

# Technical Background Paper and Recommendations

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## Nutrition Intervention Action Plan Latin America and the Caribbean

January 1988



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TECHNICAL BACKGROUND PAPER AND  
RECOMMENDATIONS  
FOR A PLAN OF ACTION  
TO SUPPORT NUTRITION ACTIVITIES  
IN LATIN AMERICA AND THE CARIBBEAN

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TECHNICAL BACKGROUND PAPER AND RECOMMENDATIONS

**PLAN OF ACTION TO SUPPORT NUTRITION ACTIVITIES IN  
LATIN AMERICA AND THE CARIBBEAN**

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## TECHNICAL BACKGROUND PAPER AND RECOMMENDATION

### **PLAN OF ACTION TO SUPPORT NUTRITION ACTIVITIES IN LATIN AMERICA AND THE CARIBBEAN**

#### SUMMARY

Large segments of the population in the Latin America and the Caribbean (LAC) region continue to suffer from malnutrition despite increases in per capita income, aggregate food supplies, and expanded health services. In the early 1980's, an estimated 50 million individuals lived in households with inadequate purchasing power - incomes too low to afford sufficient food at prevailing prices. An estimated 21 million children under five suffer from growth failure due to malnutrition of which 12 million are severely malnourished and at high risk of death. The effects of recession and structural adjustment on purchasing power and social services for the poor have likely worsened these conditions.

The implications of not responding to escalating nutrition problems in the region include: inefficiencies in child survival programs due to replacement mortality from lowered resistance to killer diseases of childhood such as ARI, and lower impacts of ORT and immunization programs; low productivity and a weakened human resource base; social, political, and rural-urban instability; and disruptions in aggregate and sectoral growth.

The major constraints in assuring adequate nutrition in the region include: inefficient targeting of agriculture and rural development policies and programs to raise incomes of the poor; negative and poorly understood effects of the recession, structural adjustment, and urban migration; inability of implicit and

untargeted subsidies to reach the poor; ineffective nutrition education and obsolete MCH services; and limited nutrition programming capacity in-country.

In the past, A.I.D. played a valuable role in institutionalizing nutrition, helping in the identification of and spreading awareness regarding nutrition problems in the region. It helped develop innovative approaches to address these problems and supported the expansion of nutrition programs - many of which are now self-sustaining. However, A.I.D. activities have not kept pace with new breakthroughs and the changing nature of malnutrition in recent years. With some modifications in the existing portfolio, the agency's considerable country-level infrastructure and resources can have a major influence on nutrition problems in A.I.D.-assisted countries.

A review of nutrition activities during 1985-87 showed that the level of A.I.D. assistance is low and declining. Nutrition accounted for 0.6 percent of the total economic assistance to the region in 1987, declining from 13.8 million dollars in 1985 to 8.4 million dollars in 1987. The ARDN account, at approximately 160 million dollars in 1987, funded activities aimed at nutrition/consumption estimated at 1.2 million dollars - down from 3.8 million dollars in 1985. Only about 10 percent of Health and Child Survival accounts goes to support nutrition activities. Food aid is largely channelled through numerous, small programs that do not have adequate dollar resources for technical backstopping, monitoring, or provisions for key complementary services needed to ensure effective utilization of the commodities distributed. Nutrition activities supported by

A.I.D. at present need to better reflect new knowledge and approaches in areas such as: targeting food subsidies and income generation interventions to benefit the poorest and those at highest risk of malnutrition; social marketing and growth monitoring to effect behavior change through nutrition education programs; strategies to increase breastfeeding and control bottlefeeding, increase effectiveness of prenatal care, and control micronutrient deficiencies. Recommendations for this plan of action have been developed to strengthen A.I.D.'s nutrition portfolio and programming capacity in the LAC Region over the next five years (1989-1993). Resources and technical assistance should be focused in these countries of greatest need and rising hunger and malnutrition: Haiti, Bolivia, Honduras, the Dominican Republic, Guatemala, Ecuador, Peru, and El Salvador.

First steps include:

- o development of strategies and action plans at the country level to complement existing child survival, food security and agriculture strategies;
- o in-service training for mission staff and counterparts, including PVOs;
- o designating nutrition coordinators and nutrition working groups in USAIDs, with specific responsibilities;
- o putting into place a tracking system to monitor nutrition-related A.I.D. assistance and to update nutrition/consumption data including relevant economic indicators at the country level; and,
- o review and revision of CDSS, mission action plans,

and the current portfolio of ARDN, Health and Child Survival and P.L. 480 assisted activities.

LAC/AID/W should track progress in meeting the regional goal of strengthening nutrition/consumption activities using the following indicators:

- o analyses of national household expenditure, consumption, and nutritional status data completed for the purpose of identifying high risk groups and consumption responses;
- o national strategies and USAID plans developed;
- o nutrition monitoring and surveillance instituted;
- o coverage of the following activities expanded: nutrition education based on social marketing focused on maternal and child care/feeding; appropriate dietary management of diarrhea; growth monitoring; prenatal care; strategies to increase breastfeeding and control bottlefeeding; and strategies to reduce micronutrient deficiencies;
- o 20 percent of ARDN account funds, and 30 percent of combined Health and Child Survival account funds allocated to nutrition and consumption activities; and,

o Title II commodities targeted to and more effectively utilized in households identified as being at risk of malnutrition along with monitoring, education, health, and other inputs.

Section I gives the rationale for strengthening nutrition programs in the LAC Region. Section II provides the background including a summary of the magnitude of nutrition and household food security problems in LAC. Section III reviews key constraints in achieving nutrition objectives. Section IV identifies the objectives, key elements, and resource needs of the plan of action. Section V outlines the monitoring plan. More details are provided in the annexes on nutritional problems in the region (Annex A) and the current nature and level of A.I.D.-assisted activities (Annex B). A bibliography is in Annex C.

TECHNICAL BACKGROUND PAPER AND RECOMMENDATION  
**PLAN OF ACTION TO SUPPORT NUTRITION ACTIVITIES**  
**IN LATIN AMERICA AND THE CARIBBEAN**

**I. RATIONALE**

**A. Child Survival**

Malnutrition in young children predisposes them to disease and mortality. Deaths from diarrhea preventable through adequate nutrition equal approximately two-thirds of the total diarrheal deaths in developing countries. Severely malnourished children have been shown to suffer twice the measles mortality of malnourished children. Studies in developing countries have shown that acute respiratory infection takes many-fold greater lives in children with growth failure. A deficiency of Vitamin A may greatly exacerbate both diarrheal and respiratory infection deaths. Iron deficiency anemia and endemic goiter are significant factors in maternal and child mortality in A.I.D.-assisted countries in LAC.

A.I.D. child survival initiatives, instituted in the 1980's, have succeeded in increasing access to ORT and immunizations. However, coverage with essential nutrition services is lagging far behind. According to estimates made by HPN officers, almost 60 million dollars were allocated to health and child survival activities in 1987 in LAC. Of this, only 6 million dollars could be attributed to nutrition activities in the same year. See Annex B for more details on the level and nature of nutrition activities.

## B. Economic Growth

The economic burden of malnutrition to families and nations is considerable. Inadequate diets increase susceptibility to disease, reduce strength and physical effort for tasks critical for development, and dilute the benefits from schooling and training programs (McGuire and Austin, 1987). These effects reduce productivity of people in the short and long terms, curtail output and income, and create serious impediments for households and countries to break the cycle of poverty (World Bank, 1986). Lacking energy and ill-equipped to take advantage of opportunities for increasing their productivity and output, malnourished segments of the population can slow long-run economic and agricultural sector growth (World Bank, 1986). Rural poverty, disparities in rural and urban incomes, and access to public services and affordable food, have been an acknowledged source of social and political unrest in the region (IDB, 1986).

Changes in the economic situation, such as the recent economic recession and structural adjustment, call for special expertise in analyzing the effects of different policies and programs on nutrition and consumption by the poor. Special interventions to protect high risk and marginal households from plunging deeper into poverty and malnutrition are urgently required. A.I.D. has ready access to both the technical know-how and the program infrastructure to address these critical needs.

### C. A.I.D.'s Blueprint for Development

The Agency's global plan of action directs attention to nutrition concerns in two major sectors. In agriculture, rural development, and nutrition (ARDN) it calls for increases in food consumption accompanying increases in the incomes of the poor - shifting the emphasis away from agricultural production, productivity, aggregate availability of food, and sectoral growth per se. Minimum standards are set at 90 percent of the population consuming recommended caloric levels. For Health and Child Survival, the plan sets minimum standards for reducing infant mortality (to below 100), age 1-4 years child death rates (to below 10), and the prevalence of growth failure in children under five (prevalence of acute and chronic malnutrition to under 20 percent). A number of A.I.D.-assisted countries do not meet these standards. Strengthening of nutrition components in the agriculture and health sectors is considered essential for sustaining economic growth and assuring a minimum level of basic human needs.

## II. BACKGROUND

A.I.D. has historically played a key role in the development of nutrition institutions and programs throughout Latin America and the Caribbean. The extensive national nutrition programs of Chile, Colombia, and Brazil and the internationally regarded regional centers of nutrition training, research and technical excellence - INCAP (in Guatemala), CFNI (in Jamaica), and national centers in Chile, and Colombia-have received substantial support from A.I.D. Countries in the region have been the recipients of considerable U.S. food aid. Host country govern-

ments, multilateral and other bilateral donors, and PVOs also fund a vast array of activities aimed at improving nutrition. However, malnutrition affecting a sizeable proportion of the population remains a problem in Latin America and the Caribbean--the most developed of the three A.I.D.-assisted regions.

As seen in Table 1, protein-calorie malnutrition is by far the most critical nutrition problem in the seriousness of its effects and the large size of the population affected.<sup>1</sup> According to World Bank estimates (1986), 13 percent of the population in Latin America and the Caribbean is unable to fulfill its minimum food needs. This proportion is higher in A.I.D.-assisted countries, and has increased due to the recent recession and structural adjustment. In LAC, food consumption deficits have existed despite significant increases in the supply of food available from indigenous production and imports during the 1970's. Prices and income are major factors.

