $75,000 per project for four countries over a 4-year period. As with all other elements in the MINP, programs for the urban lower income groups will be supported in addition to ones for rural areas.

3. School Curriculum and Teacher Training: Since the project is concerned with practices and attitudes/questions, the importance of working with an "impressionable" group such as primary and secondary school-age children has been stressed.

In general, Missions/PVOs will need a level of awareness and commitment at policy level before any fundamental changes in curriculum can occur. The project has budgetted for LDC counterparts to attend national, regional or international conferences, seminars, etc. on the subject. This could be one way of involving Ministries of Education in the Nutrition area. However, major curriculum changes are not envisioned. The objective is to provide few, well-designed and produced visual aids, on a large scale to primary and secondary schools and support this with school-teacher training.

Such a project would entail the following types of activities: (1) Contractor surveys and reviews relevant materials prior to his arrival in-country; (2) Missions/PVOs in conjunction with the contractor identify local institutions, firms, experts to form the team and brief them; (3) If insufficient data on feeding practices exists, additional surveys would be attempted and analyzed; (4) Modules appropriate for school use (primary and secondary levels) would be designed to suit the needs of the region, i.e. prevalent practices and special problems, using local terminology, local belief patterns, etc. All materials would be field tested and adopted before teacher training commences; (5) Training of school teachers--

same as for field workers (See #1); (6) The contractor would be able to assist in implementing the use of the first few sets of modules; (7) Evaluation - KAP surveys will be conducted on a sample of school children.

Again, linkages with radio, poster and billboard campaigns should be strengthened.

4. Mass Media and Materials Support: This is expected to serve two functions; (1) Support field workers/programs (and medical/nursing sensitizing activities) through reinforcing certain key messages, overlapping spatially to increase the frequency of exposure of the target audience to these messages; (2) To extend the message to a larger population group than the inter-personal type activity can, i.e., increasing the reach of the message. Information from the Study of Infant Formula in this project is expected to increase the information base for planning such projects in the future. We expect to get data on media habits and the most influential and widespread media networks affecting infant feeding decisions.

The following assistance will be available under mass media and materials support:

(1) Analysis of infant feeding practices - trends, determinants and likely influencing variables at the individual, household and community levels. Included will be an in-depth anthropological study in a few selected sites to develop questionnaires and formulate preliminary hypotheses. Epidemiological survey of households on a statistical sample in the education program target area; included in

this will be patterns of breastfeeding and weaning, quantitative food consumption assessments on mothers and infants 6 months to 2 years; social and economic environment; contraceptive use; access to media, media use; food beliefs and practices. This will be based on the methodology developed by the contractor at the outset. It will be referred to a task force of the National Academy of Sciences sub - committee on Maternal and Infant Nutrition and modified suitably. Experts in communications from other sources will be contracted to review methodology also.

All data analysis and interpretation will be conducted under the counterpart LDC agency/institution with technical assistance and funds provided by the contractor through sub-contracts.

This survey activity, as well as similar investigative work has been budgeted under every component of the Education/Training subproject. Very little is actually known about trends in infant feeding practices and what their public health significance is. The Infant Formula Controversy has escalated in part due to the absence of such information from LDCs. (It is hoped that during the course of the MINP, infant feeding practices become incorporated into longer-term monitoring/surveillance programs so that trends in infant feeding practices which are known to have deleterious effects can be identified and malnutrition forestalled in the early stages.) Also, past experience has shown mass media projects to be ineffective largely due to inadequate emphasis on this investigative phase of project design.

(2) Media/Materials Design and Testing--The contractor will assist collaborating agencies in locating and training (if necessary) experts in media and materials design and development. This will include careful field tests and adapting basic materials, messages and media scheduling to accommodate regional and urban/rural differences.

(3) The contractor would identify and sub-contract for production and delivery of materials up to the point of broadcast.

(4) The first several rounds of media broadcasts, postings, etc. would be monitored with the assistance of the contractor. This will allow further correction/modifications in implementation and feedback channels.

(5) Evaluation will be conducted through KAP surveys at pre-determined intervals in each project.

As described in the preceding three activities, mass media/materials support projects (including data analysis and interpretation) will be conducted through in-country agencies and personnel as much as possible, employing sub-contractual or grant arrangements, if necessary, to get the job done. The contractor would assist the counterpart in selecting personnel/institutions, sub-contract with them and depute them to the counterpart agency.

Survey and investigative work, while thought to be critical for program effectiveness, will be carefully limited to the amount necessary for a confident judgment to be made about practices, trends and determinants. The need to proceed with education/training activities is recognized, especially if the mission/PVO has already identified regions with high malnutrition rates for the program. If such regions are identified, the data collection could simply focus on the most critical set of feeding and health practices--on identifying them,

and variables associated with them.

Types of programs which could be supported with mass media and educational materials include:

1) Rural Health-Village-level Health Worker Programs, Auxiliary Nurses, and Midwives in medical posts.
2) Family Planning.
3) Agricultural Extension.
4) Title II and Other Food Distribution Programs.
5) Women's Clubs and Community Development.
6) Primary and Secondary Education .
7) Urban and mother-to-mother programs and other types of "community-based programs."

Types of media/materials would include: posters, billboards, growth charts, radio, audio cassettes, film, newspaper and magazine articles and ads, others.

Another major category that needs media and materials support is sfnsitization of medical and nursing professionals. This might be through journal and newspaper ads, etc.

The level of requests for this activity if likely to vary a great deal from country to country. An average figure of $75,000 would allow 7 to 8 countries/PVO requests to be accommodated over the four years. Some programs may simply need copies of growth charts in the local language, or a set of posters to be reprinted. This type of activity can be funded under this project; they must be addressed to infant feeding practices and maternal nutrition.

PROPOSED BUDGET

	Tech. Asst., Travel	Training Workshops Conferences	Ed. Mat'ls. Equipment	Surveys, Analysis	Total
1. Field Worker Train.	140	185	125	130	580
2. Community-Based Education	125	60	95	95	375
3. School Curriculum, Teaching	125	75	75	50	325
4. Media and Materials Support	145	-	175	250	570
Total $	535	320	470	525	1850

Note: Line items are intended to assist largely in covering in-country costs, as determined by USAID Missions and PVOs.

The only global activity is developing a survey methodology budgetted under 'surveys, analysis.'

LOGICAL FRAMEWORK

From FY 79 to FY 82
Total U.S. Funding $4,770,000
Date Prepared 9/12/79

Project Title & Number: Changing Maternal/Diet Practices - 931-1010

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Program or Sector Goal: The broader objective to which this project contributes: 1) To improve the nutritional status of preschool children, pregnant and nursing women especially in low-income groups in LDCs; 2) To increase nutrient consumption in children under 2 years of age, pregnant and nursing women.	Measures of Goal Achievement: 1) Reduction in: a. Infant mortality rates (under 12 months); b. Child mortality rates (1 to 5 years); c. Percentage of low birth weight births; d. Incidence of stunting and wasting in children under 5 years of age; e. Incidence of anemia in children under 5 years, and pregnant and nursing women. 2) Increased consumption of calories, protein, iron and Vitamin A by target groups.	1a) Record of deaths per 100,000 live births; 1b) Record of deaths per 100,000 pop. in this age group; 1c) Survey of weighing newborns in target areas; 1d)(e) on a statistical sample of target pop. regarding weight for height, and height for age of children under 5 yrs.; 1e) Hemoglobin estimations on blood samples of statistically sampled pop. of target groups. 2) Quantitative estimations of nutrient intakes through household dietary (See attached Continuation Sheet)	Assumptions for achieving goal targets: 1) The advantages of increased maternal consumption will not be completely offset by inadequate nutritional utilization in target groups due to infection/disease resulting from poor water supply, hygiene and sanitation and inadequate health services. 2) Projects will operate at a level of efficiency that guarantees the minimum level of inputs (educ, health services). (See attached Continuation Sheet)
Project Purpose: 1) Improve and expand LDC programs which promote the following set of practices: a) Full breastfeeding of infants for the first four to six months of life. Incorporate into health outreach programs mechanisms for providing special health protection to infants who are not breastfed in the first 4 to 6 months of life. b) Introduction of significant nutrient supplementation through hygienically prepared and fed semi-solid foods starting from four to six months of (See attached Continuation Sheet)	Conditions that will indicate purpose has been achieved: End of project status: 1) Incremental percentage of target pop. which follow desired practices a,b,& c as a result of the program (in project countries). 2) Availability of accurate information at implementation levels (administrators, policy-workers, technicians in LDCs) regarding infant feeding and maternal nutrition.	1) Knowledge, attitude, practices (KAP) surveys in project countries of target groups (low income families in rural and urban areas) regarding infant feeding practices and maternal nutrition mentioned in Project Purpose, i.e. prevalence of full breastfeeding in the infant 4 to 6 months of age, introduction of adequate semi-solid supplements at 4 to 6 months of age, etc. 2) KAP surveys at implementation levels regarding programs (See attached Continuation Sheet)	Assumptions for achieving purpose: 1) Consistency among major donor agencies regarding infant feeding and related issues e.g., use of infant formula, legislative/policy requirements necessary to support these. Coordination among agencies at country level to avoid duplication and rivalry. 2) Level of inputs in each project country would be the minimum necessary, provided (See attached Continuation Sheet)
Outputs: Sensitization of Health Sector (1) Conferences held (doctors, nurses) - - - (2) Education materials developed for medical and nursing schools - - - - - - - - - - Other Education/Training (1) Field workers trained - - - - - - - - - (2) Cost-effective approaches to Community education developed through pilot projs.- (3) School-level education materials produced and school teachers trained - - - - (4) Mass media campaigns; Providing other educational materials; (5) Reports - - - - - -	Magnitude of Outputs: - 5 to 7 projects - 5 to 7 projects - 5 to 7 projects - 4 projects - 6 projects PHC-3 to 4 projects; PHI-5 to 6 projs. - from each project.	Reports from contractors, USAID mission, and PVO (if any is involved). Site visits	Assumptions for achieving outputs: Resources availability. LDC/PVO requests AID/W assistance for such projects.
Inputs: 1) Sensitization of Health Sector Total $500,000 . Technical Assistance and Travel 345,000 . Workshops & Meeting costs 90,000 . Production costs of text materials 60,000 . Report 5,000	Implementation Target (Type & Quantity) Assistance to countries will begin 10/79. Requests from missions will determine implementation in each country.	Country reports from contractors, missions and PVOs. Site visits	Assumptions for providing inputs: Resources available. Availability of expertise through competitive bidding to fulfill mission requests.

NARRATIVE SUMMARY Continued	OBJECTIVELY VERIFIABLE INDICATOR:	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
		expenditure surveys. Data should be specific for preschoolers and mothers, taking into consideration intra-family food dispersion.	motivation by community workers, etc.) for the minimum period of time (without major interruptions) and covering a large enough target population which is necessary to bring about the desired change in nutrition and health status.
age and increasing consistently to keep up with the infants' growth requirements (for infants who cannot be breastfed, determine alternatives to breastmilk which are practical, safe and adequate.). c)Adequate consumption of nutrients by women especially during pregnancy and during lactation. Increase supply and utilization of health and family planning services for and by women respectively. 2) Increase the understanding and awareness of policy-makers, technicians, programmers in donor agencies, GO's, in the subject.		and policies desirable for bringing about improved nutritional status of young children(specifically through improved infant feeding practices) and of mothers.	without interruption and for a long enough period of time to bring about the desired change in infant feeding practices and in maternal dietary and health practices.
Inputs Cont'd: 2) Field Workers Training Total $500,000 . Technical Assistance, Travel 140,000 . Training 185,000 . Materials & Equipment 125,000 . Surveys, Analysis 110,000 3) Community-Based Education 375,000 . Technical Assistance 125,000 . Training 60,000 . Materials & Equipment 125,000 . Surveys, Analysis, Report 130,000 4) School Education 325,000 . Technical Assistance 125,000 . Training 75,000 . Materials, Equipment 75,000 . Surveys, Analysis 50,000 5) Med's, etc. Total $570,000 . Technical Assistance 145,000 . Materials, Equipment 175,000 . Surveys, Analysis 250,000	Implementation Target (Type & Quantity Assistance to countries will begin 9/79. Requests from Missions will determine implementation in country. Assistance to countries will begin 9/79. Requests from Missions will determine implementation in country. Assistance to countries will begin 9/79. Requests from Missions will determine implementation in country. Assistance to countries will begin 9/79. Requests from Missions will determine implementation in country.		

Estimated Budget - Phase I
($ '000)

PROGRAMS	FY 79	FY 80	FY 81	FY 82	Total
1. Consultative Group and Consultations	30	30	30	130	220
2. Information Clearing House	180	-	180	-	360
3. Infant Formula Study	582	-	-	-	582
4. Education and Training					
a. Medical and Nursing Training and Sensitization	-	248	175	125	548
b. (i) Media and Materials Support (ii) Community Education Pilot Programs (iii) Health and Other Community Worker Training (iv) School Curriculum and Teacher Training	420	500	480	450	1850
Total	1212	778	865	705	3560

C. Evaluation

The project is of a supportive nature, providing additional resources to ongoing programs or bolstering awareness/policy changes, and knowledge through applied research. Although the components are aimed at bringing about improved nutritional status, it would be contrived to try and determine that portion of change in nutritional status which can be attributed to this project's resources alone. The length of time required for any nutritional status change to become measurable using existing acceptable indicators, is also a constraint in attempting to evaluate goal achievement during the life of the project. What can be proposed is an assessment of improvement in birth weights, growth rates and mortality/morbidity rates using survey and surveillance activities proposed in longer-term projects, continuing the assessment up to at least five years beyond the life of this project. DS/N has undertaken national nutrition surveys recently, which could provide some of the baseline. Several mission programs in nutrition are also collecting similar data which can be used as a baseline.

In the shorter term, this project will be evaluated for each of the components through progress reports, contract completion reports, and papers prepared for working conferences such as the annual report to the Consultative Group, minutes of meetings and conferences. Indicators for each subproject are described below. The targets to be achieved in numbers of units changed as a result of each activity are expected to be determined at the initiation of each activity.

1. Consultative Activities: Number of meetings; representatives of regions, types of agencies who attend and contribute to meetings; and Nature of action taken as shown by minutes of meetings.

2. Information Clearing House: Timeliness and quality of newsletter; Utility to LDCs of information disseminated as evidenced by LDC response.

3. Infant Formula Study:

Design of study when conducted according to plan; Reaction of LDCs to study findings as presented; and Changes in practices in LDCs attributed to studies.

4. Education, Health and Family Planning Program:
(a) Numbers of people reached through mass media and interpersonal education programs in this project. In the intensive, pilot phases of the subprojects--an evaluation of behavioral change in terms of numbers of women breastfeeding; introduction of semi-solids at 4 - 6 months of age and increased nutrient intakes among pregnant and nursing women; (b) changes in types, intensity and frequency of health and family planning services in ongoing programs affected by this project; (c) Numbers of community level workers and their supervisors trained in maternal-infant nutrition and health; and (d) School and Medical/Nursing Curricula changed to include nutrition and health of mothers and young infants.

5. Nutritional Supplements
FFP Programs
Number of programs and FFP beneficiaries reached with additional education materials provided by this project. In pilot programs, behavioral change in terms of mothers breastfeeding, increased nutrient intakes of mothers and children 6 - 24 months of age, as compared with control groups.

Weaning/Processed Foods
Number of countries or programs affected. Numbers of beneficiaries.

6. Applied Research
Effect of the findings on, and their use in program designs, and changes in the type of services offered to beneficiary groups through long term programs as a result of this research.

PART IV. PROJECT ANALYSIS

A. Technical Analysis

The technical analyses show that (a) breastfeeding is a key factor in ensuring the survival of infants in under-privileged sections of the population. This is possible through the anti-infective properties of breast milk; the contamination and dilution through improper usage of breast milk substitutes may be at least as significant; (b) the psycho-social environment of the mother is critical for successful lactation; and (c) breast-feeding plays an important contraceptive role in developing countries.

From a global perspective, it appears that while a decline in breastfeeding has started to occur in conjunction with increasing urbanization, the problem of delayed introduction of semi-solids in the breastfed infant's diet still remains more widespread, affecting a larger proportion of the population which is rural.

For health and nutrition it is highly desirable for the infant to be fully (exclusively) breastfed for the first four to six months of life with the addition of nutritional supplements starting from four to six months of age. The mother's nutritional status is crucial for ensuring the health of the newborn and also for establishing and sustaining lactation.