The highest concentration of malnourished are found in Haiti, Bolivia, Honduras, Peru, Guatemala, Brazil, El Salvador, Ecuador, and the Dominican Republic. The largest numbers of

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<sup>1</sup> Two characteristics of malnutrition are commonly used to describe its magnitude: the proportion of households that cannot afford to obtain enough food (caloric levels recommended by FAO) to satisfy their estimated food/nutritional requirements, and prevalence of growth failure in children under 5 years of age. The availability of food at the household level adequate to meet the requirements of all family members, represents "food security" and a lower risk of malnutrition. Intra-family food distribution, infant and young child feeding practices, energy expenditure, child spacing, and the incidence and severity of disease determine whether all or some individuals become malnourished at any given level of adequacy at the household level. Pregnant women and children under the age of five (especially under three) are most vulnerable to malnutrition. The prevalence of growth failure among children is the most commonly used measure of the nutritional status of a population.

malnourished are located in Brazil, Mexico, and Colombia. Poor maternal nutrition, inappropriate infant/young child feeding practices, and frequent illnesses are major barriers to achieving adequate nutrition in children under five. An estimated 21 million suffer from some degree of growth retardation (PAHO, 1986); 12 million suffer from growth failure severe enough to increase mortality risk (Haaga, et al, 1986).

Among micronutrient deficiencies, low hemoglobin levels due to insufficient iron affect a third of the region's population, especially children under five and pregnant women. A high proportion of the population in the Caribbean suffers from anemia. Endemic goiter is a serious public health problem in the Andean countries of Bolivia, Ecuador, and Peru as well as Guatemala and El Salvador. Vitamin A deficiency is known to be severe in Haiti, and regions of Honduras, El Salvador, and Guatemala. (Note: Annex A contains more information on nutrition conditions in LAC and program implications.)

Concerned about persistent malnutrition and the need for a focused A.I.D. response, LAC/DR/HN established a nutrition information system that tracks data on nutrition conditions and A.I.D.-assisted activities to enable a rapid assessment of the relevance of nutrition assistance in the region. Based on a review of the nature and level of activities underway in 1986 and 1987, recent literature on nutrition programs, and other donor activity, a regional five-year plan of action is being developed by the Bureau. Priorities are based on A.I.D.'s present global policy and strategy guidelines in nutrition, health/child survival, and agriculture. The plan will also make the LAC

nutrition portfolio more consistent with the objectives and "minimum standards" of the Agency's Blueprint for Development.

### III. IDENTIFICATION OF CONSTRAINTS

A number of conditions have impeded the attainment of adequate nutrition in LAC even during periods of rapid economic growth. These need to be carefully addressed to assure sustained nutritional improvement.

#### A. Limited Benefits for the Poor from Agricultural Growth and Rural Development

Analyses of the causes of food insecurity in developing countries suggest that it can be dealt with by raising the real incomes of households, so that they can acquire enough food (World Bank, 1986). In a country where a large number of the poor derive their income from agriculture this means accelerated and broad-based growth in the agricultural sector could be vital, if the benefits are equitably distributed. This is a long-term solution, requires extensive analysis at the country level and should be supported. Meanwhile explicit measures are needed to deal with the malnutrition that is currently prevalent and emerging. In the LAC region, the nature and extent of participation by the poor in agriculture is changing and needs to be better monitored; innovative employment/income generation programs in conjunction with other sectors may be required.

Constraints in achieving nutritional improvements through agricultural sector growth have been the following: a lack of understanding regarding who benefits from the programs, reluctance to make trade-offs between the objectives of sectoral growth and improved income/consumption by the poor, and poor

coordination with health and other sectors through which compensatory programs could be developed.

Income generation projects in agriculture, when targeted through careful selection of project sites and inputs that ensure participation of lowest income and food deficit households, can lead to nutritional improvement through increased energy and nutrient consumption and increased utilization of health services.<sup>2</sup> These targeted projects may not always contribute to aggregate growth in any significant way and often require additional analytical and administrative skills to plan and monitor.

Experience with rapid agricultural growth in developing countries has shown that benefits tend to flow to the better-off. Without accompanying special interventions, chronic food insecurity at the household level will likely remain a significant problem. The majority of production- and growth-optimizing policies have tended to favor the relatively better-off.

Reasons include:

- o the poor may be landless or small landholders-therefore agricultural inputs such as technology/credit aimed at aggregate sectoral growth benefited the large producers and possibly adversely affected employment and income in high risk households;
- o the relatively better-off may be net consumers of commodities subsidized and the high risk households may be net producers; and,

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<sup>2</sup> See "Impact of Commercialization of Agriculture in the Guatemalan Western Highlands on Income, Consumption, and Nutrition", IFPRI, 1987.

o high costs of participation for the poor who may not have resources to cover transportation, licensing, legal and other requirements, needed to qualify.

Interventions in the marketing and pricing of commodities produced or consumed by the poor can help direct the flow of benefits to the poor from aggregate increases, and offset any negative effects, but have not been given sufficient priority.

A.I.D.'s agriculture and rural development policies for the region emphasize the importance of benefits of agriculture and rural development going to the poor and small farmer. These need to be translated into projects that directly benefit these groups, and the projects monitored for their consumption/nutrition effects on poor households.

#### B. Impacts of Economic Recession, Structural Adjustment and Urban Migration on Nutrition

Most LAC countries have experienced severe economic crises in the past decade. In attempts to deal with the crises, a variety of economic policies have been instituted that also have serious repercussions for nutrition and consumption by the poor in the near-term (PAHO, 1987; World Bank, 1986; Pinstруп-Andersen, 1987). Purchasing power of low income households appears to have declined due to losses in real incomes (real wages declined, unemployment increased; IDB, 1985). Increases in food prices due to reduced subsidies hurt the net purchasers of food. Other cash and in-kind transfer programs appear to have declined significantly in real terms.

Recently immigrated urban low-income households are at additional risk from coping with the unfamiliar economic environ-

ment of urban areas and increased urban unemployment. Traditional foods may be prohibitively costly, causing the nutritional content of diets to decline qualitatively and quantitatively. Nutrition education and targeted transfer programs may be needed for these groups. A better understanding of the impact of urban migration on nutrition and consumption is also urgently needed.

In addition to lower household purchasing power for food, frequent illnesses increase consumption gaps by increasing biological requirements for calories and nutrients. Government expenditures on health care in developing countries as a whole decreased from about 4.3 to 4.1 percent of total government expenditures during 1976-1983; the decrease was most severe in Latin America (IMF, 1985; UN, 1982). In real terms, the decline has been dramatic. In many countries, investments as well as recurrent costs were reduced.<sup>3</sup>

However, basic health care needs of the poor can be protected even in the presence of these reductions by adjusting the existing pattern of expenditures in favor of services such as ORT, nutrition, immunizations, and water and sanitation. An impediment is the large proportion of national health budgets devoted to staff salaries.

Interventions are needed to selectively protect the purchasing power of the poor through: employment schemes including food-for-work, targeted food subsidies, and reorientation of shrinking health and education budgets to maintain activities

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<sup>3</sup> In Jamaica, the real value of health expenditures fell by 35 per cent from 1982 to 1985 (Boyd, 1986). Investments in the health sector were reduced even more than recurrent costs in Chile and Jamaica.

such as primary health care, vocational training, and primary schools.

C. Inability of General Subsidies to Cost Effectively Reach the Poor

Subsidized food distribution is used in LAC and throughout the developing world to protect consumers from the high cost of obtaining sufficient food. However, these have been found to absorb large budgetary resources and benefit the relatively better-off. Problems include: leakages due to cash or food transfers going into non-food consumption or a portion of the subsidy transferred to unintended recipients (well-nourished, higher income); urban bias as a result of political reasons, visibility, or high costs of rural delivery systems; stigma attached to people who are selected; inadequate analyses and information for targeting, and unanticipated costs of data collection/analysis; inaccessibility and lack of "ownership" of the ultra-poor due to unusual constraints in time/opportunity/-cash. Nevertheless, subsidies have been successful in some countries in increasing the incomes and caloric intakes of the poor (Kennedy and Alderman, IFPRI, 1985) and cannot be dismantled such as in the course of structural adjustment, without careful consideration of alternatives (Reutlinger, 1987).

Targeted programs are designed to reach predominantly the poor through locating programs in ration shops, public works sites, and health centers used almost exclusively by the poor (geographical targeting), or through subsidies and grants of foods consumed mostly by the poor (self-targeting foods), or through the use of means tests usually based on income or

nutritional status. (See Table 2 for country examples.) These programs require special expertise and administrative capability to: determine appropriate recipient selection criteria, identify self-targeting foods, develop innovative ways to reach the ultra-poor and sustain their participation, and conduct monitoring activities.

A recent comparison of untargeted and targeted food subsidy programs in Mexico and Sri Lanka found that a considerable number of the poor were not reached through the untargeted program (Namor, 1987). A subsidy on a self-targeting food such as maize would have better succeeded in reaching the poor and ultra-poor than the existing subsidy on tortillas. In Sri Lanka, the eligibility criteria - self-declared household income - was inappropriate, leading to considerable leakages of benefits to the not-so-poor. Musgrove's work in Brazil (1987) has shown that child feeding and family subsidies did not result in expected impacts for a number of reasons, including poor administration (causing supply shortages, for example), and the high cost of sustained participation.

In donated food programs such as Title II and World Food Program, targeting is attempted through the use of delivery systems that selectively reach the needy such as: public works programs to distribute food to the temporarily unemployed, and enrollment of the nutritionally high risk age groups ("vulnerable groups") consisting of children under five and pregnant and nursing women through health facilities and community organizations such as mothers' clubs; and school feeding in rural areas.

A projected 3.3 million recipients in the LAC region are

expected to participate in voluntary agencies' sponsored Title II programs in FY 1988. An additional 241,000 are scheduled under the World Food Program (Title II), and 213,000 through Title II government sponsored programs. (Another 214,000 recipients are expected to receive food through emergency relief programs under Title II.) This comprises only a small percentage of the estimated 50 million malnourished in the region, and unless more strictly/narrowly targeted and carefully monitored, the Title II program cannot be expected to have any significant impact.

Effective targeting requires identification of the high risk and ultra-poor and a mechanism for systematically enrolling and discharging participants on the basis of appropriate criteria; in addition, costs to the households of sustained participation need to be carefully monitored and kept low. Accompanying services such as health, education, training, credit/seeds/fertilizer/tools etc. are essential for sustaining the nutrition/consumption gains. However, the vast majority of donated food programs currently operating in LAC do not appear to be structured for this type of effective targeting or complementary services (King, Pines, 1985). A recent budget analysis of A.I.D. nutrition assistance to LAC (See Annex B), showed that only a miniscule amount of dollar assistance was available in addition to food commodities so that costs of adequate targeting, monitoring, and complementary services could not be covered.

In addition to effectively reaching the target group, subsidies and benefits to the recipients must be at sufficiently high levels to fill consumption/nutrition deficits and be

sustained throughout the period of insufficiency, or until nutritional status is restored. Compensatory programs, whether in the form of subsidized prices, coupons/food stamps, on-site child feeding at health centers or take-home distribution, food-for-work projects, have not been able to consistently achieve these objectives. Two recent targeted food subsidy programs in Colombia and Brazil are among the most successful and effective nutrition programs in the region (Berg, World Bank, 1987).

D. Ineffective Nutrition Activities in the Health Services

In addition to assuring the availability of food at the household level, practices that deny access to food to the family's most vulnerable members, and beliefs that encourage harmful practices need to be changed. In LAC, health services have been the most common delivery system used for nutrition education (others include agricultural extension and community development). The health sector provides the largest infrastructure to reach mothers and children. Nutritional improvement is highly dependent upon the provision of key health inputs such as ORT, immunizations, prenatal care, treatment of Acute Respiratory Infections, safe water and sanitation, and family planning because these activities protect against excessive nutritional requirements and losses caused by frequent diseases.

Child survival and health programs have generally given lip service to nutrition, in part because the only available tools for improving nutrition were feeding programs and nutrition education that failed to demonstrate an impact. Partly, the effectiveness of nutrition efforts through health facilities suffered from the same constraints that affected ORT programs in

the early 1980's (Sanghvi, 1985). These were chiefly lack of awareness and confidence in health professionals (malnutrition was considered a "social disease"), meager outreach capability, low coverage of the highest at risk, ineffective and outdated approaches for screening and therapy, no systematic supervision or referral, supply disruptions, and costly rehabilitation programs.

A number of new options have now become available that have been proven effective in LAC countries. Examples include: social marketing principles applied to changing nutrition behavior, growth monitoring, control of bottlefeeding through effective lactation management, appropriate dietary management of diarrhea, and strategies to control micronutrient deficiencies. Much of the pioneering work has been funded by the Agency.

The success of social marketing approaches in changing consumption/nutrition related behavior cost-effectively has been demonstrated in a number of countries including the Dominican Republic, Brazil, Ecuador, Colombia, and Honduras in recent years. In Ecuador and the Dominican Republic, A.I.D.-assisted social marketing efforts found that growth monitoring activities, when structured to involve the mothers and communities, played a crucial role in changing behavior which together with ORT education led to significantly improved nutritional status.

In rapidly urbanizing LAC countries, public and private sector health institutions have become an important reinforcement for the decline in breastfeeding practices. A.I.D.-funded studies in Colombia (Winikoff, et al, 1986) and Honduras (O'Gara, 1985) and WHO-sponsored studies have documented the widespread disrup-

tion of lactation by poor management in government and private health facilities which endorsed and encouraged bottlefeeding. Health service policies and hospital practices have been successfully modified through sensitization, training, and technical assistance in lactation management in a number of countries. Data from Honduras and Costa Rica have documented impacts of these activities on neonatal mortality, gastroenteritis, and cost savings.

Technical breakthroughs in fortification of foods with nutrients (iodine in salt, vitamin A in sugar), more effective screening, diagnosis, and improved orally consumed supplements (slow-release iron and iodized oil) are important new technologies for controlling micronutrient deficiencies. Few of these have been incorporated into the health services.

#### E. Limited Institutional Capacity

Inadequacies in the following elements of institutional capacity have been important constraints in achieving effective nutrition programming in the region:

- o policy-oriented analytical capability especially to examine nutritional status, consumption, and expenditure patterns;
- o effective and timely representation of nutrition concerns in policy dialogue and resource allocation decisions;
- o technical and program design skills to adapt new approaches such as targeting, social marketing, growth monitoring, food fortification etc. to existing and new programs; and,

- o management skills to implement and monitor large scale programs.

Effective nutrition programming cuts across sectors: chiefly agriculture, rural development, health, and social welfare. The time and effort needed for forging cross-sectoral linkages and consensus building can become disincentives for action. Research oriented, technical institutes have played an important role in providing analytical expertise, training, and in documenting and archiving lessons learned. The need for intervention oriented core groups within and outside government for policy/advocacy and for implementation is equally urgent.

Policies of the greatest nutrition/consumption significance are often shaped by functionaries with limited or outdated nutrition/consumption expertise and no nutrition mandate. Options include in-service training of personnel and institutional support for key ministries, and support for independent and respected institutions that can be readily accessed by ministries. Government collaboration with and support for non-governmental agencies is vital in countries where these agencies run the only potentially effective delivery systems reaching the "ultra-poor."

Sustained funding, policy support, and concern expressed by donor agencies can go a long way in raising the importance and credibility of nutrition/consumption issues and help focus attention on cross sectoral linkages. Donors can also facilitate the transfer of new methodologies, techniques, and lessons learned from program experience across countries. A.I.D.'s institutional

capacity, especially at the country level, needs strengthening in these areas.

#### IV. PROPOSED PLAN OF ACTION

The chief objectives of this plan of action should be: to increase household food security, to improve maternal and infant nutrition, and to strengthen host country and A.I.D. capacity in nutrition programming over the next five years in LAC.

The priorities selected are consistent with the Agency's Blueprint for Development, Nutrition Policy, Food and Agriculture Policy, Child Survival Strategy, Nutrition Strategy, and Nutrition Strategy for Child Survival. The plan complements the Bureau's Guidelines for Supporting Agricultural and Rural Development in LAC as well as the recommended outline for Country Child Survival Strategies in LAC. It builds on the current portfolio of activities, what other donors are doing in LAC, and the existing organizational framework in missions, regional offices, and AID/W.

##### A. Current Portfolio of A.I.D. Nutrition Activities

The agency's present portfolio of nutrition activities is a valuable asset for strengthening nutrition assistance in the LAC region during the next five years, and needs to be updated and reinforced. Concerns regarding current activities are identified below and indicate the type of constraints within A.I.D. that affect the ability to develop effective nutrition activities. Many of these constraints can be addressed through greater technical support for mission personnel, flexibility in providing assistance, improving communications/coordination, and timely decision-making in priority areas.

The level of A.I.D. assistance for nutrition is low and declining in the region. (See Table 3.) In 1987, nutrition activities received approximately 8 million dollars out of 1.3 billion dollars total in ESF, P.L. 480, and Development Account funds for the region. Of total ARDN funds for LAC, 0.7 percent was attributed to nutrition and consumption activities in 1987. During a period of escalating household food insecurity in the region, nutrition/consumption components of ARDN activities declined 70 percent. Child Survival Funds (CSF) attributed to nutrition activities increased two-fold but declined sharply as a proportion of all CSF for the region. Of the total Health account funds for LAC, ten percent went to nutrition. (See Table 4.)

Gaps in the nature of activities include: little informed consideration of nutrition problems and programming issues in health/child survival and agriculture policy dialogue and strategy development; absence of food consumption/nutrition as explicit objectives and to activities achieve there objectives in ARDN projects; obsolete and insufficient nutrition activities in child survival projects; lack of targeting, monitoring and complementary inputs in food aid programs; too little attention to strengthening host country capacity to identify, design and administer nutrition interventions.

In the area of improving household food security, several countries (Honduras, Jamaica, Peru, Panama, Haiti, Guatemala, Ecuador) have undertaken some analyses of patterns of food consumption/expenditure and in some cases, consumption effects of macroeconomic or agriculture sectoral policies on low income households. However, the use of this information in policy or

program design is not identifiable. Essential linkages of ARDN projects with health, social services, and other sectors are missing. Food aid is often considered an important nutrition/household food security intervention. However, there is little evidence of activities funded through P.L. 480 (monetized Title II, Title I, Title III), ESF or ARDN account funds to improve effectiveness. Dollar assistance essential for monitoring, technical assistance, health, and nutrition education activities from P.L. 480 was found to be 2-3 percent of the value of food commodities.

In the area of nutrition components of health and child survival, projects in 3 of the 16 A.I.D.-assisted countries (Ecuador, the Dominican Republic, and Bolivia) and ROCAP, have made provisions for funding and technical assistance. A number of projects throughout the region include dietary management of diarrhea and growth promotion in addition to breastfeeding and improved weaning practices as objectives, but funding and technical assistance needed to expand coverage of these activities and to build institutional capacity in these areas remain inadequate.

A.I.D. has been a leader in developing technologies and technical guidelines for controlling micronutrient deficiency diseases. These deficiencies remain important public health problems in a number of A.I.D.-assisted countries in LAC. However no concerted A.I.D. effort through funding of programs, policy dialogue, technical assistance, or institutional support is evident. See Annex B for more details on nutrition components of A.I.D. projects in LAC.