The mix of strategies or policies which can encourage this pattern of infant feeding and adequate maternal nutrition would need to be tailored to the varied social, cultural and economic patterns of life found in low-income urban and rural populations worldwide. Programs would have to be based on a better understanding of these interrelationships and call for a strengthening of the project development phase of such programs including provision for more careful consideration of factors which determine maternal-infant dietary and health practices.

1. Breastfeeding and Infant Morbidity, Mortality

Wray (1978) has reviewed studies conducted on infant mortality and type of infant feeding practices used. These studies reveal that evidence of the strong relationship between early cessation of breastfeeding and increased morbidity and mortality came initially from European studies in the early 1900's which showed that breastfeeding significantly increased an infant's chances of survival (See Figure 1 and Table 1). At the turn of

the century it was shown that the frequency of diarrheal deaths in British infants fed cow's milk was six times that of the ones fed human milk (Ebrahim, 1978). In 1951 a study of mortality and morbidity in 3,266 British infants showed that both were lowest in breast-fed infants, highest in those who were bottle-fed and intermediate in those who were partly breast-fed. A similar study was carried out in Chile

during 1969-70 when 1,712 rural mothers were interviewed to assess the effects of feeding practices on the health of the infant. It was revealed that when bottle feeding commenced before the age of 3 months the mortality was three times that of breastfed babies (Figure 2).

Further, the difference in mortality rates between breastfed and non-breastfed infants which was so striking until the early 1940's in Europe and the U.S. became less significant in the 1950's.

Morbidity rates (incidence/prevalence of disease) for all disease categories studied were higher in artificially fed babies but did not differ as greatly as did mortality rates in breastfed versus non-breastfed infants.

The mechanism whereby breastfeeding protects the infant from serious illness and death in a precarious environment is not fully understood. There is a need for separating out the effects of anti-infective agents present in breastmilk from the effects of over-diluted and/or pathogen-containing artificial feeds, in this phenomenon. The type or nature of the supplementary food may also be an important factor.

The study conducted by the Children's Bureau, U.S. Department of Labor in the early 1920's in eight American cities showed clearly the negative effects of early artificial feeding (Figure 3), and more importantly, demonstrated that the exclusively breastfed child had lost his/her "survival advantage" by the eighth month, indicating the inadequacy of breastmilk alone in fulfilling the nutritional requirements of the infant in the second half of the first year.

Evidence for the health advantages of breast-feeding in present-day circumstances in developing countries has not been compiled as systematically, but there are strong indications from the PAHO study (1973) of morbidity and mortality in childhood and from the Khanna study in the Punjab (1971) that there is a similar advantage for breastfed over bottle-fed babies. The risks from bottle feeding in the developing world is about the same as that 50 to 100 years ago in the developed countries. During that time

the relative risks of mortality for the bottle-fed as compared to the breast-fed in different localities generally varied between 2 to 1 and 10 to 1 (Table 1).

Despite the emphasis of research attention on past trends in developed countries and current patterns in developing countries, evidence does exist suggesting that there is still a significant health-promoting effect of breast-feeding, even where sanitation and education levels are high (Winikoff, 1978).

A study conducted in upstate New York in 1974 and 1975 by Cunningham (ibid.) showed that breast-feeding was associated with significantly less illness during the first year of life, especially when such feeding continued beyond 4.5 months of age. In more than 13,000 patient-weeks of experience, less illness occured among breast-fed babies in every disease category measured. There were significantly fewer hospital admissions among breast-fed infants, and an extremely wide difference in total episodes of illness between the bottle- and breast-fed babies. However, the conclusion drawn by the authors of this study has been questioned, i.e., that the health advantages of breast-feeding were independent of socioeconomic status.

2. Anti-Infective Properties of Breastmilk

The epidemiological studies showing improved nutrition, health and survival among breastfed babies is supported by laboratory evidence of the immunological, nutritional, biochemical and anti-allergenic properties of breastmilk. As refined analytical methods become available, more and more different types of immunological factors are found in breastmilk. Not only are the immune factors in the mother's blood transferred through breast-milk to the child, but cells found in the mammary glands synthesize them and transform these factors into active anti-infective agents. Many types of immunoglobulins (a special family of anti-infective protein anti-bodies) e.g. IgA, IgM, IgD and IgG have been found in colostrum and mature milk. Of these, IgA is in the largest amount and plays an important biologic function. The concentration of IgA is high in colostrum and decreases in the transitional and mature milk, but the total quantity secreted remains the same as the output of milk increases (Ebrahim, 1978).

Breastmilk contains antibodies against many organisms, both viral and bacterial. In various studies anti-bodies have been demonstrated against tetanus, H. pertussis (whooping cough), D. pneumoniae (respiratory disease), Shigella (diarrheal disease) and E-coli (diarrheal disease), as well as against polio and Coxsackie virus.

The biological mechanism which makes breastmilk an ideal protection for infants against disease is exceedingly responsive to the changes in the types of disease-causing organisms in the environment. Recent studies have demonstrated that when the mother is exposed to an unusual type of E-coli (a family of common childhood-diarrhea causing organisms), within a week the breastmilk contained antibodies against the same type of E-coli. It was found that the IgA-producing cells in milk come originally from lymphocytes in the mother's gut. They travel to the breast, are excreted in the milk, are ingested by the baby and protect the baby's gastrointestinal tract against the same new organism which was detected by the mother's system as being present in their enviroment (Winikoff, 1978). Such a precise feedback security system is difficult to visualize being provided by any manufactured food product.

Other types of anti-infective agents which are found in breastmilk are C_3 and C_4 components of 'complement' and "lysozyme." The former is activated by IgA of breastmilk, allowing it to become effective in bacterial cell-destruction. Lysozyme aids the antibodies carried in IgA and complement in their action.

An iron-binding protein in breastmilk, lactoferrin is known to inhibit the growth of E-coli in the gut of the newborn. E-coli requires ferric iron for growth and by binding this ferric iron, lactoferrin deprives E-coli of its essential growth element. Other immune factors in breastmilk e.g., bifidus factor and the relatively high lactose, low phosphate, low protein content of breastmilk encourages the growth of lactobacilli (a harmless organism), preventing E-coli growth until such time that the baby has developed its own immunity. The E-coli harbored in the gut of the artificially fed baby constitute a reservoir of potential pathogens.

It is a biological fact that the synthesis and secretion

of the main constituents of milk by certain cells of the breast are under the influence of the genetic information carried in the cell nucleus and are specific to the species, and may even be specific to each mother-child pair. Despite advances in technological engineering of animal milk, artificial feeding carries great risk, especially for the child in rural or recently urbanized or poor urban areas in developing countries.

However, the anti-infective agents present in breastmilk are only one half of the issue. Through incorrect usage, and unavailability of safe water, bottle feeds are likely to be highly contaminated and diluted as well. As Wray (1978) notes, "Bottle feeds are in places, profoundly deficient in nutrients. ... bottle-fed babies were and are often grossly undernourished, and ... nutrition *per se* must be accepted as a factor as powerful as all the others in affecting mortality." To what degree are contamination and dilution the real etiological factors in the high mortality and morbidity of bottle-fed babies? There are no studies on this.

3. Patterns of Infant Feeding

In general terms, four main patterns of infant feeding can be differentiated in the modern world in relation to lactation and weaning (Jelliffe et al, 1975):

a. traditional, pre-industrial (total breast-feeder).

b. recently urbanized or poor urban (emerging bottle-feeder).

c. urban educated well-to-do (elite bottle-feeder).

d. naturalist urban educated (neo-elite breast-feeder).

(a) Traditional, pre-industrial (total breast-feeder)

Breast feeding is the norm and is prolonged for one to three years or more. Feedings are on demand, including the night, when the baby sleeps by the mother's side.

Foods (of any nutritional significance) other than breast milk ("transitional" or weaning diet) are usually introduced relatively late. Where other foods are started early (in the first 4 months), they tend to be bouillione, gruel, or pastes or paps made of diluted or pounded, largely carbohydrate staples, or tea, crackers, etc. While they

do not contribute to calorie-protein intake, they are a source of contamination and gastrointestinal trauma in the young infant. Foods of good nutritional qualtiy are given customarily only "when the child starts walking", or "asking for food", or "reaching out for it", or "crawling or walking" (between 12 to 24 months). Then too, no special food, as such, is given to the child. The adult foods are often given without modification of texture, content or taste. The family's meal pattern, usually made up of one main and one subsidiary meal continues to be followed by the young child as well. The main reason cited for taking the child off the breast is the mother's next pregnancy or birth of the next child.

This pattern turns out to be out-of-phase with some basic physiological processes e.g., (1) the special nutrient needs of a rapidly growing and differentiating organism begins to exceed the nutrients present in breastmilk at around 4-5 months; (2) plateauing and decline in the output of breastmilk beyond six months; (3) limited capacity of the young child's stomach so that sufficient quantities of traditional adult foods (having a high bulk-to-nutrient ratio), which are necessary to fulfill the child's nutritional requirements, cannot be accommodated in one or even two meals without drastic changes in nutrient concentration; (4) inability of the child who is used to ingesting only liquids by sucking a nipple to suddenly begin biting, chewing and swallowing solid food.

Such incompatibilities between physiological needs and traditional practices are thought to create caloric deficits of around 25% in 6 to 12 month old children and up to 50% in 12 to 24 month olds. Deficiencies of other nutrients in the diet are at least as great. This type of weaning behavior and its characteristic manifestation of peak levels of marasmus and marasmic kwashiorkor in the 12 to 24 month age group is well-documented and appears to be widespread in rural areas of all regions.

(b) Recently urbanized or poor Urban (emerging bottle-feeder)

By contrast, in urbanized communities, including shanty towns and slums all over the world, there appears to be a decline in the duration and in some cases the initiation of full breast feeding. Full breast feeding is often only undertaken for a short period of time, if at all, frequently

for only a few weeks or months. This is usually followed by "mixed milk feeding" - in which breast feeding and other feeds including bottle feeding are both employed.

Bottle-feeding often takes the form of fresh, dried or canned animal milk, over-diluted with contaminated water or watery teas given through unsterile bottles.

The dilution begins a slow process of semi-starvation visible only later. Meanwhile, once the immune mechanisms are affected by malnutrition together with less protection given by anti-infective agents in breast-milk, the excessive load of pathogens generate repeated cycles of infective diarrhea and severe malnutrition. Though less well-documented, a negative effect on breast-milk output is attributed to the satiated child not sucking the breast with sufficient vigor and the breast being offered and emptied less frequently. Both suckling vigor and emptying are necessary stimuli for sustaining lactation (and lactation infertility).

In some areas of the world, processed infant weaning foods in jars or cans have begun to make an impact on the diets of children. While convenient and statusful, they usually have a high cost/nutrient value and cannot be used effectively, as they are beyond the means of poor families.

(c) Urban educated well-to-do- (elite bottle-feeder)
This has been the pattern in most of the Western world for the past two decades or so, and among the usually very small Westernized elite in developing countries. Breast feeding is carried out by a small, but varying minority. Bottle feeding with cow's milk-based formula has become the norm, either from birth or from a few weeks after birth.

The trend, especially in the U.S.A., has been from the use of evaporated or powdered milks to convenient, but costly, "ready-to-feed" liquid formulas. Likewise, the detailed composition of such formulas has been considerably modified in recent years, partly in attempts to emulate human milk, partly to add additional vitamins and minerals, and partly for economy. The final result may be surprisingly different from the original cow's milk.

Likewise, there has been a move from the preparation of home-made infant weaning foods towards commercial processed infant foods of high convenience. For various reasons, including pressure of advertising and lack of nutritional knowledge, these processed infant foods have become used earlier, so that it is common for them to be introduced in the first few weeks of life.

(d) Naturalist, urban, educated (neo-elite breast-feeder)

Partly in response to the overall striving for "naturalism," an increasing percentage of more educated women in Western countries, including the U.S.A., Australia, Norway and the U.K., are becoming actively concerned with promoting breast feeding as an important aspect of mothering.

The pattern usually advocated is breast-feeding alone for four to six months, with the introduction of semi-solids thereafter, especially in the form of home prepared food mixtures ("multimixes"). Breast-feeding is advocated for one year or more.

It is with the first two types, i.e., traditional, pre-industrialized and the recently urbanized or poor urban that this project is most concerned.

4. Factors Influencing Breastfeeding and Weaning Practices

This subject has not been researched very well. However, some tentative extrapolations can be made from existing information. These are best discussed within the two types of cultural scenarios described previously.

(a) Traditional, pre-industrialized communities

The problem consists of delayed introduction of semi-solids of substantial nutritional value into the diet of the breast-fed child. This is one of the key variables associated with severe forms of protein calorie malnutrition (PCM) in large parts of the developing world. The process of transferring the exclusively breastfed child to eating adult-type foods (often referred to as "beikosting"), is of critical importance in determining whether the child in its most critical formative years will make it through to age 3 without nutritional trauma and free from its effects.

There is no definitive research on the subject of why traditional communities are unable to respond with a better set of weaning practices. The following factors need to be examined carefully before an effective strategy can be developed, aimed at modifying this behavior.

(1) The perception of the mother, father, grandmothers, and other advisors to the mother on the subject of infant feeding, regarding the nutritional needs of children from 6 to 36 months and types and quantities of food necessary to fulfill them.

(2) Income and time constraints in preparing and feeding special weaning foods that are different from the normal family diet.

(3) Advice and influence of medical/paramedical professionals, and indigenous practitioners including midwives, and their perception of nutrient needs during 6 to 36 months of age.

(4) Identification of commodities in various regions which have a potential as suitable weaning foods for children in the 6 to 24 month age group--their availability (purchased, subsidized or free distribution), cost to the family, pre-requisites for obtaining them, food preparation facilities necessary to utilize them, etc.

(5) Gastrointestinal trauma resulting from the drastic change of adding non-milk products to the diet of young infants. Ability to handle its clinical manifestations such as diarrhea, in the home.

(b) Recently Urbanized, Poor Urban Communities

The problem is that fewer women are taking up breastfeeding and the duration of lactation in those who do is becoming shorter. A number of factors are associated with these changes: stress of urban life, social class, influence of health professionals, educational level of mother or father, advertising of and access to formula seeking improved status, women's embarassment at exposing the breast, lack of support system for the mother, need for mother to work outside the home, too great a work load within the home, poor social policy legislation, lack of desire to breast feed, loss of power in society of traditional institutions such as the extended family

and religious symbolism which supported breastfeeding, etc.

Customarily, the young pregnant woman would return to her parents' home for the delivery of her first child, where she would learn, among other things, successful breastfeeding from most trusted and experienced advisors--her mother and other women in the family. These traditions are breaking down. According to Raphael (1966), the traditional female assistant, frequently referred to as "doula," is critical to establishing successful lactation especially in the first-time mother.

Berg describes the reasons for the tendency towards a decline in breastfeeding (1973):

> "Among the tensions in a changing environment is the mother's anxiety about her capacity to breast feed. Her failure to initiate or to continue breast feeding is rarely traced to a physical cause but often to psycho-physiological causes that interfere with the key "let-down reflex.

Changing social attitudes regarding the body reinforce the trend. Some women fear that breast feeding will ruin the shape of their breasts, a crucial concern in the increasing number of societies that emphasize their role in sexual attractiveness. In parts of Africa, where less than a generation ago women rarely wore upper garments, photographs of bare-bosomed women are now banned. Nursing in public, a common sight a decade ago in most parts of the developing world, is rapidly disappearing, as the modesty accompanying the changes in attitude grows.

Convenience also is a factor in the abandonment of breast feeding. Women no longer bound by tradition, and now enabled by the changing pattern of home life to take advantage of an increasing number of diversions, have turned to artificial feeding to free themselves from the constraints of motherhood. Although this is especially true of those who wish to join the organized work force, they are only a small part of the women who have abandoned breast feeding.

For many women, improved communication has brought knowledge of the alternatives to breast feeding. A leading Latin American nutritionist reports an immediate decrease in breast feeding as the unsophisticated Chilean mother learns of the existence of infant formulas via

alluring advertising claims. In some countries, aggressive sales promotion tactics persuade the new mother to succumb to the blandishments of the processed food companies.

The easy availability of free skim milk through institutional feeding programs also has been blamed for the wholesale defections from breast feeding. Distribution of free powdered milk--including that sponsored by the National Health Service--has been cited as being partly responsible for the radical decline of breast feeding among Chilean mothers."

Role of the Infant Formula Industry

It is claimed by some that the infant formula industry has used aggressive sales promotion to capture markets in LDCs. A wide variety of promotional techniques have been cited. Advertising is channelled through various media aimed at the general public, retailers, health professionals, and pregnant women or new mothers.

Promotion of infant foods to health professionals tends to follow the same channels as drug promotions. Direct mail promotion, advertising in professional journals and hiring salesmen to visit doctors personally are used (the "health professional" includes pediatrician, doctors, pharmacists, district nurses, midwives and other paraprofessionals). Free samples are given to doctors as well as "educational" posters, calendars and infant care and feeding literature. Some companies publish "baby books" which contain advertisements for breastmilk substitutes.

Perhaps the most controversial promotional technique involves the actual hiring of health professionals. They visit hospitals, dispensaries and homes giving advice to mothers on how to take care of their babies and how to "correctly" feed them. These milk nurses or "mother craft personnel" are used by infant food companies in various parts of the third world. Nearly all distribute free samples.

There is no question that there are many cases overseas where such practices have been employed and where the health and well-being of young children have been affected. This is due to the fact that low-income families often must pay disproportionately high prices for the products; such

products, because they are so expensive, are often over-diluted, thus providing inadequate nutrition for the child; poor sanitary practices and contaminated water in baby bottles and nipples lead to infection; and misinformed mothers deprive their children of perfectly adequate breast milk in favor of products which are less satisfactory and more costly. There is, however, little objective evidence on (a) how widespread such practices may actually be, and (b) what other type of substitute these mothers might use if processed milk preparations were not available.

Many of the companies which sell formula have begun to take measures to elimate undesirable marketing practices. A number of companies have combined to create an International Council of Infant Food Industries (ICIFI) and appear to be trying to improve industry sales practices. They have created a code of ethics to govern the marketing of their products. Some other companies have not joined this Council but have created their own marketing codes which in some instances are even more stringent. If the marketing codes are very vigorously enforced, there will likely be some improvement in marketing practices in developing countries and probably a gradual decrease in the currently escalating criticism of the formula industries. Many of the public interest groups are, however, skeptical that the companies really mean to follow through, and they are, therefore, continuing to bring pressure on the companies by generating increased public awareness and concern.

Another point of controversy is the promotion to health professionals. Critics of the industry fead that free samples given away by doctors and nurses may act as strong endorsement for artificial feeding. They maintain that education of medical professionals should be done by more objective authorities.

Two points need to be clarified in any discussion regarding the breastfeeding-infant formula controversy. These are:

(1) Studies from which mortality and morbidity data is most often extracted to demonstrate the advantages of breastfeeding over artificial feeding have not specified what was in the bottle. Several public health workers (and formula industry spokesmen) have pointed out that these are often products other than

proprietary infant formulas, and include sugar water, herb teas, starchy cereal-based drinks, diluted sweetened condensed milk, etc. Of course, the concept of bottlefeeding as an acceptable and statusful alternative to breastfeeding has been promoted most vigorously by the proprietary infant formula industry. Future studies on the determinants and effects of infant feeding behavior should take these factors into consideration.

(2) Several studies on infant malnutrition and its relation to infant feeding behavior have pointed out that infant mortality and childhood malnutrition is often greatest in those communities which also have the highest prevalence of breastfeeding. The answer to this paradox may not be "because" but "despite" - that if infants were not fully breastfed in the first 4 to 6 months of life, the mortality and malnutrition rates may have been even higher.

Severe malnutrition and infant mortality are by no means solely a function of infant feeding practices - these conditions are found repeatedly among totally breastfed populations of infants.

In order to have a good basis for the formulation of public policy and programs in this area, it will be necessary to collect better information than is currently available on the nature of marketing practices, the nature and incidence of formula use by low income families, and the degree to which such use may be a factor in infant malnutrition. Any programs that develop as a consequence, will have to consider that maternal and infant dietary practices will be conditioned both by necessity as well as choice and that choice may not be solely a function of what is best for the infant's health. While programs may strive to provide people with the best knowledge available regarding nutrition needs and the best means of meeting these needs, it is the prerogative of mothers (and those around her) to make a voluntary choice of how and what to feed her child.

Effect of Maternal Nutrition on Lactation

This area needs further study. Wray (1978) has summarized current information in this subject. Part of the problem has been the methodological difficulties in measuring breast-milk output which is easily affected by physical and psychological factors in a study situation. The following are salient features of the interaction between the mothers nutritional state and her ability to breastfeed:

-- There is a correlation between the mother's stores of body fat and the quantity and quality of milk produced; improvements in the maternal diet can increase milk output quantitatively, but the changes in protein, fat and carbohydrate content are not equally clear cut;

-- The daily output or volume (ml per day) of breast milk is more sensitive to maternal calorie-protein nutriture than is quality (concentration of protein, fats, carbohydrates);

-- Among the vitamins, thiamine, B_{12}, folic acid and vitamin A status in mothers has a significant effect on the nutriture of the breastfed infant;

-- The total length of the lactation period or duration, is influenced by maternal nutritional status, specifically by pregnancy weight gain and post partum weight loss;

-- Maternal nutritional status may be determined as much by pre-pregnancy (adolescent and childhood) diet and health-care as it is by nutrition during pregnancy.

5. Dietary Practices of Pregnant and Lactating Women and Their Determinants

An adequate maternal diet should provide sufficient nutrients to maintain mother and fetus in good health, to support an adequate flow of breastmilk without detriment to maternal nutritional reserves, and to maintain maternal health between pregnancies. A diet adequate for non-pregnant women must be increased by 17% during pregnancy and 20-25% during lactation to satisfy the increased requirements for calories and other nutrients especially for calcium, protein, ascorbic acid, folate and B_{12}. How much more the chronically mal-nourished woman would need during pregnancy in order to account for deficient reserves and to forestall functional impairment during pregnancy cannot be generalized.

Studies on the actual intakes of pregnant and lactating women in LDCs, with the exception of a few, show that maternal diets are grossly inadequate and could not fulfill the requirements even of the non-pregnant woman. Maternal dietary practices of interest to us, can be categorized in the same way as infant feeding patterns: (a) Traditional, pre-industrial communities, and (b) recently urbanized, poor urban communities.

(a) Traditional, pre-industrial communities

Marriage takes place early with the first pregnancy occuring within the first two years after marriage. The mother-in-law (in extended families) has a strong influence on what is eaten during pregnancy. The mother of the woman assumes an important role if the custom is to go to her parents home for delivery--which is common at least for the first child.

The type and quantity of food consumed appear to be greatly influenced by traditional beliefs regarding these physiological states and special properties attributed to some foods. For example, some indigenous schools of medicine discourage the excessive consumption of "heat producing foods" during pregnancy because it can cause bleeding and "cold-producing foods" during lactation to prevent respiratory problems in the child. The pregnant woman is cautioned against excessive weight-gain for fear that the larger fetus will be more difficult to deliver; a rational fear where there are limited medical facilities and supervision. In some tribes and communities, though, there are fewer restrictions on the pregnant woman's diet (Gopaldas et al., 1975) and in fact, high calorie-protein foods are encouraged among high-

income rural communities to "fatten up" the mother in preparation for breastfeeding.

The post-partum period--typically up to 40 days after delivery has a special significance. In addition to high calorie-protein foods (cereal, milkfat, nuts and oilseeds etc.), special foods considered to be "galactogogues" (facilitating lactation) such as garlic, ginger, milk, teas are encouraged. Pregnant and nursing women in agrarian societies continue to carry their normal work-load, participating in sowing, transplanting, harvesting, etc. except for very short periods of time. Other members of the family might help out in household chores.

It is noteworthy that in these communities which are also where a high premium is placed on breastfeeding, the diets of pregnant and lactating women are of great cultural significance. Income and availability/prices of certain foods appear to play important limiting roles within the cultural prescribes. Most of the foods considered desirable during pregnancy and especially during lactation are relatively high priced. Their lower priced nutritional equivalents would be high bulk-to-nutrient ratio foods which will impose other problems, e.g. of accommodation and needing several meals a day.

Information from past experiences in programs for this group indicates that it is one of the most difficult to obtain any changes in behavior, especially in terms of food intake. Supplementary feeding programs generally have had an insignificant impact on the nutrient intakes of the intended beneficiaries unless followed up with home visits and intensive nutrition education as was done in the "exploratory phase" of Project Poshak (Gopaldas et al, 1975). Even then, lactating women consumed, on an average, 50% of the food ration and pregnant women only 10% of the food ration, the rest being distributed among other family members.

(b) Recently Urbanized, Poor Urban Communities. The social structure is different here. The family is usually a nuclear unit and there may be pressures on women to go out and work. The self-image changes as the media reinforces the high-status association with "westernized," slim-bodied, working women. Nutritional intake suffers as much from high prices, consumption of low nutrient-to-cost ratio processed foods and absence of the family and social structure which valued and supported the maternal image more than any other.

The marginal urban woman is more vulnerable than most rural women. In some countries infant mortality rates are higher in poor urban areas than in rural areas (Berggren, personal communication).

While the importance of nutrient intakes of pregnant and lactating women within the context of any nutrition program cannot be overemphasized, the role of other factors, most significantly of birth spacing, in protecting nutritional status is equally vital.

The effect of maternal nutrition status on perinatal and neonatal mortality and birth weight are well known. Attention has focussed on the early formative period of life. It may be useful to re-examine the physiological basis for this focus at this point.

The growth curve for weight of babies beginning 12 weeks after conception and continuing for the first year and a half is sigmoidal (S-shaped), as is true of most biological growth (Behar, 1975). The period of greatest acceleration of weight gain is from about 3 months before birth to about 3 months after birth. As the principal source of nutrients (at least potentially) during this critical phase, pregnant and nursing women merit special attention.

A large number of biological and socioeconomic factors are associated with nutrition-health status of the pregnant and nursing mother, the outcome of pregnancy and the ability of the mother to breastfeed. Age at pregnancy, short intervals between births, racial differentials, pre-pregnancy weight, third-trimester weight, rate of weight gain and weight loss post partum, nutrient intakes, type, rate and seriousness of illnesses--all these biological factors are found to be associated with birth weight of the newborn and their growth rates

in early life. These in turn are closely interrelated with socio-economic variables such as income, education, type of housing, sanitation, drinking water, health services, availability of foods, prices, cultural beliefs and attitudes regarding food/health/role of women, working status, influence of the media and of health professionals, etc. Studies indicate that of all the environmental factors nutrient intakes and episodes of illness during pregnancy are perhaps the most critical in determining the well-being of the newborn child, and that traditional beliefs and customs govern nutrient intakes of pregnant and lactating women(as much as income will allow).

There is increasing evidence that the determination of maternal health and nutritional status begins much earlier than even the time of conception. Faults in the early growth and development of the mother during her childhood, and continuing deficits afterwards are reflected among other things, in short stature--a closely associated variable with high frequencies of small-for-date babies (Baird, 1964). Nutrition education programs need to pay more attention to diets of adolescent girls. There is evidence from some areas that during infancy female babies are intentionally denied adequate nutrient intakes (Winikoff, 1978).and are so vulnerable from a health-nutrition standpoint, that it justifies using sex as a risk factor in health outreach programs in these regions.

In devising an effective strategy for maternal-child nutrition, it is important to study the environment of the proposed program community carefully since there are so many factors affecting each other in order to determine how existing programs, e.g. of health care, education, mass media, etc., can be used more effectively to produce an impact on maternal nutrition status through influencing maternal dietary and health practices. Newer programs should have an R and D phase to study these inter-relationships in the specific target area in order to justify the program/services/messages chosen for implementation.

6. <u>Importance of Psychological Factors in Breastfeeding</u>
In planning programs to enable mothers to breastfeed successfully as well as, to ensure optimum development during infancy these factors deserve specific attention.

Psychological factors are important in two respects:

(i) The success of continued lactation depends on the let-down reflex which is influenced by the psychological or emotional state of the mother.

(ii) The mother-child bond formed as a result of breastfeeding may have long-term behavioral implications for the growth and development of the child.

(i) <u>Let-down reflex</u>. The development, growth and secretory function of the breast are dependent upon stimulation from appropriate hormones. These hormones in turn are regulated in part by genetically preset time signals (e.g. the onset of puberty), by the sequence of events that occur in pregnancy and childbirth, and by psychological or emotional stimuli which are transmitted to the brain.

Prolactin can be considered the key lactogenic hormone in both initiating and maintaining milk

secretion. In the non-lactating individual, prolactin is inhibited by a factor in a specific part of the brain. At delivery, this inhibition is removed resulting in the secretion of prolactin thus initiating milk secretion. Once the breasts begin to secrete milk, the continuing secretion and flow along the ducts to the outside is maintained by a mechanism called "let-down reflex" which is influenced by physical, psychological and hormonal factors. The nipple and surrounding tissue are richly supplied with nerves. When the baby is put to the breast, the tactile stimulation at the nipple during suckling results in nerve impulses which travel to that part of the brain which regulates secretion of prolactin and another hormone called oxytocin. Oxytocin causes contraction of the cells lining the ducts thereby propelling the milk along the ducts. Gradually, when lactation is well established the reflex mechanism becomes so reinforced that many mothers can feel the contractions or milk let-down in the breasts as feeding time approaches or even on hearing the cry of the baby in the next room.

Stress factors that cause apprehension, anxiety, sorrow or embarrassment or lack of confidence are strong inhibitors of the let-down reflex--the most crucial physiologic mechanism in successful lactation.

This needs to be confirmed, but by a conservative estimate, at least 85% of all women are biologically capable of sustaining adequate growth in a fully breastfed infant up to six months. Difficulties such as breast engorgement, mastitis, and inverted nipples rarely occur and even then need not necessarily prevent breastfeeding. It is in the let-down reflex that a significant amount of interference occurs in causing lactation failure. The role of the mother's nutritional status has been discussed in Section IV, Project Analysis.

"In addition to stress in the mother, the frequency, duration and strength with which the infant suckles are key factors. In order to establish lactation, the baby should be put to the breast as soon after delivery as possible. The breast should be offered on demand, day and night. Any 'top-feeds' of glucose water, etc. weaken the sucling stimulation. Unless the breasts are emptied sufficiently, more milk is not produced.

There is a body of evidence which shown that westernized maternity ward procedures and attitudes of nurses/doctors conflict with these physiological pre-requisites of successful lactation.

The stresses of urban life, market value of the mother's time, availability of other means of contraception and of infant foods, absence of traditional familial support, most importantly the "doula" or female assistant, seem to be significant forces which have led to the decline in breastfeeding.

The Mother-Child Bond

(ii) Research has shown the intimate relation of emotional deprivation, availability of food, feeding practices, and infectious disease in affecting growth and development during the early formative years of life. The emotional factor has emerged as an equal contender among the rest in redressing the detrimental effects of poverty on the young child.

All aspects of feeding of all age groups have psychological overtones, meanings, and consequences. This is especially so with methods of feeding young infants. Breastfeeding is not only a physiological process for nourishing the body, but also a psychosocial communication between the mother and newborn

(Jelliffe and Jelliffe, 1971). The psychobiological consequences of breastfeeding and bottle feeding are quite different.

Data analyzed from a representative sample of over 7,000 American 6-11-year olds in the mid-1960's revealed that breast-feeding, along with birth weight and nutritional status, was correlated with indicators of cognitive development (Winikoff, 1978). Of course, a statistical correlation is no indication of causal relationships but simply suggests that an association of some kind exists between the variables.

7. Contraceptive Effects of Breastfeeding

Since ancient times, it has been believed that a nursing mother has less chance of getting pregnant. This has now been substantiated by historical and prospective clinical studies. It has been observed that the duration of amenorrhea is approximately 8-18 months longer in fully lactating women than it is in non-lactating women.

Some of the earlier studies seemed to indicate that the effect was due to the mother being malnourished and that if her diet were supplemented, ovulation returned earlier. Recent data has shown that this conclusion is erroneous and, in fact, the suckling pattern of the infant is the overriding factor responsible, (Wray, 1978). In the study quoted by Winikoff (1978) on "natural mother" American women, the mothers nursed around the clock on demand and used no pacificers or supplementary feedings for 5 months. In 29 nursing experiences, an average of 22.8 months of breast-feeding provided a mean of 14.6 months of lactational amenorrhea. This mean value was far higher than that usually reported for well-nourished nursing mothers and approached that for Asian and African women. This finding highlights the need to attend to

the pattern of nursing rather than mere presence or absence of nursing in predicting effects on fertility. It has been estimated that the contraceptive effect of prolonged lactation (beyond 7 months) which is 'on demand' and unsupplemented can amount to a reduction of as much as 20% of expected births in areas of high fertility (Ebrahim, 1978). The mechanism of action seems to be through the inhibition of female hormones necessary for ovulation, by prolactin--a hormone produced prior to and as a result of lactation. Prolactin release is known to be stimulated by the suckling stimulus.