## B. Other Donor Agencies

o The UN's World Food Program (WFP) provides nutrition assistance through distributing U.S. and EEC food commodities for maternal and child feeding and food-for-work programs.

o The World Bank has played a key role through financing the Brazil (19 million loan ) and Colombia (25 million loan) nutrition projects during 1977-1983. Brazil, Colombia, and Mexico, countries where A.I.D. does not provide direct bilateral assistance, have the largest numbers of malnourished in the region. The Bank thus plays a vital complementary role in providing nutrition assistance to countries of high need. Another major contribution has been in documenting lessons learned in project design, management, and costs related to various nutrition interventions in the region including targeted food supplementation and food subsidies, integrated nutrition with primary health care/child survival, and delivery of micronutrient (Berg, 1987). The Bank also funds nutrition activities in other sector projects and policy studies and analyses.

o The Pan American Health Organization (PAHO) and the World Health Organization (WHO) provide funds for research and technical assistance through consultants, technical meetings, and publications in a broad range of health-related areas including economic analyses, breastfeeding promotion, growth monitoring, endemic goiter, anthropometric analyses, Vitamin A, and iron deficiency anemia. Significant contributions have been made by the sub-regional nutrition institutes, Caribbean Food and Nutrition Institute (CFNI) in Jamaica and INCAP in Guatemala that covers Central America and Panama.

- o The Inter American Development Bank has recently made a commitment to incorporating nutrition activities, with a likely project start in Haiti in 1988.

- o UNICEF provides significant technical assistance, equipment, and funds for nutrition activities. It supported the first multi-sectoral, nationwide breastfeeding campaign conducted in Brazil in the early 1980's.

### C. Priority Countries for A.I.D Assistance

Ideally, countries for priority attention should be identified by the prevalence of malnutrition and consumption deficits, and the degree to which they deviate from the Agency's global targets as identified in the Blueprint for Development. However, recent and comparable national data on nutritional status and consumption patterns are not available for a number of A.I.D.-assisted countries. The selection is therefore based on a consideration of indirect measures of nutritional need such as infant and child mortality, estimates of childhood malnutrition (Haaga, et al, 1985), and nutritional status data from surveys wherever available. (See Table 5.) Brazil, which has the largest malnourished population in the region, and high prevalence rates has been excluded due to legislative restrictions on A.I.D. assistance to Brazil.

The following A.I.D.-assisted countries rank the highest on the basis of need: Haiti, Bolivia, Peru, Honduras, Dominican Republic, Ecuador, Guatemala, and El Salvador. Six out of the eight are Child Survival emphasis countries.

#### D. Program Focus

Activities that should be supported during the next five years are discussed in the following categories: host country institutional capacity, household food security, maternal and infant nutrition, and A.I.D. programming capacity.

##### D.1. Host Country Institutional Capacity in Nutrition

Elements of institutional capacity that should receive priority are: a recognized and highly motivated rallying force in government that can facilitate coordinated action across the key sectors, can play an advocacy role for nutrition and consumption concerns, and can effectively utilize the products of analyses; policy analysis capability and technical expertise in one or more independent public or private sector institutions; and competent core working groups in each line ministry with formal responsibility to manage nutrition/consumption activities and provide timely and relevant data to policy makers.

##### D.2. Household Food Security

Expansion of programs aimed at assuring adequate food consumption in low income households should receive extensive support. Reliance on aggregate economic development and agricultural sector growth alone is a highly inefficient means of achieving this objective and is inconsistent with A.I.D.'s global mandate. In the short term, greater and more explicit attention to the needs of at-risk households is required. Following are areas of emphasis:

###### Rural Household Food Security:

- o modify policies that constrain broad-based agricultural

- growth and support policies that foster agricultural growth that benefit poor rural households;
- o increase employment opportunities for poor rural households in agriculture and other sectors;
  - o increase access by poor rural households to productive assets (credit, land tenure);
  - o target low income communities for placement of rural infrastructure development programs and develop linkages to assure basic health services, primary education, water and sanitation, nutrition, and selective subsidized/free food;
  - o improve functioning of food markets (most poor rural households are net food purchasers); and,
  - o improve targeting efficiency of food aid programs (food for work, school feeding, take-home MCH programs) to reach selected high risk households.

**Urban Household Food Security:**

- o support policies and programs to generate employment and increase wages of poor households;
- o expand coverage of selected households and increase targeting efficiencies in income transfer programs. Examples include: food stamps, ration shops, food price subsidies, nutrition and health services, and food aid; and,
- o increase access of poor households to housing and sanitation.

**D.3. Maternal and Infant Nutrition**

A reduction in maternal, infant, and young child malnutrition through expanded and more effective nutrition components of health and child survival programs is essential to meet infant

and young child mortality reduction targets in LAC. Areas of emphasis are:

- o expand coverage of nutrition education programs that are based on social marketing principles;
- o incorporate growth monitoring and dietary management of diarrhea in ORT training and diarrhea case management, in MCH food aid programs, and nutrition education programs;
- o control bottlefeeding through modifying health and infant formula promotion policies, training in lactation management of personnel in maternity and pediatrics services, and mass media education;
- o increase effectiveness of prenatal services and expand screening for high risk pregnancies; and,
- o control micronutrient deficiencies through food fortification and better management of oral (Vitamin A, iron, iodine) and injectable (iodized oil) supplement distribution.

#### D.4. Strengthening A.I.D. Programming Capacity

At present, nutrition is grouped with health and population in A.I.D. missions and the Regional Bureau and is the responsibility of HPN officers. Agriculture and rural development divisions and other offices dealing with economic issues, which cover program and policy initiatives with significant nutrition/-food consumption implications, generally do not designate staff to cover nutrition/consumption concerns. Priority activities to strengthen mission capability in nutrition are:

- o increase staff time, skills, and seniority for nutrition positions. Assign specific nutrition responsibilities formally to senior and qualified staff in ARDN, mission

economists, Program Office, HPN, and Food For Peace. (See Table 6 for an illustrative list.) Provide T.A. and training to mission staff.

- o promote and reward cross-sectoral work in designing and assessing nutrition/consumption activities;
- o set nutrition and consumption targets and hold staff accountable;
- o establish a mechanism for tracking A.I.D. assistance and monitoring food prices, wages, and unemployment, household expenditure/consumption and nutrition data;
- o add explicit nutrition/consumption objectives to regionwide plans; and,
- o reach Mission Directors through conferences and AID/W reviews of mission action plans.

#### E. Resources

Resource implications of strengthened nutrition/consumption activities are difficult to assess in the absence of mission-specific strategies and targets. The following are interim levels that may be used as broad guidelines to determine mission resource needs.

##### E.1. Personnel

In LAC/DR/HN a full-time contractor direct hire nutrition expert is required. At the mission level, one half-time professional is required for each of the following offices - ARDN, Food for Peace, and HPN - to cover nutrition and consumption activities. In the program office and among mission economists, one professional each should devote 30 percent time to nutrition/consumption issues. All direct hire staff with

nutrition and consumption responsibilities will need long- and short-term T.A. support and in-service training.

### E.2. Funds

In each LAC country nutrition activities should reach the following levels by 1990:

- o 20 percent of ARDN account funds allocated to targeted programs of production/income generation, targeted food subsidies, marketing interventions, non-food inputs to strengthen food-for-work projects, and other activities needed to achieve household food security targets;
- o 30 percent of combined Health, and Child Survival account funds, allocated to nutritional surveillance, growth monitoring, nutrition education based on social marketing, maternal nutrition/low birth weight initiatives, dietary management of diarrhea, lactation management and breastfeeding support, and micronutrient fortification/supplement programs; and
- o increase in the use of ESF resources for nutrition and consumption activities.

### E.3. Food For Peace

By 1990, each country with P.L. 480 Title II programs should reach the following levels:

- o 90 percent of Title II commodities identifiably targeted to households and/or individuals selected for being at risk of malnutrition;
- o 20 percent of the value of Title II food allocated to nutrition education, growth monitoring, ORT and other health

services, design and monitoring of income/employment generating projects

#### V. MEASURING PROGRESS

Missions should develop their own monitoring plans as a part of country nutrition/consumption strategies and action plans.

LAC/AID/W should track progress using the following indicators:

- o Analysis of national household expenditure, consumption, and/or nutritional status data completed in all A.I.D.-assisted countries by 1991 for the purpose of identifying who and where the households at risk of malnutrition are, their consumption responses to present and proposed policies and programs affecting incomes and prices.
- o National strategies and A.I.D. plans developed in coordination with other donors as appropriate, that cover at least 90 percent of the high risk population with effective programs and policies to ensure household food security in emphasis countries by 1991.
- o Existence of well-functioning monitoring and surveillance programs with relevant and timely information provided to decision makers.
- o Nutrition education based on social marketing principles and accompanied by growth monitoring and ORT extended to communities with the highest levels of malnutrition, with coverage of 80 percent of the high risk population (children under three) in all emphasis countries by 1992. All ORT training, case management, and evaluations

include nutrition counselling and growth monitoring in emphasis countries by 1992.

- o Policies and programs to control bottlefeeding initiated in all emphasis countries by 1991; lactation management training completed for staff of leading teaching and maternity hospitals.
- o Expansion of prenatal services and screening for high risk pregnancies, and programs to control micronutrient deficiencies in all emphasis countries.
- o Allocation of at least 20 percent of ARDN account funds, and 30 percent of combined Health, and Child Survival account funds for nutrition/consumption activities. These should include adequate resources to cover nutrition surveillance components in planning, agriculture and health.
- o Ninety percent of Title II commodities targeted to households identified as being at risk of malnutrition; non-food components of Title II MCH and Food For Work projects comprise around 20 percent of the total value of the commodities.

The Agriculture and Rural Development data base in AID/W and the USAID Health Information System project should be used to track the nature and level of nutrition/consumption activities during 1989-1993. Assessment of the effectiveness and coverage of nutrition activities should be conducted annually through a review of project evaluations that will form a part of the new mission strategies on nutrition/consumption. An external LAC/-AID/W advisory group on nutrition and consumption issues should be asked to review the portfolio of activities and new knowledge

of nutrition/consumption conditions as well as interventions, approximately every two years, to help determine whether modifications in the regional strategy are warranted.