Winikoff (1978) has drawn attention to the behavioral factors which enable nursing women to avoid pregnancy, i.e. postpartum abstinence and prohibition of intercourse during lactation in some clutures. However, these practices may be equally susceptible to change in an urbanizing environment. In such communities where full breastfeeding is giving way to "mixed" feeding and where the cultural factor is a less effective barrier against conception, additional measures will be necessary to encourage the use of modern contraceptives.

The project will encourage family planning as a desirable intervention to preserve the nutritional status of mothers and, in turn, of children.

8. Effects of Contraceptives on Maternal and Infant Nutrition

This analysis would be incomplete if the effects of contraceptives on nutritional status of mothers and infants were not mentioned.

The following are some salient features of these inter-actions:

1. Longer intervals between births affords better nutritional status for the mother and infant. Children with lower birth order have a better nutritional status than children with higher birth orders.

2. Oral contraceptives containing both estrogen and progesterone in combination appear to cause a reduction in breastmilk volume. Current research data on a progesterone-only pill and Aepo-provera indicate that it will be possible to control fertility and prevent the suppression of lactation through these contraceptives in the near future. The effects of oral contraceptive hormone spill-overs into breastmilk on the infant have not been studied fully.

3. Oral contraceptives (combined pill) has a detrimental effect on the metabolism of certain B Vitamins in the woman.

4. Intrauterine devices (of the type most commonly used are reported to cause blood loss as a side effect, thereby predisposing women to anemia.

Within the research priorities recommended for inclusion in this project has been the development of acceptable and effective contraceptive measures for lactating women.

Part IV . B. Social Concerns--Working Status of Women

Will the promotion of breastfeeding create conflicts for women who are desirous (and have the potential) to go out and work and make contributions to social and economic development? Presently available data indicates that work is not cited by women as a major limiting factor for breastfeeding.

Winikoff (1978) illustrates in a review of related studies how societies which have shown a recent increase in the trend to breastfeed are in fact those in which women's work options have expanded the most. For instance, in the United States the low point in breastfeeding was reached in the late 1960's, when only one-fifth of women breastfed their children. By 1975, however, 33% of women were breastfeeding their infants at 1 week of age, a level not seen since about 1950. In Sweden, where a woman's option to work outside the home or not is quite flexible, breastfeeding has been remarkably resurgent with the encoragement of several government programs. In 1975 in Uppsala, 78.8% of infants were completely breastfed at 1 month, with 39.4% still completely breastfed at 4 months of age. The parallel statistic for 4-month-olds in 1971 was only 6%. In Finland, statistics from 1972 showed similar patterns of breastfeeding both in mothers employed and not employed outside the home; about one-fifth of the mothers breastfed for 1 month or less; and about one-third were still breastfeeding at 3 months in both groups. In France, a national study analyzing patterns of more than 11,000 births demonstrated that working mothers breastfed slightly more often than nonworking mothers (ibid.).

Berg (1972) cites evidence that very few women in developing countries actually participated in the paid labor force, making it unlikely that their infant-feeding decisions were based on job opportunities. In fact, only 15% of non-nursers in the West Indies, and only 10% in Singapore were employed. In Almroth's review (1976) of commonly given reasons for weaning, work was cited as a factor in no more than 6% of the women in each of five countries studied.

In St. Vincent, West Indies, Greiner (1977) found that of the seven factors most highly correlated with early weaning from the breast, none had to do with the mother's employment. The strongest correlation with early weaning was short interval to subsequent birth. In Yugoslavia, (Buzina, 1977) resumption of work as a cause for weaning was given by 5% of urban women and less than 3% of rural women. In Egypt, (Kamel, 1977) of the five causes that accounted for 99.6% of all weaning, working was not even mentioned. The single most common cause was, once again, another pregnancy.

While the present levels of participation by women in national workforces of developing countries are low, the trend is toward an increase. Programs intended for promoting breastfeeding during the next decade would have to take into consideration the types of work women are increasingly becoming involved in and their specific needs.

Studies in developed countries show that women do work and manage to breastfeed as well. The extrapolation of this situation to developing countries, however, is unrealistic unless one assumes that the government will provide subsidized, conveniently located day-care facilities to which the mother will have access during working hours for breastfeeding, whether it is through legislation or as a state-run service. The other alternative is to extend maternity leave to cover the period of lactation; the expense would have to be covered by employers at least for low-income mothers. There is a need to

conduct a series of case studies in those few countries (i.e., China, Sweden and others) where different combinations of alternatives such as maternity/nursing leave, day-care facilties, time off to nurse during the day, etc. have been tried out. Such an analysis should take into account the disincentive effect such measures might have on the employment of women as well.

Part IV.C. Economic Considerations

A decline in breastfeeding and its replacement by bottlefeeding using commercially processed infant formulas or animal milk would create economic problems for families and for nations. There are only a few calculations on what it would cost a poor family in a developing country to replace breastmilk in the diet of young children (Table 2). These, too, are incomplete. On a national scale what the replacements would be, have also been evaluated and Berg (1973) estimates that the total for Third World countries would be between $365 and $780 million.

In addition to computing the cost of a substitute which would provide equivalent calories--the method used by Berg and Latham (1977)--there are other cost components of evaluating the economic losses of a decline in breastfeeding. These have not been estimated. They fall under the following categories:

1. Costs to the Family

(a) If the mother goes out to work, how much of her income is spent on food (e.g. breastmilk substitutes, etc.) for the infant. What affect does this have on the food obtained for other members of the family?

(b) Regardless of the mother's working status, what proportion of the total income is spent on the non-breastfed infant's food and how does this affect the diet of other family members. The nursing mother's additional food requirements would also need to be considered.

(c) Time and fuel costs of preparing the breast-milk substitute in a hygenic manner, or, if we assume this is not possible or likely, cost of increased gastrointestinal disease in the child.

(d) Cost of using an alternate method of birth control in societies where breastfeeding has an important contraceptive effect.

2. National Costs

(a) Cost of importing commercially processed formula in terms of foreign exchange. The reduction in policy options that it imposes on governments. Or, assuming that domestic milk production will replace breastmilk, the cost of expanding/setting up a production/distribution system and loss of policy options for the government as a result of that expenditure.

(b) Health services costs computed on the basis of increased morbidity/mortality rates found in non-breastfed infants.

(c) Cost of Family Planning programs to compensate for the antifertility effect of breastfeeding .

The difficulties inherent in making the above calculations are obviously great. However, the implications of their results are significant enough in terms of development planning to merit such an effort. National planners need to know these costs in foreign exchange and those associated with health services, etc. which result from a decline in breastfeeding. It would be valuable for educational purposes for families to be made aware of the relative cost of breast and bottle feeding in terms of the household income. Studies are needed in a number of countries. The results may be a stimulus to governmental action of several kinds which could encourage breastfeeding as an important food resource of a country.

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TABLE 1. Infant feeding practices and infant mortality rates* by type of feeding, various Western cities or countries, 1900-1950.

Location	Feeding practices in total population (per cent)			Mortality rates (per 1000)			Ratio of mortality rates
	Breast	Partial	Bottle	Breast	Partial	Bottle	Bottle: Breast
Paris, 1900 (35)	--	--	--	140	--	310	2.2:1
Derby, 1900-03 (36)	63.3	17.3	19.5	69.8	98.7	197.5	2.9:1
Amsterdam, 1904 (37)	82	--	18	144	--	304	2.1:1
Liverpool, 1905 (38)	68.9	12.7	18.4	84.2	133.9	228.3	2.7:1
Boston, 1911 (39)							
1-5 mos.	73.4	--	22.6	15.34	--	145.5	9.5:1
6-11 mos.	66.2	--	33.8	15.0	--	77.7	5.7:1
Chicago, 1924-29 (41)	48.5	43.0	8.5	1.5	6.9	84.4	55.1:1
Liverpool, 1936-42 (43)	29.7	44.1	26.2	10.2	25.7	57.3	5.6:1
Great Britain, 1946-47 (44)	--	--	--	9.1	--	17.5	1.9:1

* Rates included in this table are not precisely comparable; most are post-neonatal and are intended simply to show the relative changes over time.

Source: Wray, 1978

TABLE 2 **Cost of Bottle Feeding Relative to Wages**

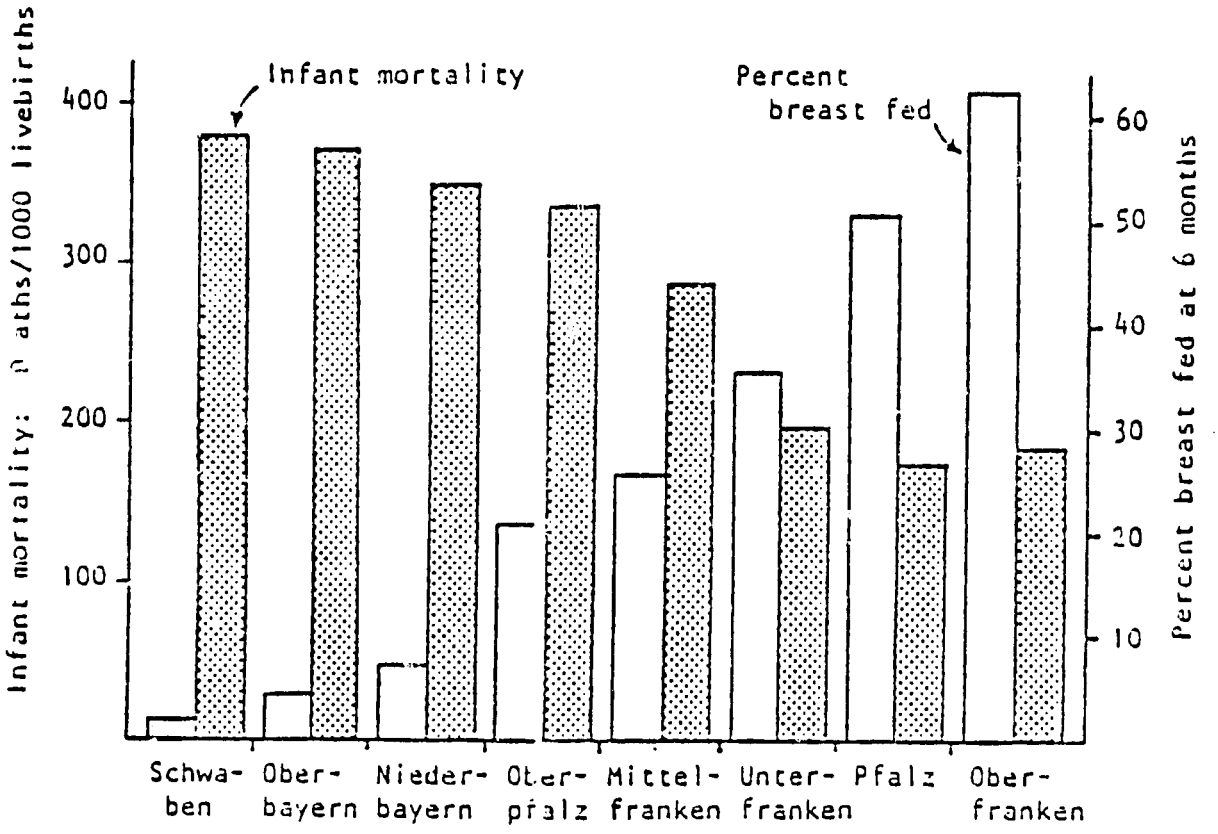
	Approx. monthly wage	Cost of formula or milk	Required marginal propensity to spend on milk	Percent of wage
Tanzania[1] (1964) (Latham)	132 Shs.	68 Shs.	0.51	51%
Kenya[1] (1976) (Latham)	150 Shs.	88 Shs.	0.58	58%
India[1] (1976) (Reutlinger and Selowsky)	120 Rs.	91.5 Rs.	0.76	76%

[1] Tanzania and Kenya data based on cost of manufactured powdered formula; India data on cows' milk.

Source: Latham, in T. Greiner 1977.

FIGURE I

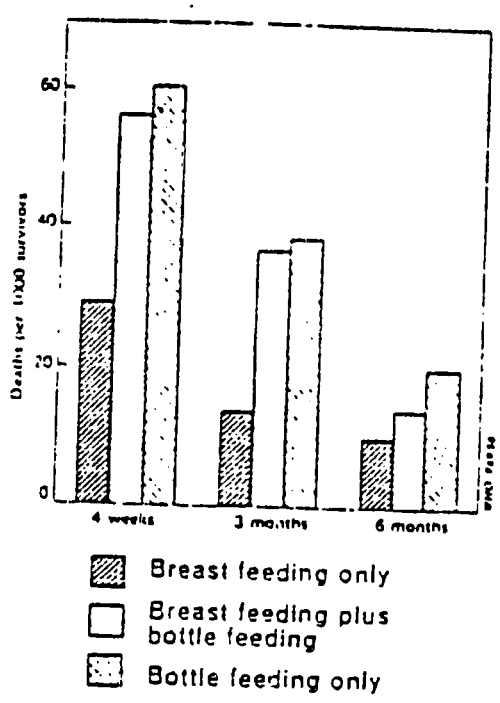
ASSOCIATION BETWEEN BREAST-FEEDING PRACTICES AND INFANT MORTALITY RATES IN BAVARIA, BY DISTRICT, LATE 19TH CENTURY



Source: Data from Knodel & van der Walle, Cited by Wray, 1978.

FIGURE II

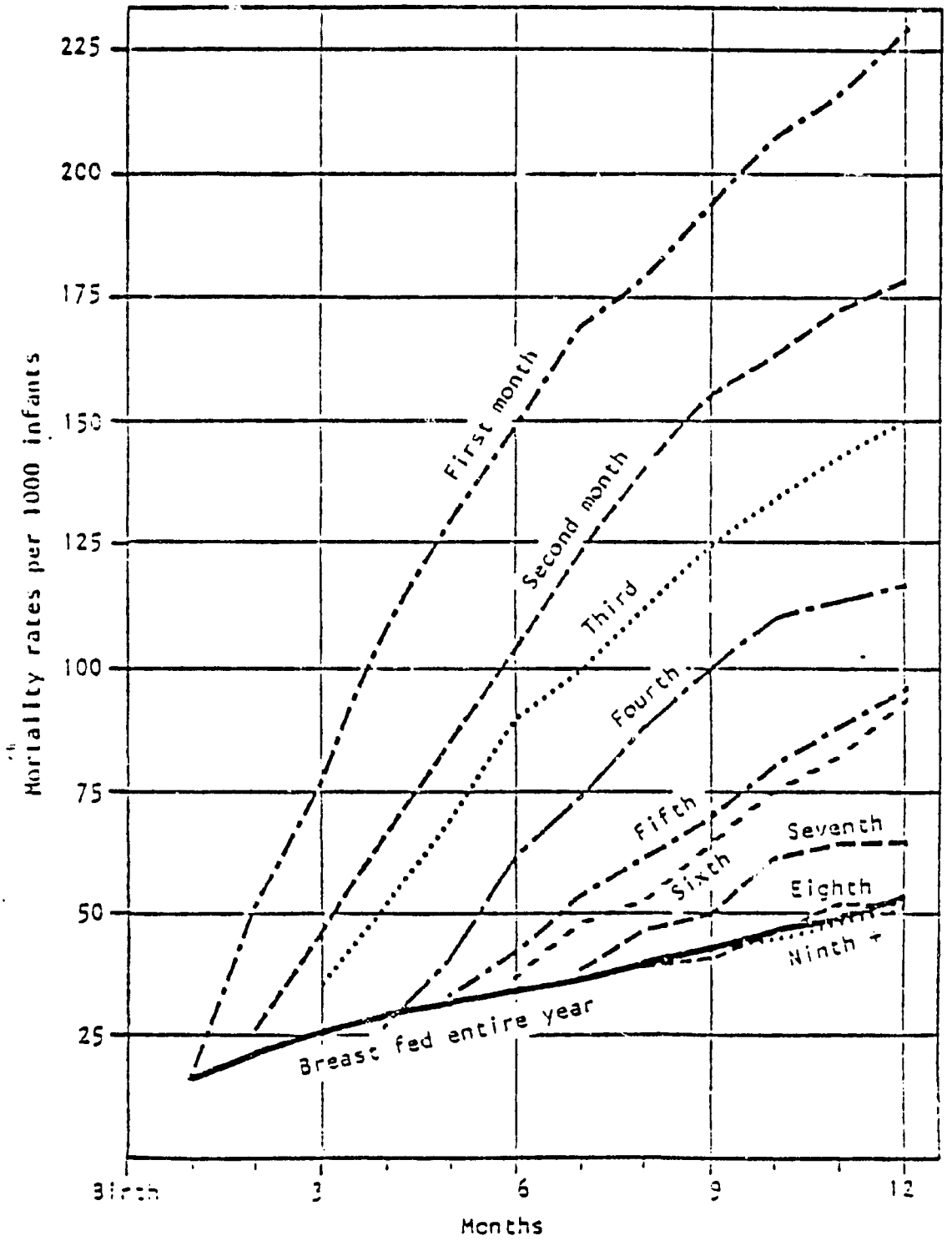
Mortality rate in the first year of life among infants surviving at 4 weeks, at 3 months and 6 months by type of feeding (Chile)



Data from PLANK, and MILANESI 1973

FIGURE III

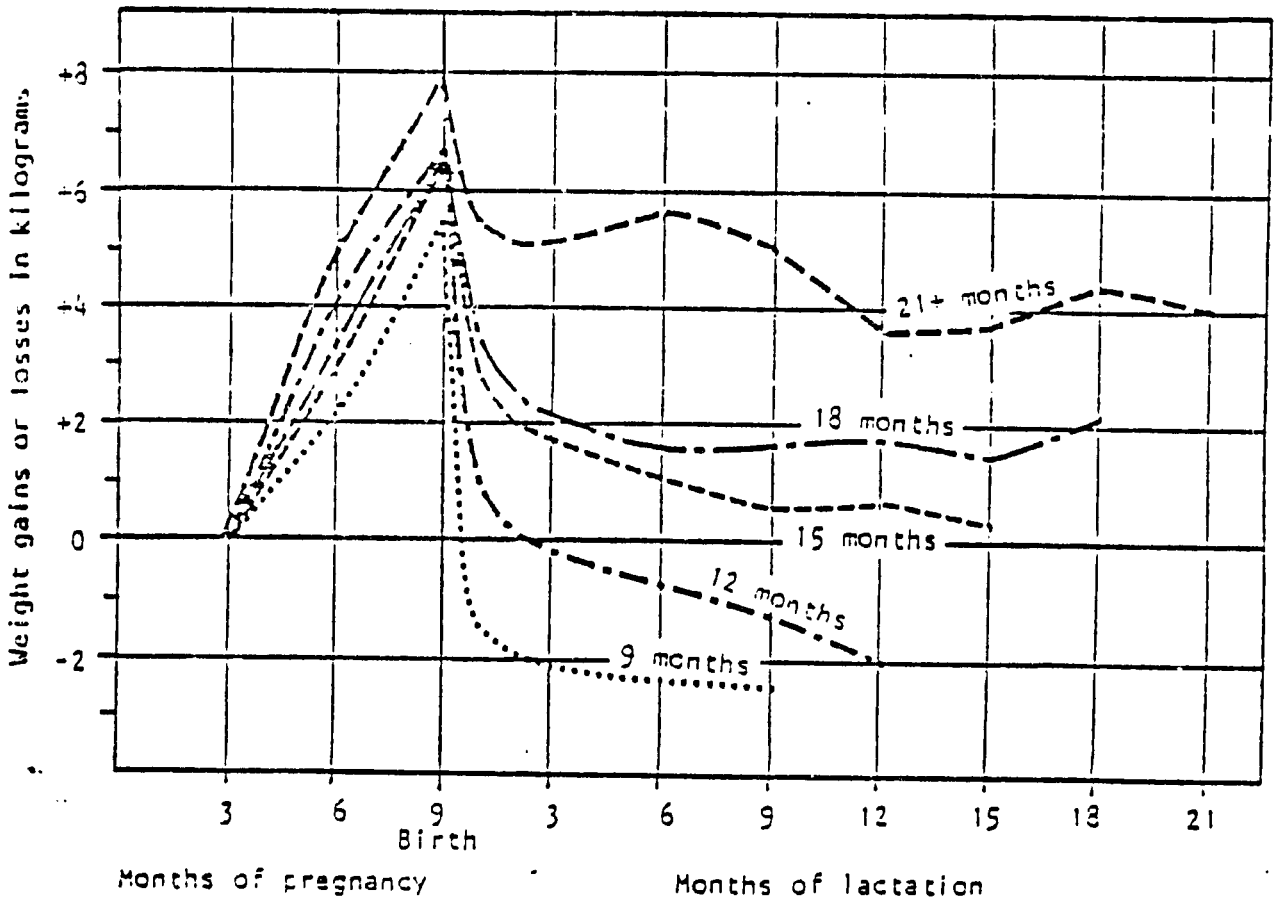
CUMULATIVE INFANT MORTALITY RATES, BY MONTH IN WHICH ARTIFICIAL FEEDING WAS INITIATED, EIGHT CITIES, U.S.A., 1920s



Source: Data from Woodbury, Cited by Wray, 1978.

FIGURE IV

WEIGHT GAINS AND LOSSES OF MOTHERS DURING PREGNANCY AND LACTATION, BY DURATION OF LACTATION, GUATEMALA, AROUND 1970



Source: Redrawn from Habicht and Béhar (1974) and from Delgado (1977) by Wray 1978

ATTACHMENT #1

94TH CONGRESS
2D SESSION

H. J. RES. 1074

IN THE HOUSE OF REPRESENTATIVES

AUGUST 26, 1976

Mr. HARRINGTON (for himself, Mrs. CHISHOLM, Mr. CONTE, Mr. DIGGS, Mr. FRASER, Mr. BERGLAND, Mr. COHEN, Mr. MCHUGH, and Mr. MCCLOSKEY) introduced the following joint resolution; which was referred to the Committee on International Relations

JOINT RESOLUTION

With respect to the promotion and use of infant formula in developing nations as it relates to basic nutrition in such nations.

Whereas there is a broad consensus among nutritionists and other knowledgeable experts that, especially in developing nations, breast feeding, given its nutritional, economical, hygienic, and immunological qualities, is preferable for most infants to the use of infant formula as a replacement; and

Whereas the preferability of breast feeding is supported by studies showing that the large majority of people in developing nations lack sufficient economic, educational, and sanitary resources necessary for the healthful use of infant formula products; and

Whereas studies strongly suggest that formula feeding of infants under these less than optimum conditions in developing countries is a major cause of malnutrition and high infant mortality among such infants; and

Whereas breast feeding cannot indefinitely fulfill all the nutritional needs of infants in developing countries and should therefore be part of a comprehensive approach to family health and nutrition which includes the use of supplementary weaning foods necessary in later infancy; and

Whereas United States businesses are involved in the manufacturing, marketing, or selling of infant formula in numerous developing nations, employing advertising and other promotional practices which contribute to the use of infant formula, even though such use often does not best serve the nutritional needs and overall health of children in such nations; and

Whereas the above business practices undercut the concern which the Congress has expressed for the nutrition, health, and general welfare of people in developing nations through multilateral and bilateral assistance programs, including those programs conducted by the Agency for International Development; and

Whereas many such businesses have adopted voluntarily a code of ethics which includes an affirmation that "product labeling will affirm breast feeding as the first choice for the nutrition of normal infants": Now, therefore, be it

1 *Resolved by the Senate and House of Representatives of*
2 *the United States of America in Congress assembled,* That
3 this joint resolution may be cited as the "infant feeding
4 resolution".

1 SEC. 2. The Agency for International Development shall
2 devise and carry out in partnership with developing nations
3 a multifaceted strategy designed to promote breast feeding
4 within the context of integrated programs of nutrition and
5 health improvement for mothers and children. This strategy
6 shall focus on reversing the trend toward early weaning by
7 using educational, promotional, mass-media, or community
8 outreach programs as appropriate in each developing nation.
9 It shall be aimed at reaching families, professional and para-
10 professional health care personnel, and policymakers. In
11 addition, the Agency for International Development shall
12 provide technical, financial, and material support to indi-
13 viduals or groups at the local level for the promotion of breast
14 feeding and sound maternal and child nutrition within their
15 own countries. The Agency shall build on its past and cur-
16 rent efforts as appropriate in developing a comprehensive
17 strategy toward these objectives.

18 SEC. 3. It is the sense of the Congress that the United
19 States based businesses, and United States subsidiaries of
20 foreign based businesses, involved in the manufacturing,
21 marketing, or selling of infant formula have a responsibility
22 to conduct their overseas activities in ways which do not
23 have adverse effects on the nutritional health and well-being
24 of people in developing nations.

25 SEC. 4. (a) The President shall conduct a detailed

1 formula use in developing nations. The study shall include
2 specific information on the following items with respect to
3 developing nations:
4 (1) Estimates by region of—
5 (A) the numbers of mothers and children using
6 infant formula, including their socioeconomic status
7 and literacy levels;
8 (B) the extent to which such formula is neces-
9 sary to supplement available mother's milk and
10 locally produced and available low-cost weaning
11 foods; and
12 (C) the nutritional and health effects of infant
13 formula use under existing local conditions.
14 (2) The names of all businesses involved in infant
15 formula manufacturing, marketing, or selling, and in-
16 formation on sales volume, profits, advertising and pro-
17 motional expenditures, type of ownership, and home
18 country of each such business.
19 (3) The advertising and promotional techniques
20 employed by United States businesses and United States
21 subsidiaries of foreign based businesses and the degree to
22 which these practices contribute to early weaning trends.
23 (4) The extent and types of direct and indirect
24 support provided by any United States Government
25 agency to businesses involved in infant formula manu-
26 facturing, marketing, or selling.

ATTACHMENT #2

Mansfield

95th Congress 1st Session } HOUSE OF REPRESENTATIVES { Report No. 95-210

INTERNATIONAL DEVELOPMENT AND FOOD ASSISTANCE ACT OF 1977

REPORT

OF THE

COMMITTEE ON INTERNATIONAL RELATIONS

TOGETHER WITH

SUPPLEMENTAL VIEWS

[INCLUDING COST ESTIMATE OF THE CONGRESSIONAL BUDGET OFFICE]

ON

H.R. 6714

TO AMEND THE FOREIGN ASSISTANCE ACT OF 1961 TO AUTHORIZE DEVELOPMENT ASSISTANCE PROGRAMS FOR FISCAL YEAR 1978, TO AMEND THE AGRICULTURAL TRADE DEVELOPMENT AND ASSISTANCE ACT OF 1954 TO MAKE CERTAIN CHANGES IN THE AUTHORITIES OF THAT ACT, AND FOR OTHER PURPOSES

MAY 3, 1977.—Committed to the Committee of the Whole House on the State of the Union and ordered to be printed.

U.S. GOVERNMENT PRINTING OFFICE

88-363 O WASHINGTON : 1977

the World Population Conference in Bucharest in 1974, are education of both sexes, whether in or out of school; reduction of infant and child mortality through better nutrition, sanitation, and maternal and child health services; improvement in the status and employment of women; rural development and land reform resulting in ownership or other secure tenure of land by the farmer; more equitable distribution of income; and establishment of social security and means of support in old age.

Section 113—Infant Nutrition

This provision adds a new section 118 to the Foreign Assistance Act, encouraging AID to devise and implement maternal nursing education programs integrated with nutrition and health improvement programs for mothers and children. To that end, it is expected that AID will intensify and build upon its ongoing programs by providing technical, financial, and material support to individuals and groups at the local level in developing countries. The committee expects a full report on implementation of this section in the congressional presentation document for fiscal year 1979.

While recognizing AID's commendable initial efforts in this area, the committee feels added emphasis on these programs is desirable based on the findings of such international nutrition and health organizations as the U.N. Protein Advisory Group, the World Health Organization, and the International Pediatrics Association. This research has documented the adverse nutritional impact upon infants and young children of the widespread substitution of bottle-for-breast feeding in areas of chronic poverty in developing countries.

In the absence of conditions necessary for proper infant formula preparation and use, including access to sterile water, adequate hygienic standards, and sufficient income and literacy levels, reliance on bottle feeding has contributed to a sharp rise in infant malnutrition. In many developing countries, the average age of the onset of severe malnutrition in infants has dropped from approximately 6 to 8 months to 3 months. Moreover, these developments are a factor in continued high levels of infant morbidity and mortality. The promotional and mass marketing practices of some infant formula companies have contributed to this trend.

In short, the issue of increasing use of infant formula over breast feeding in poor countries is an important one. There is convincing evidence that many children are dying or being permanently harmed by infant formula prepared under conditions that are widespread in developing countries. And promotional practices for infant formula in many countries tend to contribute to the use of the formula by poor people under these unsafe conditions.

Since AID's nutrition efforts must necessarily take into account all local conditions, including those created by the activities of the private sector, efforts should be made to insure that maternal nursing programs are not impaired by these practices. Businesses involved in the manufacture, marketing, or sale of infant formula have a responsibility to conduct their overseas activities in ways which do not have adverse effects on the nutritional health of people in developing nations. The executive branch is urged to work in partnership with

ATTACHMENT #3

INTERNATIONAL ASSISTANCE FOR MATERNAL AND INFANT NUTRITION IN DEVELOPING COUNTRIES

Report of a Conference

January 30-31, 1978

Committee on International Nutrition Programs
Food and Nutrition Board
National Research Council

National Academy of Science
Washington, D.C.
August 1978

NOTICE: The project that is the subject of this report was approved by the Governing Board of the National Research Council, whose members are drawn from the Councils of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine. The members of the Committee responsible for the report were chosen for their special competences and with regard for appropriate balance.

This report has been reviewed by a group other than the authors according to procedures approved by a Report Review Committee consisting of members of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine.

ACKNOWLEDGMENT: This study was supported by Contract AID/TA-C-1428 with the Agency for International Development.

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At the request of the Office of Nutrition of the U.S. Agency for International Development (AID), the Committee on International Nutrition Programs of the Food and Nutrition Board, National Academy of Sciences, sponsored a meeting of experts in Washington, D.C., on January 30-31, 1978, to discuss approaches and actions that AID and other national and international assistance agencies could consider with respect to nutritional problems of mothers and infants, especially weanlings in developing countries. The meeting was organized and chaired by Dr. Giorgio Solimano, a member of the committee. It was attended by experts from several developing countries and from the World Health Organization. (Attendees are listed in the Appendix.)

Reflecting the purpose of the meeting, this report does not attempt to review scientific knowledge, but it does present a consensus of expert opinion and judgment exercised over two days of discussion on actions that appear to be desirable and feasible in light of the nutrition problems of pregnant and lactating women and of young children.

Although there are insufficient data on many aspects of the subject, action on the recommendations made in this report should not be postponed. The final section identifies areas in which studies are needed.

Women and children in low-income families, who constitute the majority of the population in developing countries, are the most vulnerable to nutritional deprivation. Consequently, poor nutrition is particularly severe in this group. High rates of morbidity and mortality among infants and preschool children in developing countries, which consistently have been associated with malnutrition, attest to the intensity and pervasiveness of the problem. The improvement of the nutritional status of infants can contribute to the reduction of the incidence, severity, and duration of disease and the number of deaths in young children. Well-fed infants are more likely to grow into healthier, more alert, productive children and adults than those who have suffered nutritional deprivation. The provision of adequate nutrition for pregnant and lactating mothers and for young infants requires particular attention from policymakers and program planners because fetuses and infants have dietary needs that reflect the special demands of rapid growth and physiological change. These are sufficient arguments for making infant and maternal nutrition a major concern of government policy and international assistance efforts.

In recent years, special attention has been focused on the decline in the incidence and duration of breast-feeding in developing countries. Low-income families in those countries frequently cannot afford adequate amounts of substitute food for infants. They also have a high risk of microbial contamination. In these situations, the decision not to breast-feed has particularly serious consequences for birth spacing and for infant health, growth, and chances of survival.