TABLE 1  
MAGNITUDE AND IMPLICATIONS OF DIFFERENT TYPES OF MALNUTRITION  
IN LATIN AMERICA AND THE CARIBBEAN

Type of Malnutrition	Population	Significance	Causal Factors	Interventions
1. Protein Calorie Malnutrition				
--General Population	50 m. (20 m.)*	Low productivity, susceptible to disease, social unrest, poor school performa.	Household food insecurity, incomes, price purchasing power compensation	Food consumption built into macro-ec and ARDN sector policies, targeted programs
--Maternal Malnutrition	N.A.	Maternal depletion, short life expectancy, low productivity, low birth weight, infant failure	Household food insecurity, intra-household inequities, poor prenatal care,	Above plus prenatal services, access to resources, targeted supplts, child spacing, female educ.
--Children Under Five	21 m. (12 m.)*	High 1-4 death rates, high deaths due to measles and diarrhea	Household food insecurity, infant/child feeding practices, maternal nutrition, diarrhea/other diseases	Above plus effective nutrition counselling plus growth monitoring
2. Iron Deficiency Anemia	130 m.	Poor pregnancy outcomes, low immunity, low productivity	Low levels of absorbable iron in local diets	Iron fortification, iron supplements/ tablets distribn
3. Vitamin A Deficiency	N.A.	Blindness, low immunity, mortality	Low Vitamin A, carotene, fat in local diets	Fortification, oral doses
4. Endemic Goiter	N.A.**	Mental impairment, mortality	Iodine-poor soil/food	Salt Iodizn., oral/inj.supplts

\* Severe levels of malnutrition in parentheses

\*\* Estimated at 40-60% in Andean communities

TABLE 2  
COUNTRY EXAMPLES OF TARGETED FOOD SUBSIDY PROGRAMS

Intervention	Geographic	Form of Targeting		
		Family	Individual	Selftargeting
1. Ration Shops	Egypt India Pakistan Brazil Colombia			Bangladesh
2. Food Stamps	Colombia Brazil	Colombia Sri Lanka Jamaica	Indonesia Jamaica	
3. Food-For-Work	Bangladesh India Mexico	All Title II		
4. Child Feeding			All Title II	

Source: Adapted from Namor, IMF, 1987

TABLE 3  
A.I.D. NUTRITION ASSISTANCE  
IN LATIN AMERICA AND THE CARIBBEAN (\$000)

Account/Activities	FY85	FY86	FY87
Total Development Assistance	1,521,462	1,124,323	1,321,771
Nutrition Activities	13,753	11,712	8,369

Source: A.I.D. Health Information System, ISTI, 1987

TABLE 4  
NUTRITION COMPONENTS OF ARDN AND HEALTH ACCOUNTS (\$000)

ACCOUNT	1985		1986		1987	
	Total	Nutrition (%)	Total	Nutrition (%)	Total	Nutrition (%)
ARDN	180,837	3,835 (2)	174,896	3,993 (2)	160,234	1,175 (<1)
Health	74,358	7,837 (10)	61,804	5,431 (9)	37,623	3,701 (10)
CSF	2,105	895 (42)	6,653	847 (13)	21,620	2,372 (11)

Sources: Nutrition activities from A.I.D. Health Information System, ISTI, 1987; totals from CP FY 1988 for LAC

TABLE 5  
A.I.D. ASSISTANCE TO LATIN AMERICA AND THE CARIBBEAN  
COUNTRIES RANKED BY NUTRITION INDICATORS

<u>COUNTRY</u>	<u>Growth</u>	<u>Child Death</u>	<u>A.I.D. Nutrition</u>	
	<u>Failure %*</u>	<u>Rate (1-4)</u>	<u>Assistance</u>	
	(wt./age mean - 2 SD)		\$000 (FY 87)	Title II MT (FY 87)
<u>Child Survival Emphasis Countries</u>				
Haiti	46.8 (1978)	22	4,770	90,947
Bolivia	21.4 (1981)	20	3,662	47,536
Honduras	20.6 (1986)	7	4,664	23,998
Ecuador	9-33 (1986)	5	3,094	4,675
Guatemala	NA	5	5,908	24,796
Peru	12.7 (1984)	11	12,119	43,109
<u>Other A.I.D.-Assisted Countries</u>				
Dom. Rep.	NA	6	1,066	9,261
El Salvador	17.9 (1978)	5	--	25,773
Panama	15.8 (1981)	1	7	315
Jamaica	NA	1	703	2,950
Costa Rica	NA	-	0	919
<u>Non A.I.D.-Assisted Countries</u>				
Brazil		5	54	0
Colombia		3	1,179	0
Mexico		3	590	0
Paraguay		2	0	975
Chile		1	71	0
Uruguay		1	0	0

\* Nationally representative sample of children under five; year of survey in parentheses.

Sources: Growth Failure from PAHO (1986); preliminary data on: Ecuador from Westinghouse draft Child Survival Report by Rutstein, et al (de Grijalva, and Acosta, INIMS, 1986). This is a crude estimate derived from deducting 16 percent from the sum of all levels of low weight/age; Honduras from A.I.D. (draft report of the National Nutrition Survey, 1987). Infant and 1-4 Death Rates from the World Development Report, 1987; A.I.D. Nutrition Assistance from A.I.D. Health Information System, ISTI, 1987, and CP 1988 for LAC.

TABLE 6

## ROLE OF MISSION AND AID/W IN NUTRITION ASSISTANCE

A.I.D. Unit	Role/Participation
AID/W:	
-ESDB	-Track nutritional status and household food security data for LAC countries
-Project Design Office	-Have all new ARDN, Health and Child Survival projects reviewed by nutrition/consumption experts, and incorporate recommendations
-LAC/DR ARDN	-Provide/fund T.A. to conduct analyses and develop nutrition/consumption sections in all A.I.D. sector strategies; determine nutrition on/consumption targets for ARDN activities; conduct evaluations of nutrition/consumption impacts of ARDN projects
-LAC/DR/HPN	-Same as above for Project Design Office
-FVA/FFP/LAC	-Identify and inform missions/PVOs regarding mechanisms for obtaining dollar resources for strengthening food aid programs -Provide/fund T.A. to analyze nutrition/consumption components of annual and multi-year Food for Peace plans of missions and PVOs
-Regional Offices	-Track nutritional status and household food security data for countries in sub-region -Review and strengthen nutrition/consumption components of mission policy and strategy papers, sub-regional strategy papers, and action plans in ARDN, health/child survival, and food aid -Provide/fund T.A. through regional institutions to conduct analyses and develop nutrition/consumption sections in A.I.D. sector strategies; determine nutrition/consumption targets for ARDN activities; conduct evaluations of nutrition/consumption impacts of ARDN and health/child survival projects -Support training in nutrition at regional institutions -Identify, fund, and manage applied research in nutrition/consumption issues to strengthen A.I.D. projects

## USAID:

- Mission Director
  - Demand and reward accountability from ARDN, Health and Child Survival, Food for Peace in meeting nutrition and consumption goals
  - Advocate nutrition and consumption-oriented policies and programs to key counterparts and donor agency representative
  - Identify mechanisms to address structural adjustment and urban malnutrition concerns
  
- Mission Economists
  - Include consumption of the poor in analyses of economic development
  - Monitor key nutrition/consumption indicators
  
- Program Office
  - Include nutrition/consumption objectives and analyses in CDSS, action plans, project papers, project evaluations
  
- Agriculture/Rural Development
  - Design and assess nutrition/consumption impact of ARDN projects
  - Identify and support in-country capability in nutrition/consumption analyses and program design
  - Conduct/fund analyses to identify high risk groups and their consumption responses to policies
  - Develop new initiatives in targeted food subsidies, improving marketing efficiencies, employment generation activities
  - Coordinate with HPN, Food for Peace offices
  
- Health/Population Nutrition
  - Design nutrition components and assess nutrition impact of Health and Child Survival projects
  - Identify and support in-country institutions with capability in nutrition analysis and programming.
  - Provide adequate funds and T.A. in projects to increase coverage of mothers and children with nutrition counselling, growth monitoring, lactation management, prenatal services, and supplements/fortified foods to control micronutrient deficiencies
  - Fund in-country institutions and T.A. to provide guidance on appropriate nutrition sections of CDSS, project papers, action plans, and project evaluations
  - Coordinate with ARDN, Food For Peace
  
- Food For Peace/PVO offices
  - Provide T.A. and funds to increase targeting, technical capacity, and complementary health/nutrition education, and employment generation inputs
  - Evaluate programs for their effects on consumption, nutritional status, and feeding practices
  - Coordinate with ARDN, HPN, Mission economists

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## **ANNEX A**

### **NATURE AND MAGNITUDE OF MALNUTRITION IN LATIN AMERICA AND THE CARIBBEAN AND IMPLICATIONS FOR A.I.D. ASSISTANCE**

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The purpose of this annex is to substantiate the priorities identified in the Plan of Action, and to provide a more detailed discussion on: the major types of nutritional problems in Latin America, the currently available information on causes and associated factors, and experiences with policy and program interventions aimed at dealing with them.

The discussion is divided into three major sections: Household Food Security, Maternal and Young Child Nutrition, and Micronutrient Deficiencies. The Household Food Security section deals predominantly with economic and agriculture sector issues and the Maternal and Young Child Nutrition section on health sector issues. The three major types of malnutrition represented by these sections are closely inter-related, and effective intervention packages or strategies will need to include elements pertaining to all the key sectors, especially, health, agriculture, and macroeconomic policy.

#### **A. HOUSEHOLD FOOD SECURITY**

The numbers of people who are "hungry" or underfed in a country or region changes with the availability or supply of food, and the ability of households to purchase or obtain food. Income and prices are major influences.<sup>4</sup>

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<sup>4</sup> For a detailed review of the impact of income changes on nutrition, see the Amer. J. Ag. Econ., Oct. 1978, and of prices on consumption, see the Amer. J. Ag. Econ., May 1976.

### A.1. Changes in Food Supplies

According to FAO (The Fifth World Food Survey, 1985) per capita food supplies measured as energy (calorie) equivalents of food items available for human consumption increased during the last three decades in the Latin America/Caribbean region, and in the developing world.<sup>5</sup> (See Table A-1.)