But even where breast-feeding is normally practiced, severe malnutrition can exist in early childhood. Poor maternal nutrition during pregnancy often contributes to low birth weight (fetal malnutrition) and early infant death. Nonetheless, the quantity and quality of breast milk is usually surprisingly good, even in poorly nourished women, despite cumulative detriment to the mother's health. However, recent reports show that malnourished, unhealthy, overworked mothers in some countries may have difficulty in sustaining adequate breast milk as the baby's sole food after the early months. Even when lactation is adequate, breast milk should be supplemented by weaning foods after four to six months; otherwise, nutritional deficiencies will result. These deficiencies may become increasingly serious as the child's need for food increases with age. Nonetheless, in most situations, there are substantial nutritional and immunologic advantages to breast-feeding in the early months of life, when the child is particularly vulnerable to nutritional deprivation.

Infant malnutrition is nearly always associated with other forms of deprivation, such as poor family nutrition, low family income, crowded and unhygienic living conditions, and inadeaquate access to health and other social services. Even relatively high rates of aggregate economic growth do not always lead to improved nutrition among low-income groups. The persistence and pervasiveness of malnutrition and deprivation often are linked to particular national patterns of production, consumption, and distribution, and to underlying political and economic

relationships. However, in certain cases, other patterns and relationships may result in high standards of nutrition among adults and children despite relatively low levels of national income.

The recommendations in this report are restricted to health and nutrition matters. The conferees have not attempted to formulate recommendations related to the widely held view that the success of infant nutrition programs of national and international assistance agencies is more likely in countries that are effecting increases in real incomes in low-income groups; extending social, economic, and political participation to formerly excluded groups; and restructuring social services to make them available to the entire population.

Nonetheless, the conferees' recommendations do go beyond what traditionally have been considered nutrition activities. Indeed, the conferees believe that infant nutrition cannot be discussed without placing it squarely within a more general framework of infant, maternal, and family health care. One reason for adopting this broader framework is the inherent relationships between health and nutrition on the one hand and between infant health and maternal health on the other. A second reason is that efforts to improve infant nutrition in developing countries may have to be organized and managed by the health care services in those countries. A critical determinant of the success of these efforts will be the extent to which a country's health services are accessible to the target groups, i.e., infants and mothers from low-income families.

Where access to health services is limited and is not being extended, efforts solely to improve infant nutrition are likely to produce only limited improvement in health status.

Many of the ideas and recommendations contained in this report are not new. Some work related to the recommended programs and research is underway in various institutions in several countries. Because of the limited time available to the conferees, they could not assess this work, nor could they assess the extent to which these suggestions are already practiced by national and international assistance agencies and their effectiveness. The conferees believe it to be of utmost importance that these agencies comprehensively review their programs in health, nutrition, and family planning. The purpose of such a review would be to determine what is and what is not working, e.g., in the reduction of mortality and morbidity; to provide information needed for determining substantive and operational (including funding) modifications; and to provide a basis for deciding whether a more integrated strategy in these program areas would require organizational or procedural changes within the agencies.

An important consideration in proposing a strategy for improving infant and maternal nutrition is the resources available, e.g., funding, trained manpower, and the number of assistance agencies that would provide health care at the international, national, and local level. An additional consideration is the requirement for community participation and support at the local level. Resource availability will

determine the feasibility of any specific intervention, and in some cases, may affect the selection of interventions.

Different social, economic, and environmental characteristics must be taken into account. The design of interventions should reflect an awareness of traditional culture, socioeconomic organization, and environmental hazards. Effective planning in nutrition also requires readjustment for differences in food availability, marketing practices, family relationships, consumption patterns, and food preferences.

The role of international assistance should be considered from several perspectives. Bilateral and multilateral assistance efforts must be sensitive to the suitability of certain activities for specific areas, donor agencies, and the internationa setting for those activities, and to the need for sharing financial and administrative tasks. Assistance programs should range from consulting services to the direct initiation and full sponsorship of programs.

The etiology and pattern of early childhood disease in disadvantaged populations point to the critical linkages among such factors as lactation, birth spacing, health status, and nutritional status. Therefore, problems of maternal and infant nutrition probably should be addressed by a comprehensive approach within which nutrition intervention would be fully integrated. Maternal and Child Health (MCH) services such as prenatal care, prevention and treatment of infection, and supervision of growth and development are likely to be crucial to the success of any nutrition intervention. Moreover, the

benefits of birth spacing from family planning and the effect of certain contraceptives on lactation have important nutritional implications. In turn, appropriate nutrition activities are likely to reinforce the effectiveness of health and family planning services.

Programs in nutrition, maternal and child health, and family planning also have a common need for health education components, outreach efforts, training of personnel, and evaluation. The target populations for health, family planning, and nutrition programs overlap considerably, adding to the advantages of a comprehensive approach.

RECOMMENDATIONS

In addition to the recommendations set forth below, national and international assistance agencies will need to be particularly sensitive to the needs and priorities put forth by developing countries; to the importance of incorporating practical evaluation techniques into field programs; to the multidisciplinary nature of planning, project design, implementation, and evaluation; and to their own organizational shortcomings in both intraagency and multilateral coordination. There may also be a need to increase the national and international financial resources that are devoted to assistance on problems of nutrition and the health of mothers and children.

Program Recommendations

AID, together with other interested national and international assistance agencies, should:

1. Encourage and assist interested governments in their attempts to include the promotion of adequate breast- and infant-feeding in the design and management of all levels of health services and to integrate nutrition improvement efforts with related program areas. Special assistance should be given to governments in assessing alternative delivery systems, in directing supplementary feeding programs to high risk groups (especially weanlings, pregnant teenagers, and pregnant and lactating women); in linking such programs with health services and nutrition education programs; and in assuring periodic evaluation of supplementary feeding in relation to other programs.
2. Assist governments that require financial and technical support in developing educational programs and materials on breast-feeding, child-spacing, and nutrition practices for mothers and infants, especially weanlings; and in training professionals in maternal/child health and nutrition with emphasis on the training and utilization of auxiliaries, community health workers, and volunteers.
3. Create and fund an independent international consultative group on maternal and infant nutrition problems, including the special requirements of weanlings. This group would provide advice and evaluation drawing on experts from developed and developing countries; build an information clearinghouse mechanism to promote

efficient dissemination and sharing of data and reports on research, services, training techniques, programs, and projects; and provide information to national and international policymakers on the significance of maternal and infant nutrition problems and practices, including breast-feeding and supplements for weanlings.

4. Assist, when appropriate, those governments and international organizations that wish to investigate the need for and feasibility of policies and measures affecting the practices of the commercial food sector, particularly in the promotion and marketing of infant foods as substitutes for breast milk.

5. Assist, when appropriate, governments that are intereste in evaluating the costs and desirability of measures to protect pregnant and lactating women, including the provision of crèches, occupational health and safety codes, maternity leave policies, supplemertary feeding programs, and child care facilities.

6. Finance and provide technical advice to governments for nutrition surveillance of high risk groups as part of the process of generating the information that is needed to initiate and manage nutrition and health programs.

Recommendations on Research, Evaluation, and Data Collection

Although enough is known to justify the program recommendati set forth above, it is important for national and international assistance agencies to support work directed at filling the gaps

in knowledge in order to arrive at a better understanding of the nature, determinants, and consequences of maternal and infant nutrition problems and to design and implement cost-effective interventions. Research and the collection and analysis of data are likely to encompass three categories: biomedical programs, cultural settings and practices, and service delivery systems.

I. Biomedical Programs.

Examples

1. Investigations of the impact of nutrition on pregnancy outcomes.
   a. Development of maternal anthropometric methods (weight, height, body composition) for surveillance and risk assessment purposes to be used before, during, and after pregnancy.
   b. Evaluations of the effect of supplementary feeding--type, amount, timing--on maternal and infant health.
2. Investigation of the interaction of nutrition, lactation, and amenorrhea. Analysis of the effect of specific contraceptives on these variables and development of methods that do not interfere with breast milk production.
3. Investigation of factors responsible for successful or inadequate lactation (including maternal nutrition and ill-health and environmental stress), as judged by the volume of milk secreted, the

composition of the milk, and, above all, the growth and health of infants; and assessment of the effectiveness of methods of improving lactation with specific attention to maternal diets during lactation and pregnancy, including the optimal use of local foods or, when appropriate, targeted maternal feeding programs.

4. Evaluation of the impact on pregnancy outcomes and maternal and child health that may result from fortification of food to counteract specific deficiencies.

II. Cultural Settings and Practices.

Examples

1. Basic epidemiologic research on infant feeding and care practices in order to understand the characteristics, especially the attitudes, knowledge, and practices of mothers of families that have been successful in child-rearing under adverse circumstances.
2. Collection of information on the quantity and quality of available weaning foods. Development of means to improve the cost/nutrient value of locally available foods.
3. Assessment of health workers' knowledge, attitudes, and practices with respect to the promotion of breast-feeding and infant-feeding. Evaluation of the content of training programs for all levels

of personnel working in the areas of breast-feeding, infant care, and maternal nutrition.

4. Determination of whether, or the extent to which, the promotion and marketing of infant formula and food products affect mortality and morbidity.

III. Service Delivery Systems.

Examples

1. Collection of data on alternative models for delivery of integrated nutrition, health, education, and community services, their utilization and acceptor and nonacceptor characteristics, and their cost-effectiveness relative to improved health and nutrition.
2. Evaluations of the potential impact of other social services on health and nutrition, particularly their promotion and support of breast-feeding and other beneficial infant care practices.

The foregoing is not an all-inclusive list; rather, it is a basis for the development of an internationally coordinated and financed research, evaluation, and data collection program. This preliminary list lends itself to consideration by national and international assistance agencies as well as by the independent international consultative group that was recommended above.

APPENDIX

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ATTACHMENT #4

THE MARKETING AND PROMOTION OF INFANT FORMULA IN DEVELOPING COUNTRIES - NOTES ON A SENATE HEARING

THE MARKETING AND PROMOTION OF INFANT FORMULA IN DEVELOPING COUNTRIES - NOTES ON A SENATE HEARING

On May 23, 1978 the Senate Subcommittee on Health and Scientific Research held hearings on the advertising and marketing of infant formula in developing countries. The hearings, chaired by Senator Edward Kennedy, were called due to growing public concern about the issue.

Background:

Concern about the abuse of infant formula has increased in the last ten years since public health experts noted the decline in breast-feeding in many developing countries. Church groups, health professionals, and consumer activists began to speak out on the toll this decline is having on the health of infants. Mothers are abandoning nutritious breast-feeding in favor of bottle feeding which, under unsanitary conditions such as using polluted water in the bottle, is having serious health consequences for their infants.

In the early 1970's, European church groups criticized Nestles of Switzerland, the largest manufacturer of infant foods for developing countries, for encouraging the decline of breast-feeding in developing countries through its aggressive promotion of infant food products. One pamphlet, entitled "Nestle Kills Babies", resulted in a libel action by Nestles against the author. Though Nestles won the suit, only a small fine was levied by the court, which at the same time cautioned Nestles about its marketing activities in developing countries.

In 1975 the bottle feeding issue came to the U.S. when the Interfaith Center for Corporate Responsibility (ICCR) of the National Council of Churches began publicizing the issue by showing a European made film "Bottle-Babies". In 1976, the Sisters of the Precious Blood of Dayton, Ohio, with the assistance of ICCR, sued Bristol-Myers, a company in which the sisters owned stock, for misrepresenting its infant formula marketing practices in developing countries.

In 1977, several social action and anti-hunger groups formed INFACT (Infant Formula Coalition) to boycott Nestle products and further publicize the bottle feeding issue. Numerous articles in magazines and church publications have contributed to growing public interest in the issue. A sign of growing interest is the substantial amount of mail which Congressional offices have received on this subject. Three T.V. networks and a dozen reporters covered the hearings as did a film crew from CBS who are preparing a half hour documentary. The hearing room was crowded and many spectators were turned away.

Children Suffer Most From Poor Health Conditions

Senator Edward Kennedy opened the hearing by quoting the Bengali poet Tagore who wrote that "every child comes with the message that God is not yet discouraged of man". Senator Kennedy then summarized some basic health facts about developing countries. For example, one fourth of the people on earth have no access to any health care whatsoever, and less than 10% of the 80 million children born each year receive immunizations against preventable disease.

Noting that children always seem to suffer most, Senator Kennedy raised the issue of how a product such as infant formula, intended to nourish life, can have unintended effects of fostering malnutrition and disease. Senator Kennedy asked if a product which requires clean water, good sanitation, adequate income, and the ability to read, can be safely used in areas where water is contaminated, poverty is severe, and illiteracy is high.

"Whose responsibility is it to see that the products are properly used—the manufacturer, health professionals, or the governments involved?" asked Senator Kennedy. He added that the purpose of the hearing was not to find fault because if there is fault, all civilized people share in it for allowing the poverty, disease and malnutrition to continue.

Other Senators

Other Senators who participated in the infant formula hearings were Senator Dick Clark, Democrat from Iowa; Senator John Chafee, Republican from Rhode Island; and Senator Jacob Javits, Republican from New York. Senator Clark saw the bottle feeding issue as a problem in the transfer of technology from industrial to developing countries. At least two technologies are involved: (1) artificial infant feeding using baby bottles and processed milk, and (2) modern advertising and promotion which can create artificial needs. The populations of many developing countries are poorly equipped to resist manipulation through advertising.

According to Senator Clark, no one says that infant formula is dangerous in itself, but everyone agrees that formula must be used under sanitary conditions—which do not exist in many parts of the world. Furthermore, Senator Clark believes that the cost of formula is an important issue. In many countries it would cost over 1/2 the family income to feed children properly. As a result the formula is often diluted to make it last longer, a practice which undermines the baby's health.

Senator Clark noted that many companies have taken steps to change their marketing practices. Some companies have subscribed to the International Council of Infant Food Industries Code. Senator Clark concluded by saying, "It is the goal of these hearings to determine if these voluntary measures go far enough."

Hearing witnesses were divided into three panels: (1) health and religious personnel with first hand experience in developing countries, (2) international health experts and (3) representatives of the infant food industry. Throughout the hearing, Senator Kennedy asked witnesses to speak from their personal experience in developing countries. He repeatedly asked industry witnesses about the sense of responsibility industry has for infant formula abuse.

PANEL NUMBER ONE

Dr. Allan Jackson, Clinical Nutritionist at the University of the West Indies, said that many mothers in Jamaica start with breast-feeding but from an early age switch to bottles for supplementary feeding. To encourage breast-feeding, the advertising of infant formula has been banned in Jamaica. Nevertheless, Dr. Jackson concluded that word of mouth continues to support bottle feeding. He stated that an equal and opposite educational campaign would be needed to counteract previous infant formula advertising.

Dr. Navidad Clavano, a pediatrician from the Philippines, noted that her country has a high infant death rate. In a six year study of 10,000 infants, Dr. Clavano and her associates were able to reduce mortality by 47% and morbidity by 58% simply by returning infants to their mothers for breast-feeding. The hospital where Dr. Clavano worked banned bottle feeding at birth and ended the promotion of infant formula in the hospital.

Sister Jean O'Brien of the Maryknoll Order told the committee about advertising of infant formula in the Philippines. Billboards portray an almost obese Philippine child. To many Filippinos, a fat child is supposed to be a healthy child. "The implications of such advertising is that your baby will be healthy if you use this brand of infant formula," Sister O'Brien said. She reported that many people in the Philippines begged her for money to buy formula for their babies.

Reading the Fine Print

Rev. Daniel Driscoll of the Maryknoll Order worked in seven different barrios in Caracas, Venezuela. Only 50% of the people in the barrios are literate. According to Rev. Driscoll, the people in the barrios tend to read only headlines—their reading vocabulary is small and made up of mainly simple words. Rev. Driscoll held up a can of infant formula, a brand commonly sold in Venezuela. He noted the small print of the directions which appeared on the can. The price on the can was over half the minimum daily wage in Venezuela.

Direct media advertising of formula has been discontinued in Venezuela; however, the effect of past advertising lives on by word of mouth. Cans of infant formula still occupy prominent positions in nearly every pharmacy and grocery store in Venezuela. In Caracas there are restrictions on companies giving out free samples of formula in hospitals. But in the interior this practice is still followed. Rev. Driscoll said, "The problem is made worse by the infant food companies which provide gratuities to pediatricians when they graduate and when they hold professional meetings."