TABLE A-1  
CHANGES IN PER CAPITA FOOD SUPPLIES

<u>Region</u>	<u>1961-1963</u>	<u>1969-1971</u>	<u>1979-1981</u>
	(kcal per capita per day)		
1. Latin America	2370	2500	2620
2. All Developing Countries	1980	2140	2350
3. World	2340	2470	2630

Source: Fifth World Food Survey, FAO, 1985

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<sup>5</sup> Regional trends hide large variations for particular commodities and producers, as well as for specific subregions. For example, the Caribbean area has, and is expected to have for the foreseeable future, difficulty in supplying itself with enough food to satisfy its urban population. The Andean region has been unable to avoid increases in food imports (IDB, 1986).

### A.2. Ability of Households to Obtain Food

Just as national per capita income is a poor indicator of the prevalence of poverty, so per capita food availability is a poor indicator of the number of people consuming inadequate amounts of food. Approximately 13 percent of the region's population (about 50 million people) were estimated (World Bank, 1986) as being unable to obtain sufficient food to meet their energy requirements in 1980. Estimates of the region-wise prevalence of energy-deficient diets are calculated from data on the energy content of average diets in 87 developing countries and data available on income distribution patterns for 35 countries in Table A-2.

TABLE A-2

PREVALENCE OF ENERGY DEFICIT DIETS IN DEVELOPING COUNTRIES

Region	% of Region's Pop.		Pop. in Millions	
	>10% deficit	>20% deficit	>10% deficit	>20% deficit
South Asia (7)*	50	21	470	200
Sub-Saharan Africa (37)	44	25	150	90
E.Asia/Pacific (8)	14	7	40	20
Latin America/ Caribbean (24)	13	6	50	20
Middle East/ N. Africa (11)	10	4	20	10

\* Numbers in parentheses are the number of countries in the sample.

Source: World Bank estimates, 1986

FAO (The Fifth World Food Survey, 1985) estimates of the incidence of "hunger" or undernutrition are shown in Table A-3.

The data indicate a slight increase in the total number of underfed and a slight decrease in the proportion of population that is underfed during the 1970's <sup>6</sup>. However, the region-wide recession beginning in 1981 triggered structural adjustment policies that have led to greater open unemployment, lowered real wages, and increased food prices relative to other prices. These are expected to have increased the proportion as well as the numbers of households unable to afford adequate diets (World Bank, 1986).

TABLE A-3

## POPULATION CONSUMING LESS THAN RECOMMENDED LEVELS OF FOOD (CALORIES)

REGION	Percent of Population		Millions	
	<u>1969-1971</u>	<u>1979-1981</u>	<u>1969-1971</u>	<u>1979-1981</u>
Latin America	13-19*	11-16	36- 53	38- 56
Developing Countries	19-28	15-23	325-472	335-494

\* The range represents two different cut-off points: of 1.4 times BMR and 1.2 times BMR.

Source: FAO Estimates, 1985

For Mexico, Williamson-Gray (World Bank, 1986) estimates that an annual transfer of \$12.20 per person or \$72 per household for the poorest 20 percent of the population will be required to compensate for decreases in their purchasing power resulting from a combination of increases in real food prices and lower real purchasing power during the period 1983-1986.

<sup>6</sup> These regional percentages are above the A.I.D. Blueprint for Development "minimum standard" of 10 percent (population consuming less than UN (FAO) recommended levels of calorie intake).

Musgrove (PAHO, 1987) calculated the likely effects of a reduction of income and an increase in food prices that occurred in the early 1980's on the consumption of the 15 most commonly consumed foodstuffs in metropolitan and in rural areas of Northeast Brazil. He estimates that a 20 percent expenditure reduction led to a decline in consumption of 5 to 15 percent, while an increase in price of 25 percent caused reductions in consumption sometimes exceeding 20 percent.

The cumulative effects of continued low food consumption and deterioration in health services due to budget cutbacks are likely to result in higher infant and young child mortality and malnutrition if no compensatory measures are taken. Some evidence of this from Bolivia is already forthcoming as noted under section B.2.

### A.3. Identifying the High Risk and Their Food Consumption Responses

An important first step in the design of a suitable intervention package is the correct identification of where and who the high risk are, and how their nutritional status or food consumption patterns change with income, urbanization, pricing and other public policies. Sufficient heterogeneity exists among LAC countries so that few useful generalizations can be made regarding the identity and responses of high risk households. Each country must conduct its own analyses and continue to monitor the effects of changes such as the recent volatility in economic conditions in the region. Two approaches commonly used are: a. analysis of household expenditure data disaggregated by income, occupation, geographic location, urban/rural, etc. (data

is usually from existing surveys), estimation of income and price elasticities, projecting the consumption effects of changes in the macroeconomic environment and/or interventions affecting prices or income; b. analyses of child nutritional status data disaggregated by income, occupation, geographic location, urban/rural, etc. (data from existing national nutrition surveys or surveillance/growth monitoring programs) - the latter is often called the "functional classification of malnutrition". Some recent examples are given in the following paragraphs.

A re-analysis of the Honduran 1978-79 Household Survey of the Ministry of Economy and Trade included calculation of average availabilities of calories and protein, for the nation as a whole, by income strata, and by rural-urban distinctions (Garcia et al, 1987). Per capita caloric (and protein) deficits were found to be concentrated in the two lowest rural income strata (averaging 1697 or less calories per day versus the recommended level of 2138), representing 55 percent of the total population. The urban poor were significantly better off than rural poor in all income strata. This study then identified foods that accounted for the largest shares of caloric and protein intake of the rural poor, and using other data, recommended alternatives to better target two national programs - retail price ceilings and direct retail sales - for the benefit of the urban and rural poor.

A similar analysis of household food expenditure data from the 1980 Nutrition Study of Panama (Franklin et al, 1984) showed that while aggregate caloric availability at the national level was above recommended levels, over half the households consumed

less. The principal food commodities in the households total calorie intake and household expenditure were identified for rural and urban groups. Analysis of policy options to increase food consumption by the rural poor showed that existing price policies aimed at benefitting producers had the least effect on consumption of the poor. More emphasis was needed on factors affecting non-farm income since over three-fourths of the incomes of rural poor come from non-farm sources.

A household expenditure survey underway in Haiti (USDA Nutrition Economics Group) will enable similar analyses, identifying functional/occupation groups at risk of malnutrition, commodities that form the bulk of their food expenditures, impact of local food taxes and import control measures on their consumption, and impact on rural-urban migration (considering that some farmers are net suppliers of grain while others are net purchasers).

Using the "functional classification of malnutrition" methodology, Parillon et al (1987) conducted an analysis of malnutrition and access to public services in Peru. They found that there were three times as many households in the Sierra and other rural areas at risk of malnutrition, than in the urban areas. Almost all indicators showed that even the worst groups in the urban areas are better off than the best groups in the rural areas. The Sierra child was almost four times more likely to be malnourished than the Lima child (INE, 1986). The Peru survey revealed that approximately sixty percent of the households with malnourished children were economically dependent on agricultural production and agricultural wage work for their livelihood.

According to the Inter-American Development Bank, although the continuation of a steady and dramatic rural-to-urban migration in several subregions has led to a significant increase in the share of total poverty in the cities, there is still a large number of the poor in rural areas (IDB, 1986).

#### A.4. Monitoring Employment, Wages and Food Prices

Despite the hazards inherent in using aggregate and incomplete statistics, the value of tracking trends in economic activity including employment and unemployment, wages, food prices, and social spending has become painfully evident since the economic depression of 1980-1986. Emerging data on the impact of the depression and structural adjustment policies on poverty, nutritional status, and health indicators (such as from Brazil, Costa Rica, Bolivia) clearly suggest that urgent action is needed. Economy-wide and sector policies that affect employment, wages and prices, public expenditure on health and social services, and investment in infrastructure (roads, clinics, transportation, communication, schools, hospitals), play a crucial role in determining household food security and nutritional status for the vast majority of people in the Latin America/Caribbean region and should be tracked. According to the Inter-American Bank:

"The image of the small marginal farmer, geographically and economically isolated and outside the money economy, does not fit reality in Latin America. It has been found that the poorest farmer in the most remote parts of the Andes, rural Central America or Northeast Brazil, is well integrated into the money economy and depends upon it for the purchase of a significant share of his food and other consumer goods."

#### A.5. Interventions

An important aspect of devising a comprehensive plan involves estimating consumption implications of existing or proposed actions such as price policies, import taxes, producer subsidies, subsidy reductions, food marketing and distribution interventions, for the high risk. The households at highest risk are those that consume inadequate or marginally adequate diets and spend a large proportion of their income on food.

Recent analyses from Mexico concluded that market-wide food subsidies and price controls during the early 1980's entailed great expense to government and to producers (World Bank, 1987). Plus there was tremendous leakage of benefits to the better-off groups. Careful targeting of new subsidies is being considered through: (a) identification of households with malnourished children through a weighing/growth monitoring program based in selected low-income communities, (b) by location, or selling of subsidized goods only in retail stores located in poor neighborhoods, and (c) enhancing the current food stamp and subsidized milk (using donated milk) programs that utilize income eligibility for targeting. Also proposed are: further analyses on targeting effectiveness of newly instituted programs, on implications for rural-urban migration of various eligibility criteria, and the utilization of existing household data collection activities and food supplementation programs to collect food expenditure and nutrition information in rural and urban areas frequently enough to capture seasonal fluctuations (Pinstrup-Andersen and Berg, World Bank, 1987).

The Government of Jamaica's national food security plan launched in 1984, is centered on the national food stamp program that targets rations to households qualifying on the basis of household income. Households having a child under three and/or a pregnant or nursing woman, who receive health care at government clinics, are also eligible for the same ration.

The national Chilean program of distribution of food supplements through health centers is widely credited with the continued long-term decline in infant mortality despite the recession (Foxley and Raczynski, 1984). The prevalence of all grades of malnutrition has been constant or declining since 1975-1976 (see Table A-4).