Ms. Fatima Patel, a nurse working in Peru, was raised and trained in South Africa where she treated very bad cases of malnutrition. Many of these infants were bottle fed. Mothers would leave their children with a grandmother and ten or twelve tins of formula. Sometimes the formula would run out or the grandmother, having no education, would add only enough powder to color the water. More recently Ms. Patel has worked in Peru in a jungle area among tribal Indians. The only way in, was by footpath or airplane. But there was formula there. Mothers did not go to the trouble of chopping wood and building a fire to boil river water to mix with formula. The river was used for laundry and for a toilet, as well as for drinking. Ms. Patel noted that children raised on breast milk can better resist the infectious diseases which cause great loss of life among these people.

Ms. Leah Margulies, from the Interfaith Center for Corporate Responsibility of the National Council of Churches, stated that her organization monitors the promotion of infant formula in different developing countries but limited resources make this task difficult. Ms. Margulies believes that company codes of ethics on marketing of formula are weak. The codes legitimize practices which she thinks should be stopped. For example, the companies agree that a milk-nurse should wear a company insignia and not wear a white uniform, but do not agree to do away with company milk-nurses.

According to Ms. Margulies, there is a conflict between marketing policy agreed to in the United States and what distributors actually do in the field to sell goods. This summer Ms. Margulies found a company milk-nurse in the largest public hospital in Jamaica despite government and company policy forbidding entry into the hospital. She recommended that companies stop this type of promotion of infant formula. If the companies won't do it voluntarily, they should be helped to regulate these practices but this won't be easy, according to Ms. Margulies, because this nation has only limited means for controlling international business practices. "As a first step, we could set an example by regulating the promotion of infant formula in this country," Ms. Margulies said.

PANEL TWO: INTERNATIONAL HEALTH EXPERTS

Dr. Derrick Jelliffe, Professor of Public Health at UCLA declared that breast milk is an active anti-infective biological system which cannot be duplicated in any way whatsoever. He estimated that if breast-feeding could be reinstated in developing countries, about 10 million children could be saved from diarrheal disease and marasmus each year. Another advantage of breast-feeding is the child-spacing function which provides an estimated 35 million couple-years of protection from conception annually.

Dr. Jelliffe suggested that we can learn by looking at practices of other food manufacturers. He pointed to a tin of formula designed for puppies which contained a warning that the formula should not be given in the first few days of life because colostrum (first milk) is required by puppies to avoid infection. Dr. Jelliffe said, "One cannot help but wonder whether or not humans are second class puppies." He urged a need for consciousness-raising among policy makers to stress the key role which breast-feeding plays in the health and nutrition of infants.

Dr. Abraham Horowitz, former Director of the Pan American Health Organization, said that health personnel have an obligation to become the main promoters of a "back to the breast" movement. Health personnel also need up-to-date scientific information and should not depend on industry propaganda for this purpose. He declared there is a need for an international human lactation center for research and distribution of information on breast-feeding. Dr. Horowitz concurred with Dr. Jelliffe that, despite the importance of breast-feeding, there will be a continued need for inexpensive, unadvertised infant formula for the small proportion of mothers who can't breast-feed.

World Health Organization Study

In 1974 the World Health Assembly expressed concern over the decline in breast-feeding as a factor in high infant death rates from malnutrition. In response the World Health Organization (WHO) commissioned studies of infant feeding practices in Guatemala, Ethiopia, Chile, Zaire, Kenya, Nigeria, Philippines, Hungary and Sweden.

Dr. Manual Carballo of the Maternal and Child Health Division of WHO outlined preliminary results from the WHO study for the Senate Committee. Dr. Carballo reported that breast-feeding is most common in Zaire and Nigeria and least common in the Philippines and Guatemala. One third of the economically advantaged mothers in the Philippines never attempted breast-feeding while one sixth of the rural poor in the Philippines never attempted breast-feeding. In comparison only 3% and 7% of the mothers in Sweden and Hungary never attempted breast-feeding. The practice of rooming-in (keeping the new born infant with the mother) correlated highly with breast-feeding in the nine countries studied.

The practice of providing free samples of infant formula in hospitals was most common in the Philippines and Guatemala but rare in Sweden, Hungary and Zaire. In the Philippines 41% of the rural poor who had delivered in hospitals had been given free milk samples. Dr. Carballo noted that the most common response from mothers when asked why they did not breast-fed was "not enough milk," an answer which indicates possible ignorance about the technique of breast-feeding.

Dr. James Post, Professor of Management at Boston University, explained that data on profits, advertising, and market shares of infant food manufactueres are scarce. He estimated that developing countries account for about 40% of a $1.5 billion world market in infant formula. Professor Post noted that there are two types of infant food manufacturers, (1) food companies which use direct consumer advertising and (2) pharmaceutical companies which promote their products through the health professions and in hospitals. Abandoning direct consumer advertising, as recommended by company critics, therefore, placed a heavier burden on the food companies in the infant formula business than on the pharmaceutical companies, Dr. Post observed.

Dr. Post concluded that these hearings mark a turning point. Until now, critics of the companies had the burden of proof. Now the burden of proof has shifted to the companies to show that their product serves a public purpose in developing countries.

PANEL THREE: INDUSTRY REPRESENTATIVES

Dr. Oswaldo Ballarin, Chairman of the Nestle Company in Brazil, defended his company against the charges of critics which he declared were misleading and inaccurate. The boycott of Nestle products, in his opinion, is one example of inaccuracy since the American Nestle Company does not even manufacture infant food products. Dr. Ballarin strongly objected to the film "Bottle Babies", widely shown to schools and churches in this country, which, he stated, represents an emotional attack on the Nestle Company. Dr. Ballarin noted that a pediatrician who appeared in the film has since discredited it. He said that the American Nestle Company advised him that the infant formula campaign was actually an indirect attack on the free world's economic system.

Senator Kennedy responded, "You can't really expect us to believe that the Presbyterian Church, the Methodist Church (he read part of the membership of the Interfaith Center for Corporate Responsibility), the World Health Organization, and dozens of Roman Catholic Orders are conspiring to overthrow the free world economic system?" Senator Kennedy added that he felt these groups were expressing a deep concern for infants, the most vulnerable of human beings.

Dr. Ballarin thanked the Senator for his remarks and stated that the extent of infant formula misuse has been exaggerated. Although Nestles does not do surveys on who uses their products, Dr. Ballarin offered to supply the committee with theses by doctors which contain some information on the subject. In one thesis, not a single case of kwashiorkor could be attributed to bottle feeding. Dr. Ballarin said that his company has been asked by sisters working in the Amazon region to send them infant food products. "Should we refuse? It is a difficult situation. Our company cannot be responsible for bad water, poverty and illiteracy," Dr. Ballarin said.

Mr. Frank Sprole, Vice Chairman of the Bristol-Myers Company, stated that breast milk is best but where it is not appropriate or sufficient, then their product is a fine substitute. The need for a breast milk substitute is not confined to women who can't breast-feed their babies for medical reasons, but is also necessary for women who must work outside the home to support their families, Mr. Sprole added.

Mr. Sprole stated that simplified directions are now being used on formula labels to guard against product misuse. A pamphlet giving visual directions for the preparation of the product is now in preparation. He said that direct advertising to consumers in developing countries has been forbidden by his company as has the distribution of free samples directly to mothers. Mr. Sprole added that mother-craft nurses are now being phased out despite the fact that feedback from the field praised the health work done by these company personnel.

Mr. John Stafford, Vice President, American Home Products, stated that in recent years, the manufacturers of infant formula products have come under attack by groups in the USA and in Eurpoe. The critics assert that unsafe water can cause diarrhea which can lead to malnutrition. Mr. Stafford said that everyone knows that unsafe drinking water poses a serious health problem but this is true regardless of whether the infant receives formula, or any of the many less nutritious local products which mothers mix with water to feed babies.

Mr. Stafford stated that another charge against the use of infant formula is its cost—that many mothers cannot afford adequate quantities and thus overdilute the product, leading to malnutrition. Mr. Stafford declared that his company is not aware of even one controlled study which documents this with the use of their products.

Both . . . And

Mr. David Cox, President of Ross Laboratories, said that he and two international health experts went to Jamaica in 1970 to look into this problem first hand. They found one family which had been feeding three infants for 10 days from a single can of formula. Though the formula

must have been overdiluted, the babies were healthy because the mothers were feeding them the breast both morning and evening. Mr. Cox asked, "Is it not better that these women were supplementing the breast with a nutritious product such as formula rather than a flour-water mixture or some other less nutritious local mixture?"

Mr. Cox declared that the issue is not breast-feeding or bottle feeding. Instead it is both . . . and. In the majority of cases, bottle feeding supplements rather than replaces breast-feeding. The volume of milk produced by adequately nourished women is sufficient for infants up to six months, but, according to Mr. Cox, research has shown that the volume of milk from poorly nourished women will suffice only up to 3 or 4 months. Supplements to breast milk are necessary at this time.

Mr. Cox said that the charges of critics of the infant food industries are often biased and based on anecdotal evidence. "The fact that we are building infant formula plants in the USSR and in Cuba should indicate there is a need for infant formula independent of the marketing activity of the infant food companies which, of course, do not operate in these countries," Mr. Cox added.

ATTACHMENT #5

Nutrition In-Service Training Workshop

Coolfont, West Virginia
November 13-17, 1978

Recommendations of the Workgroup on Maternal and Infant Nutrition

1. Promote a clearinghouse of infant nutrition information with WHO if it can be arranged expeditiously. Explore ongoing financing through ICIFI.

2. Study the effect of policy/practices in the workplace concerning both maternity leave and infant feeding practices. Focus on women in the fixed jobs (e.g. in factories) and casual laborers (food vendors) both in rural and urban settings.

   Investigate the current Women in Development literature such as Fletcher School Country Studies on Population.

3. Reassess the current strategy for monitoring/measuring the marketing practices (supply and demand) of commercial infant in LDCs.

4. Promote interest in infant nutrition through groups already active in "pro breastfeeding efforts" such as La Leche League.

5. Promote country-specific research and development in infant nutrition with a heavy anthropological component, with the objective of thereafter developing:

   -- nutrition education/media
   -- curriculum development in

      medical schools
      nursing schools
      training for community level workers
      primary schools
      secondary schools

6. Promote adequate weaning diets at the appropriate time based on locally available foods prepared at home.

7. Promote sensitization of health leaders (including hospital chiefs of staff) regarding infant and maternal nutrition through regional-and country-level meetings.

8. Promote supplementation of the mother's prenatal and lactating diet through FFP with both rural and urban focus.

ATTACHMENT #6

LDC RESPONSES TO AN AIRGRAM QUESTIONNAIRE ON INFANT NUTRITION

(Sent 5/27/77)

An Airgram was sent to AID Field Missions in LDCs asking for information on breastfeeding and weaning practices and programs available. Nineteen missions responded within the time limit set. There was no follow-up on non-respondents. The level of expertise of respondents varied. The questionnaire was lengthy and many of the questions asked several questions. It is not clear in all instances whether the information collected represents the area from which the response came. The responses contain most interesting information and it is hoped that by sharing knowledge and experiences new ideas for better programs and research will be developed.

1. HOW ARE BREASTFEEDING, APPROPRIATE WEANING PRACTICES AND MATERNAL NUTRITION ENCOURAGED IN ONGOING NUTRITION, HEALTH, FAMILY PLANNING AND FOOD FOR PEACE PROGRAMS?

HONDURAS: Clinics pre and post natal.

TANZANIA: MCH clinics nurses and MCH aides.

NICARAGUA: AID FP program. Train pateras - midwives who are encouraged to visit each new mother to discuss breastfeeding.

PARAGUAY

EL SALVADOR: Stressed by government and private agencies including through health nutrition courses.

MOH rural health aides go door-to-door.

PL 480 Title II food supplements to lactating mothers.

ETHIOPIA: Supported by Ethiopian Nutrition Institute, MOH, (through non-formal education, literacy programs) FP association and other non-governmental agencies.

TURKEY: Nutrition education program coordinated by MOH and UNICEF.

CHILE: National Health Services with special emphasis on breastfeeding education for mothers but as yet no coordinated national breastfeeding program. The extent and quality of each clinic and hospital program depends on the program direction. (For operational programs see Appendix 1).

PHILIPPINES: Nationwide radio programs encouraging BF. Mini-dramas on proper supplemental foods.

SENEGAL: Breastfeeding rule. No programs.

EGYPT: Not much emphasis on weaning practices, maternal nutrition or BF.

CRS W/AID to begin nutrition education to support PL 480 food distribution.

LESOTHO: Basic nutrition education on three food groups, BF and appropriate weaning practices plus maternal nutrition during lactation.

59% of mothers and 25% of infants are covered by these programs.

PAKISTAN: BF encouraged in MCH network, clinics, maternity wards. Home visits by LHV (Lady Health Visitor). LHVs are graduates of public health schools and are trained to promote improved nutrition particularly BF and weaning food preparation from total foods. Good hygiene and baby care is also taught. It is difficult to generalize about the extent to which they perform these functions in actual practice. We understand that even where weighing is done the information may not be used as the basis for giving special care to those who need it.

Mass media programs to encourage breastfeeding-- radio, television, newspapers.

AFGHANISTAN: Very few programs, but those existing emphasize BF.

ZAIRE: Few government sponsored successful services. AID supported centers have built in education programs for mothers that encourage BF, maternal nutrition and weaning practices. Also, have local Catholic and Protestant necessary health services.

BANGLADESH: Nutrition is provided through private voluntary agencies. Until recently little attention was given to nutrition. Director of family planning is attempting to incorporate nutrition in training of Family Welfare Visitors. WFP provides food to vulnerable group, but no education component.

LIBERIA: BF, no alternative custom and culture.

PERU: Encouraged by Government MCH programs, food distribution, and education programs. Some PVO's involved in food activities. Limited resources constrained to increased coverage.

2. TO WHAT EXTENT DO TRAINING PROGRAMS FOR PROFESSIONALS OR PARAPROFESSIONALS IN HEALTH/NUTRITION/FAMILY PLANNING EMPHASIZE THE IMPORTANCE OF BREASTFEEDING AND APPROPRIATE TO WEANING PRACTICES?

HONDURAS: Formal and informal family programs emphasize BF AID training programs for rural auxiliary nurses, midwives, and community nurses, emphasize lactation as an important part of infant nutrition.

TANZANIA: Progressive curricula for BF and weaning.

NICARAGUA: AID trained FP persons, BF and supplementing mothers milk after six months.

EL SALVADOR: National Nursing School trains social aides. BF where policy is taught and practiced. School encourages use of cows milk over powdered milk.

PARAGUAY: Emphasize BF from 6-9 months and progressive weaning in training programs.

EL SALVADOR: In RHA MOH courses.

ETHIOPIA: Curriculum BF and weaning stressed.

TURKEY: Five days midwifery training (2 for BF; 2 for weaning).

CHILE: Taught but need practical knowledge on how to stimulate mother to BF and assist her with problems.

PHILIPPINES: CRS and Health Department courses.

SENEGAL: Training programs mention the importance of introducing protein foods before weaning. Little passage of information between paraprofessionals and public.

LESOTHO: 36 institutions offer training in nutrition. 30 have at least one lecture on BF and weaning practices. Feel more needed on mixtures of available foods for good weaning diets since there is a predisposition to malnutrition for 6-24 months old.

PAKISTAN: Five PH schools give nutrition courses to LHVs. Weaning is the introduction of solid foods as supplement at age 4-6 months.

CARE and UNICEF Seminars and workshops include BF and weaning. Nutrition and hygiene included in high school curricula.

AFGHANISTAN: BF is universal (culture). Problem is instituting reasonable weaning practice.

ZAIRE: Professional and paraprofessionals receive inadequate practical instruction.

BANGLADESH:

LIBERIA: Training programs emphasize BF.

PERU: No special emphasis on BF.

3. DO POSTPARTUM HOSPITAL OR CLINIC PRACTICES DISCOURAGE BREASTFEEDING THOUGH DELAYED MOTHER/INFANT CONTACT, SCHEDULED FEEDINGS, ENCOURAGING USE OF FORMULA?

Only four missions stated that hospital or clinic practices discouraged BF (Chile response stated it was variable; Nicaragua, Senegal, Philippines). In Honduras wait 6-8 hours after delivery before BF. In Paraguay, 10-12 hours elapse before BF. In Senegal many paraprofessionals think colostrum is bad for the baby and discourage BF. Even in Lesotho where mothers are encouraged to BF as soon as possible, some nurses give the bottle for a day or two if the colostrum is fatty. In Pakistan formula use is discouraged. In Zaire working women use formula. So even for those that do breastfeed, patterns and policy vary. In Nicaragua BF is discouraged indirectly because the mother gets free milk for the infant for six months. In San Salvador BF is often impossible for working women.