TABLE A-4

NUTRITIONAL STATUS OF CHILDREN AT MINISTRY OF HEALTH FACILITIES  
CHILE, 1975-1982

Nutritional Status	1975	1976	1977	1978	1979	1980	1981	1982
Normal	84.5	84.1	85.1	87.0	87.8	88.5	90.1	91.2
First Degree	12.1	12.1	11.9	10.8	10.4	10.0	8.7	7.8
Second Degree	2.7	3.0	2.5	1.8	1.6	1.4	1.1	0.9
Third Degree	0.7	0.8	0.5	0.3	0.2	0.1	0.1	0.1

Source: Foxley and Raczynski, 1984

In one area of Northeast Brazil, basic foods commonly consumed by the low income are subsidized for all customers of many registered small neighborhood stores in selected poverty areas (Berg, 1987). Any leakage of benefits to people not in need is much less expensive than administering its cumbersome predece-

ssor coupon program. The revised program also makes it possible for low-income families to make frequent small purchases.

In Colombia, all municipios in the country were ranked by levels of income and access to public services. Coupons were provided to households with children under five years or a pregnant or nursing woman in 30 percent of the poorest areas. Little leakage or fraudulent use was apparent. Total family food expenditures increased among the recipients and attendance at health centers, the point of coupon distribution, also increased (Berg, 1987).

#### A.6. Implications for A.I.D.

Each mission will need to identify internally - and in the host government - appropriate organizational units who can backstop the establishment and maintenance of a monitoring system for incomes, food availability and prices, food expenditures, and consumption at the household level. The work of other donors, especially the IMF, the World Bank and UNICEF will need to be taken into account. Institutional support, technical assistance, and funds will be required; the effectiveness of food aid should be assessed. (See Guidelines for Supporting Agricultural and Rural Development in LAC, 1987.) In most LAC countries the data exist for helping identify households at risk of food insecurity (and generate estimates of income elasticities, price and cross-price elasticities, and budget shares of key commodities in the food basket of the rural, and urban poor); missions will need technical assistance through one or more of the existing A.I.D. technical assistance groups.

The next step involves putting together intervention packages consisting of policy and project activities. For USAIDs this implies that trade-offs between long-term sectoral growth, increase in aggregate agricultural production, soil conservation etc. and near-term consumption effects for low income households will need to be explicitly addressed in sectoral strategies and country strategy statements. Long-term, implied, indirect benefits, based on trickle-down theory and poorly targeted, are unacceptable as the sole response to deteriorating nutrition conditions in this vital region. Food subsidy programs such as food stamps, food coupons, rations shops, targeted to the lowest income households, will need to be included in mission portfolios.

Program and policy linkages will need to be established with the health and other sectors. Experience in the region (Brazil, Colombia, Chile) has demonstrated the vital role of health sector delivery systems in screening/identification of recipients of subsidies, in reaching them (coupons, food distribution through MCH programs), and in assessing the health and nutritional impacts of food subsidy programs. Primary health care infrastructure and delivery systems for critical child survival interventions will need to be given priority in economically depressed areas, at the same time as agricultural production and market infrastructure activities are being strengthened. Agriculture/rural development officers, mission economists, and health/nutrition officers will need to work closely to design and monitor these types of project/policy dialogue activities.

Top priority should also be given to redirecting P.L. 480 more effectively to households identified as high risk and linkages with basic health care. Ration composition and sizes should be reformulated; to achieve nutrition goals, transfers of commodities of high economic value to households may be more effective in some circumstances than commodities selected on the basis of their nutritional value for an individual member of the household (see the revised Commodities Reference Guide, FVA, 1988). Primary schools and school feeding in low income communities may be a cost-effective delivery system for take-home distribution. Clearly the vast majority of MCH and FFW programs will need to improve their targeting capabilities, provide non-food services such as health and education for MCH, credit, tools, seeds, etc. for FFW, and greatly expand their monitoring and evaluation efforts. Substantial funds will be required. A competitive grants program for strengthening PVO capability and coverage in these areas, similar to the Child Survival grants program, may be effective.

Support for national programs targeted to the nutritionally vulnerable households, employment, subsidized housing, water and sanitation, that A.I.D. may not be involved in now will need to be considered.

Institutional support, training, and technical assistance to build in-country capability in these areas will be needed. In-house A.I.D. capabilities in policy analyses and technical backstopping for these initiatives will also need to be strengthened through allocation of more staff time of economists, agriculture/rural development officers, FFP officers to nutrition

and consumption issues; through in-service and long-term training; and provision of long- and short-term technical assistance to backstop mission staff. In addition to ARDN funds, P.L. 480 and ESF should be used to support this new focus.

## B. MATERNAL AND YOUNG CHILD NUTRITION

### B.1. Maternal Nutrition

Approximately 10 to 15 percent of infants born in LAC countries suffer from growth failure during gestation; they face a 3 to 30 fold greater risk of mortality in the first month of life, compared with infants weighing at least 2500 grams. In developing countries, low birth weight (LBW) is a major determinant of infant mortality. Nutrition during and preceding pregnancy lays the nutritional foundation for infants.

TABLE A-5  
RELATIVE RISK OF NEONATAL MORTALITY BY BIRTH WEIGHT

Birth Weight (g.)	USA(white) 1960	USA(non-white) 1960	Brazil 1968-70	*Guatemala 1964-72
1001-1500	55.0	46.2	41.4	--
1501-2000	19.6	13.9	23.3	27.3
2001-2500	4.4	3.3	4.0	3.4
2501-3000	1.0	1.0	1.0	1.0
3001-3500	0.4	0.7	0.05	--

\* Santa Maria Cauque, Guatemala

Source: Ashworth and Feachem, 1985

Preventable maternal factors are responsible for much of the low birth weight. Adequate maternal nutrition is a crucial link

in the cycle of poverty and malnutrition also because women, their productive capacities, and educability play a major role in the economies of developing countries especially in low income communities. Sufficient food supplies at the household level increase the chances of adequate nutrition in women. Closely spaced births, hard physical work, frequent infections, lack of prenatal care, and traditional taboos against adequate intake during pregnancy, contribute to maternal malnutrition and low birth weight.

#### B.2. Growth Failure in Children Under Five

Poor growth in young children predisposes to infection, increases the severity and duration of diseases, and increases the risk of death. The prevalence of growth failure among children under five is also a good indication of the presence of malnutrition in the entire population. It is a function of insufficient food intake and infectious diseases over a period of time. Inappropriate infant feeding practices, including breastfeeding and weaning and frequent illnesses that are poorly managed, are major predisposing factors. Infants with low birth weights (due to maternal factors) also tend to remain growth retarded.

##### B.2.1. Weight For Age

According to the cross-national estimates of Haaga et al (Cornell University, April 1984), 21 percent or 12 million children between the ages of 6 to 60 months suffer from significant growth failure (below 80 percent of the mean for well-nourished children of the same age) in the region. Estimates were made of the prevalence of malnutrition in indivi-

dual countries using child death rates and per capita food (kcal) availability. Based upon data available from surveys in 23 countries of the region, PAHO (Mora and Daza, 1985) estimates that approximately 37 percent of infants and young children or 21 million in all countries suffer from malnutrition (body weights below 90 percent of the mean for children from well-nourished populations of comparable age).

The cut-off point of 75 percent corresponding to Gomez II and III degree and 80 percent weight-for-age that is used by Haaga et al, most commonly accepted as representing a higher risk of mortality, are conventionally viewed as being around the boundary between adequate and inadequate growth, and are the most frequently reported categories.

#### B.2.2. Chronic and Acute Malnutrition

The weight-for-age indicator of child growth discussed above is an aggregate of two types of malnutrition problems that can be separated out through the use of height-for-age and weight-for-height. Low height-for-age, in the presence of normal weight-for-height, is often termed "stunting" and "chronic malnutrition" and reflects nutritional deprivation in fast-growing children (under three) and over a long period of time; this indicator may be relatively less sensitive to short-term fluctuations except in young, rapidly growing children. Low weight-for-height, in the presence of normal height-for-age, is termed "wasting" or "acute malnutrition", and reflects recent nutritional deprivation.

All A.I.D.-assisted countries for which nationally representative data are available are listed above and exceed the

Agency "minimum standard" of not more than 20 percent children in the chronic and severe (acute) categories of malnutrition.

Much of the data available precede the economic recession and ensuing food price increases, high unemployment, and lower real wages of the early and mid 1980's. Musgrove (1987) reviewed evidence of higher malnutrition and mortality in children. There appears to be some evidence of a doubling of the prevalence of severe malnutrition in Costa Rica in 1981-82, but no full study of the country was undertaken. Changes in the causes of infant mortality in Bolivia between 1973 and 1982 according to Morales, et al (1985), are shown in Table A-6. An increase in the proportion of moderate and severe malnutrition and malnutrition-related deaths was also reported from a Bolivian hospital in Cochabamba that analyzed data on nutritional status of children admitted during 1977-1983 and causes of death in infants (Musgrove, 1987) (see Table A-7).