4. DO FAMILY PLANNING PROGRAMS INCORPORATE, AS A MOTIVATIONAL TECHNIQUE, THE VALUE OF BREASTFEEDING IN DELAYING FERTILITY?

Six programs did have family planning programs whereas ten did not. In Nicaragua the AID program did have a family planning component whereas the others did not.

Honduras program lacks personnel. Chile used "more effective means"; Cairo - FP was far inadequate. Government policy was on of benevolent indifference. In Zaire breastfeeding is an economic necessity. In Afghanistan and Pakistan breastfeeding widely practiced. In two areas there were no family planning programs, namely Chad and Senegal.

5. **What is the incidence and duration of breastfeeding (BF) and when are semi-solid foods introduced (in both urban/rural settings)?**

PLACE	FREQUENCY OF BF MOTHERS	DURATION OF BF (months)		INTRODUCTION OF SEMI-SOLIDS (months)
		Urban	Rural	
Honduras		6	18	
Tanzania*				
Nicaragua		4	10	12
Chad		14	18	5-6
Paraguay**				
El Salvador*				
Ethiopia*				
Turkey		12	24	
Chile	93 - 95% of mothers	3.5	4.8	
Philippines	85 - 95% rural 40 - 50% urban	12	12-14	6-7
Senegal			15	6-9
Egypt*				
Lesotho		12 (75%)	90%	12 rural 9 urban
Pakistan		20 (86%)		10 (20%)
Afghanistan*				
Zaire		18	18+	9-10
Bangladesh		24	24	12-18
Liberia		24	36	
Peru		12-15	18-24	6 rural 3 urban

*No information available.
**Information not clear.

6. Are studies/surveys available on beliefs and practices which affect infant feeding, e.g. reasons why women do not breastfeed, women's understanding of relationships among breastfeeding, fertility and infant health, etc.?

PLACE	STUDIES AVAILABLE	SURVEYS AVAILABLE	NONE	OTHER
Honduras			x	only small study
Tanzania			x	
Nicaragua	x			
Chad			x	
Paraguay		x		
El Salvador*				
Ethiopia*				
Turkey			x	
Chile	x			
Philippines	x			
Senegal			x	
Egypt*				
Lesotho	x			
Pakistan	x	x		
Afghanistan*				
Zaire				few or poor qual studies
Bangladesh	x			
Liberia		x		
Peru	x			
TOTAL	7	2	5	Studies of littl use (1)

*No information available.

7. What government or private incentives exist to improve infant feeding, such as maternity leave, provisions for breastfeeding (BF) infants at work, food or cash subsidies for pregnant and lactating women?

PLACE	MATERNITY LEAVE FOR WORKING MOTHERS	FOOD & FEEDING PRACTICE	OTHER
Honduras	12 weeks		question enforcement
Tanzania	3 months	Title II food for lactating and pregnant mothers	
Nicaragua	yes		
Chad	8 wks. before; 6 wks. after	1 hr /day to feed child 15 months or younger	
Paraguay	Soc. Sec.-50% of salary 3 months for leave		
El Salvador	75% of salary - 12 weeks		
Ethiopia	40 days		
Turkey	20 days before; 40-60 after	1 hr. leave for BF in a.m. & p.m.; food or cash subsidies	
Chile	1.5 months before w/pay; 3 months after	every 4 hrs. to BF; if BF, allowed 6 months leave	day care centers
Philippines *			
Senegal *			
Egypt *			
Lesotho *			
Pakistan	maternal leave w/pay; free med. treatment before & after	USAID Title II feeding	
Afghanistan	none	none	
Zaire	3 mos. before w/pay 3 mos. after		
Bangladesh	none	none	
Liberia	none	none	
Peru	15 days before 45 days after	small subsidy to buy milk for 8 mos., therefore, discourages breastfeeding	

8. What types of weaning foods are most commonly used -- imported commercial, locally produced commercial or home prepared multimixes?

PLACE	COMMERCIAL IMPORTED	COMMERCIAL LOCAL	HOME PREPARED	OTHER
HONDURAS		urban	urban & rural	
GUATEMALA	limited use		most**	Title II foods
NICARAGUA			x	Gerber avail. out for rural p.
CHAD		bought by wkng. women	x**	
PARAGUAY			x	
EL SALVADOR	wealthy urban		x	
ETHIOPIA	x**	available at subsidized price		
TURKEY		x		
CHILE		x		
PHILIPPINES	x	limited to Metro Manila		
SENEGAL		x		
EGYPT		x	x	
LESOTHO	urban areas		x	
PAKISTAN	rich urban & rural	rich urban & rural	poor	
AFGHANISTAN*				
ZAIRE	small amount	x**		
BANGLADESH		only for rich	x	
LIBERIA			x	
PERU			x	

	Home Prep.	Imported	Local	Several
TOTAL	4	2	4	9

*No information available.
**Major and stressed.

9. What are government policies regarding the use of infant formula and imported commercial weaning foods, i.e. are such products treated as food/pharmaceutical products, are imports and/or advertising restricted, are free samples provided in hospitals or through company-paid reps.?

PLACE	FOODS	PHARMACEUTICAL PRODUCTS	REST. ON IMPORTS & ADV.	FREE SAMPLES	OTHER
Honduras		formula & imported commercial foods - prescription items			
Tanzania			yes		gov't. opposes use of imported foods
Nicaragua**				small amount	
Chad			no restrictions	minute amount	
Paraguay	seen as foods		no restrictions	yes	
El Salvador	seen as foods		no restrictions	yes	formulas subsidized in hospitals through milk bank
Ethiopia	sold in pharmacies & food stores		no restrictions		
Turkey	seen as food		no imports; advertising is allowed	yes	
Chile		yes, prescription			
Philippines			no restrictions on advertising		
Senegal	milk w/natural composition	modified milks	no restrictions on advertising		
Egypt*					
Lesotho	seen as foods		no restrictions	yes	
Pakistan		yes, prescription	advert. restric.		
Afghanistan**					
Zaire***					
Bangladesh**					
Liberia					
Peru	seen as foods	1 brand of con-	no restrictions on imports prohibit import-	yes	

* No info. available

10. What is the extent of distribution of infant formula and imported weaning foods? Are these products found mainly in urban areas and if so, where?

PLACE	DISTRIBUTION	URBAN	RURAL	OTHER
Honduras	commercially through pharmacies & supermarkets	x		
Tanzania	CRS & MOH Plan			AID provided Title II food
Nicaragua	No govt. distribution program	x	x	found in stores
Chad	sold in stores	x		
Paraguay	insignificant distribution found in pharmacies & food stores			
El Salvador	supermarkets, pharmacies	x		
Ethiopia		x		
Turkey	local	x		
Chile*				
Philippines*				
Senegal	stores, pharmacy	x		
Egypt*				
Lesotho	cafe, chemists	x		
Pakistan	feeding program	x		
Afghanistan*				
Zaire	very limited	x		
Bangladesh*				
Liberia		x		
Peru	state controlled and distributed	x	some	

*No information available.

11. Have efforts been made to produce nutrition commercial weaning foods in-country? If so, under whose auspices?

PLACE	EFFORTS BEING MADE	NO EFFORTS	UNDER AUSPICES OF
HONDURAS	x		Government
TANZANIA	x		AID and Tanzania
NICARAGUA	x		Research [illegible] government & A
CHAD		x	No commercial foods produc in-country
PARAGUAY		x	
EL SALVADOR	x		Research stage
ETHIOPIA	x		ENI & National Food Corp.
TURKEY	x		M.O.H.
CHILE	x		S.N.S.
PHILIPPINES	x		AID & Bureau of Agricultur Extension & Nat'l. Nut. Co
SENEGAL		x	Some 20 years ago failed
EGYPT	x		UNICEF & WFP
LESOTHO		x	
PAKISTAN	x		MOH & WFP - Need for more
AFGHANISTAN		x	
ZAIRE		x	
BANGLADESH		x	
LIBERIA		x	Limited local resources
PERU	x		Research stage
Total	11 (8 of which are government sponsored	8	

May 25, 1979

ACTION MEMORANDUM TO DEPUTY ASSISTANT ADMINISTRATOR
DEVELOPMENT SUPPORT BUREAU

THRU : DS/PO, Robert C. Simpson

FROM : DS/N, Martin J. Forman Martin J. Forman by J.M.

SUBJECT: Approval of Project Paper on "Changing Maternal Weaning Diet Practices" , Project Number 931-1010

Problem: To approve DS/N Project "Changing Maternal Weaning Diet Practices" and to authorize funding of Phase I in the amount of $3,560,000 with funds approved in the amount of $933,000 for FY 1979.

Discussion: The project purpose is to provide assistance to LDCs to promote desirable infant feeding practices, including breast-feeding and weaning; and improved dietary practices in pregnant and nursing women. The first of two phases contains the following activities: (1) Nutrition Education and Training; (2) Study of the Role of Infant Formula and Marketing Practices; (3) Information Clearing House; (4) Coordinating and Consultative Mechanisms. The second phase is scheduled to begin in the middle of FY 80 and will contain: (1) Study of Legislation Affecting Infant Feeding in LDCs; (2) FFP Pilot Projects, (3) Research. Both phases will run concurrently over four years.

The Project Paper was presented to the Research and Development Committee on February 16, 1979. Detailed implementation plans for each of the four activities in Phase I were subsequently written and approved by two Regional Bureaus (memos attached from L.A. and AFR).

Asia Bureau has not concurred because of a new requirement for DSB projects that individual countries should be selected and their approval obtained prior to the Asia Bureau's concurrence on new projects (memo attached).

Technical issues raised by Asia and Near East Bureaus consist of the following:

(1) A dollar limit for the information clearing house ($200,000 for

four years). We have reduced the original budget from $510,000 to $360,000 (four years) and have included provision for an evaluation after the first two years which will determine whether the activity should be continued for an additional two years.

(2) Research design, especially the study of infant formula be subject to careful review. This has been built into the project through internal and external review committees which will scrutinize both the scope of work in the RFP and proposals from the contractors. We believe however that our inter-bureau review process should decide on a scope of work but leave the research design to proposers. Our internal review and selection committee will then evaluate the proposals based upon a number of criteria, including their proposed research designs.

(3) Mission and country approvals should be obtained before undertaking any studies or programs. This will be the standard operating procedure throughout the project, but I do not think it is feasible or prudent to get country approval on these kinds of activities before a project is approved.

All Bureaus are represented in an internal steering committee which will continue to provide technical guidance and assistance in project implementation.

The Program and Project Paper were developed over the past two years on the basis of input from the following entities:

1. National Academy of Sciences.
2. Nutrition leaders from more than 20 LDCs.
3. Public interest groups involved in Breastfeeding/Formula issues.
4. Infant formula companies.
5. Approximately 30 USAID Missions.
6. PVOs involved in nutrition programs.

Recommendation: That you approve the financing of the "Changing Maternal Weaning Diet Practices" Project Phase I by signing the attached PAF, Part II.

Approved: Jay Bakke

Disapproved: _____

Date: 6.25.79

Attachments: PAF, Parts I, II
Project Paper
Memos from Regional Bureau

7/10/79

ACTION MEMORANDUM FOR THE DEPUTY ASSISTANT ADMINISTRATOR FOR THE DEVELOPMENT SUPPORT BUREAU

FROM : DS/N, Martin J. Forman Martin J. Forman

SUBJECT : Procurement Waiver - Services

Problem: Request for Procurement Source Origin Waiver for services from a source other than U.S. firm, U.S.-controlled local firms or joint venture of these firms

1. Cooperating : World-wide - DSB

2. Authorizing Document : Project Paper

3. Project No. and Title: 931-1010 "Changing Maternal Weaning Diet Practices, Phase I

(a) Information Clearing House - Description of Services:

Institutions or firms in LDCs will act as local clearing houses of information on Maternal and Infant nutrition to facilitate in the collection and dissemination of relevant publications through a global clearing house of information on the subject.

Approximate Value: $64,000 over four years

Probable Source : Geographic Code 941 and including Cooperating Countries

Justification: (i) Translation of the newsletter into local languages will be more cost-effective if done in the respective LDC; and (ii) Information on programs, policies and new research findings available in local institutions and often in local languages will need to be gathered by an entity in-country, and translated into English before sending it to the central information clearing house.

(b) Infant Formula Study - Description of Services:

This is a study to determine the impact of infant formula marketing practices on infant nutrition in LDCs. In the selected

710-04

PROJECT AUTHORIZATION AND REQUEST FOR
ALLOTMENT OF FUNDS

PART II

ENTITY: Development Support Bureau

PROJECT: Changing Maternal/Weaning Practices

PROJECT NUMBER: 931-1010.14

A.I.D. grant financing in the amount of $3,560,000 is hereby approved in order to support the Changing Maternal/Weaning Practices, Phase I. Funds will be obligated over a five year period beginning in FY 79. Nine Hundred Thirty-Three Thousand Dollars($933,00 is hereby authorized for FY 1979 funding for a period of 36 months.

Approved: Tony Baldwin

Disapproved: _____

Date: 6.25.79

Clearances:

DS/N, M. J. Forman [illegible] Date: 7/6/79
DS/PO, C. Kassebaum [illegible] Date: 7/6/79
DS/PO, R. Simpson [illegible] Date: [illegible]
LA/DR/HN, M. Laskin [illegible] Date: 7/6/79
AFR/DP, A. Braunstein [illegible] Date: 7/6/79
GC/TFHA, S. Tisa [illegible] Date: 7/12/79

study countries, local agencies will gather field data, train investigators, analyze data and conduct workshops to discuss results of the study.

Approximate Value: $58,000 per country x six countries = total $348,000 over three years

Probable Source : Geographic Code 941 and including Cooperating Countries

Justification: (i) The issue of formula marketing versus breast-feeding is a sensitive one. It would be only judicious for data collection and analysis to be undertaken in this field by the developing countries themselves; and (ii) One of the chief objectives of the study is to develop surveillance mechanisms for monitoring formula promotion activities and infant nutrition. Therefore, by actually conducting the data gathering and analysis tasks, LDC institutions will develop the necessary skills and experience to carry out long term surveillance after the study is completed.

A third component of this Maternal and Infant Nutrition Project (Phase I), is assisting LDCs and PVOs in designing and conducting educational campaigns and training programs to promote desirable feeding practices. It is anticipated that this component will also require a Procurement Waiver for services for the purpose of building institutional capabilities in nutrition education and training in LDCs. More details of the services to be procured from non-U.S. sources are not available at present. Therefore, a separate request for this waiver will be made at a later date.

Recommendation: Based on the reasons stated above, it is recommended that you certify that the proposed procurement of services from other than a U.S. firm or citizen will best serve the interests of the U.S.

Approved: Tony Babb

Disapproved: _____

Date: 7 · 19 · 79

Project Paper

Project Title: CHANGING MATERNAL/WEANING DIET PRACTICES - Phase I

#931-1010

Office of Nutrition
Development Support Bureau
Agency for International Development
Washington, D. C.

March 1979

Changing Maternal/Weaning Diet Practices

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Attachments (available upon request)
1. Joint Resolution - House of Representatives, August 26, 1976
2. International Development and Food Assistance Act of 1977
3. International Assistance For Maternal and Infant Nutrition In Developing Countries - NAS 1978
4. Notes on a Senate Hearing, May 1978
5. Recommendations of the Workgroup on Maternal and Infant Nutrition, Coolfont 1978
6. LDC Responses to an Airgram Questionnaire on Infant Nutrition

12. What is the level of awareness and interest of Government and private organizations in the subject of breastfeeding and weaning practices? i.e. Has the subject received any media coverage, have any conferences stressed its importance?

PLACE	GOVERNMENT AWARENESS & INTEREST	NO GOVT. AWARENESS & INTEREST	MEDIA COVERAGE	CONFERENCES	SEMINARS	OTHER
Honduras	moderate		little	moderate		
Tanzania			moderate			
Nicaragua	low		moderate			
Chad	moderate					
Paraguay	moderate	moderate	moderate	moderate		
El Salvador	low priority			moderate		
Ethiopia	moderate					
Turkey	satisfactory				April '78 UNICEF	survey
Chile	high					study
Philippines				moderate		
Senegal		moderate				
Egypt			little			
Lesotho	little		some	moderate		
Pakistan	moderate		strong			
Afghanistan	little		rare			
Zaire	moderate		moderate	moderate		not many gov't-sponsored efforts
Bangladesh	very little					
Liberia						
Peru						survey