TABLE A-6

PREVALENCE OF CHRONIC AND ACUTE MALNUTRITION  
IN CHILDREN UNDER FIVE

Country	Year	Sample Size	% Stunted (Ht./Age)	% Wasted (Wt./Ht.)	% Underwt.
Bolivia	1981	5880	42.2	0.7	21.4
Colombia	1977-80	1762	25.9	6.0	19.4
Dominican Republic	1987				
Ecuador	1987				
El Salvador	1978	7381	29.2	0.8	17.9
Guatemala	1986				
Haiti	1978	5353	40.1	6.0	46.8
Jamaica	1985				
Panama	1980	3314	22.0	6.4	15.8
Peru	1984	15285	35.7	1.0	12.7

Sources: PAHO; 1987 data from USAID/Dominican Republic, USAID/Ecuador, USAID/Honduras, USAID/Guatemala

TABLE A-7

CAUSES OF INFANT MORTALITY IN BOLIVIA, 1973 and 1982

Causes of Death	1973 (Percentages)	1982
Respiratory Infections	37.1	15.0
Diarrheal Disease	21.9	50.4
Perinatal Causes	21.7	10.8
Measles	5.8	3.4
Other Infectious Diseases	3.4	6.5
Congenital Anomalies	1.7	-
Other Causes	8.2	6.8
Malnutrition (direct cause)	-	6.2
TOTAL NUTRITION-RELATED DEATHS	34.3	63.3

Source: Morales et al, 1985 cited in Musgrove, 1987

**B.2.3. High Risk Age Groups and Infant/Child Feeding Practices**

When growth of children under five, especially weight-for-height (and weight-for-age) is disaggregated by smaller age intervals, the ages at greatest risk (ages at which growth failure accelerates and peaks) can be identified for a given population. Analysis of factors such as deleterious feeding practices around these ages permits us to identify key intervention points for behavior change. The identification of high risk ages and infant/young child feeding practices that are critical for growth, can increase the affordability and effectiveness of programs significantly. Table A-8 is an example based on data from Haiti on growth failure disaggregated into smaller age groups. The sudden increase in malnutrition in the second six-month period indicates that practices in the 3-12 month age group need to be carefully analyzed and interventions aimed at very young infants.

TABLE A-8

PREVALENCE OF MALNUTRITION IN CHILDREN UNDER FIVE BY AGE INTERVAL

Country	Age years	Stunting %	Wasting %	Under weight %
Haiti	3-6 mo.	6.5	2.0	3.8 (1978)
	6-9 mo.	14.3	6.8	23.9
	1	35.9	18.2	41.5
	2	49.8	8.0	47.6
	3	51.6	5.9	39.7
	4	54.8	6.4	44.7

Source: Keller and Fillmore, 1983, WHO

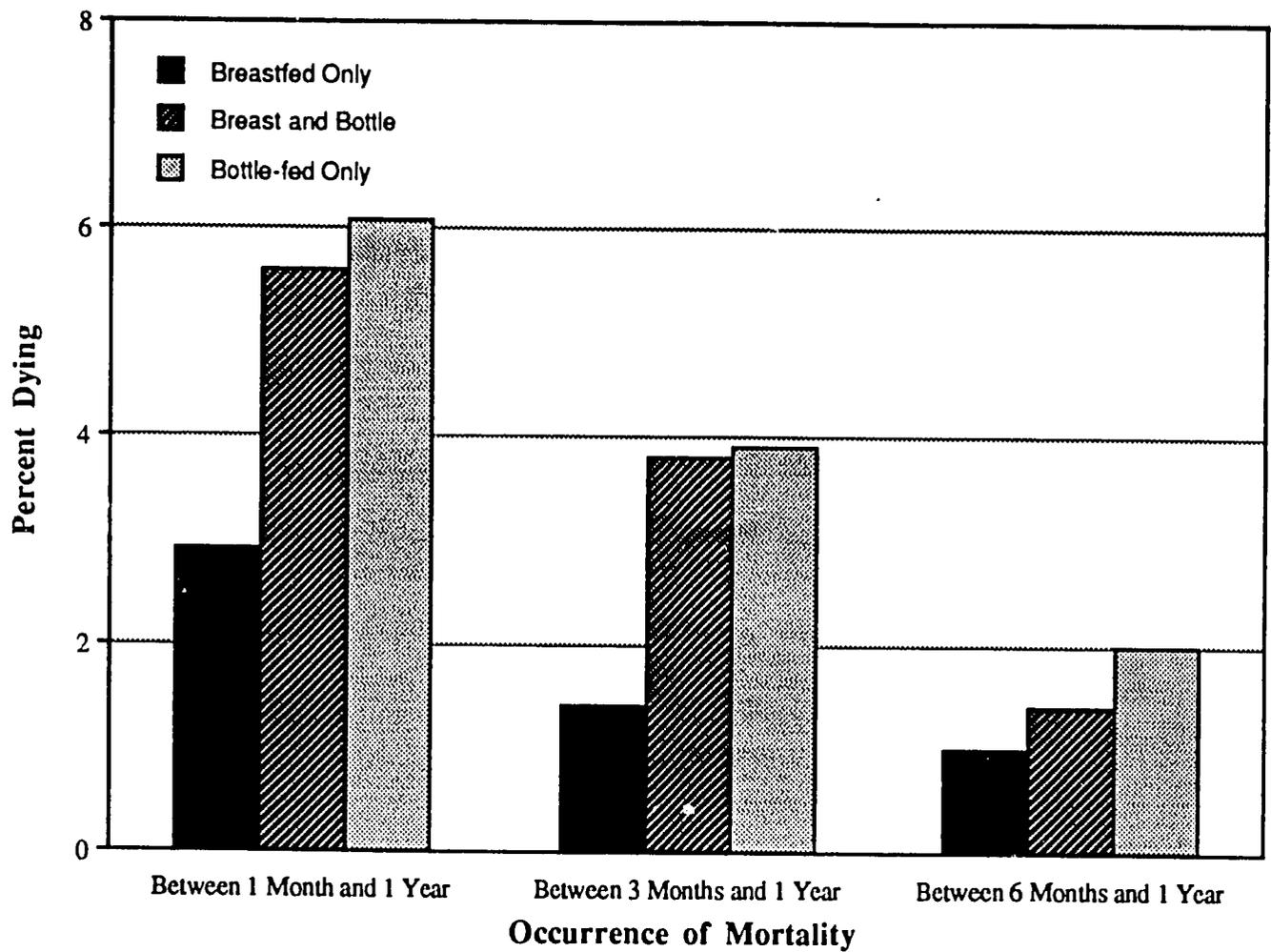
### B.3. Infant Feeding Practices

Growth of infants in developing countries closely follows the pattern of growth of their well-nourished counterparts in the U.S. up to the age of about 4-6 months. Exclusive breastfeeding in the early months of life provides a source of high quality nutrition, a variety of preformed immune factors (and their precursors) against pathogens found in the environment, and protects against the introduction of infection through nonhygienic foods. The introduction of supplements in the early months predisposes to infection, interferes with the supply of breastmilk, and leads to deficiencies of calories, protein, vitamins and minerals. (See Figure A-1.) Partial breastfeeding is better than no breastfeeding, and breastmilk continues to fulfill a substantial proportion of nutrient needs through the first two years of life.

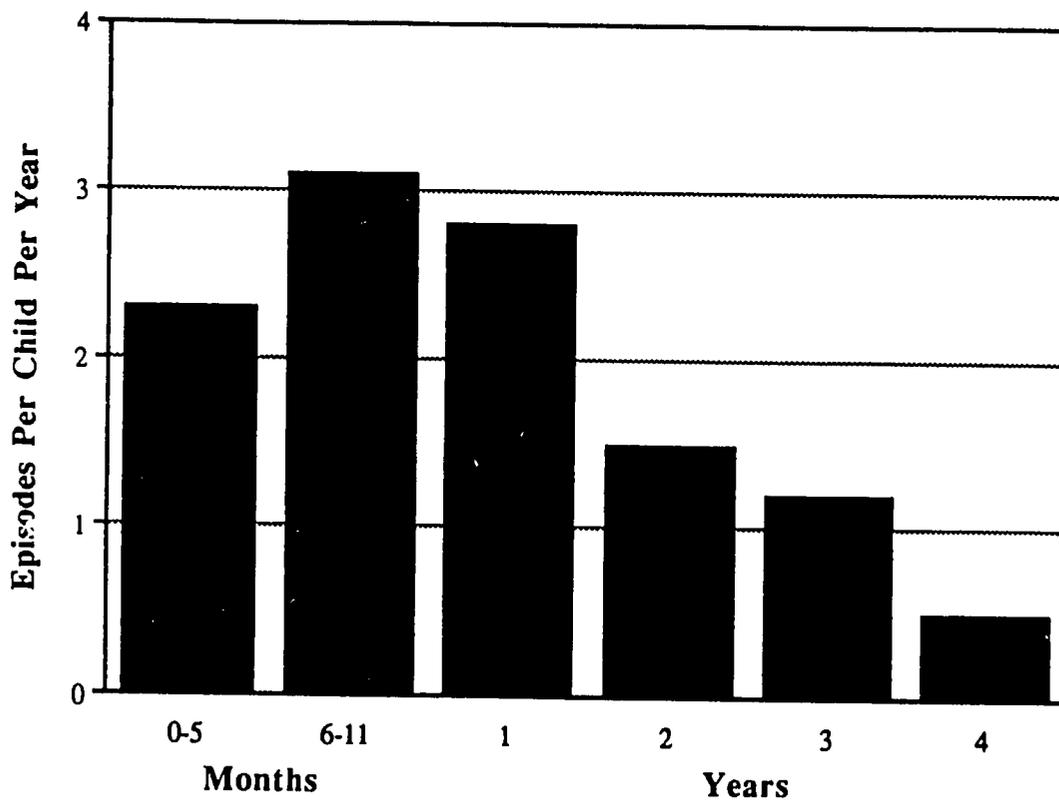
Around 4 to 6 months of age, breastfeeding alone is often insufficient to sustain adequate growth. The introduction of hygienic, calorie-, protein-, vitamin-, and mineral-dense weaning foods in adequate quantities becomes necessary. Judging from the onset of growth failure and repeated bouts of diarrhea which coincide with supplementation, this transition from exclusive breastfeeding to supplemented breastfeeding is often unsuccessful. (See Figure A-2.) Frequent diarrhea with accompanying poor food intakes, low absorption of nutrients and calories, and mineral losses, further exacerbate the onset of malnutrition in the first two years of life.

### Fig A-1: Mortality for 3 Different Time Periods During First Year of Life by Source of Milk: Rural Chile

Source: Adapted from Plank, S., M. Milanesi, "Infant Feeding and Infant Mortality in Rural Chile,"  
Bulletin of the World Health Organization, 48: 201-210, Geneva, Switzerland, 1973



**Fig. A-2: Estimated Median Diarrheal Episodes Per Year by Age**

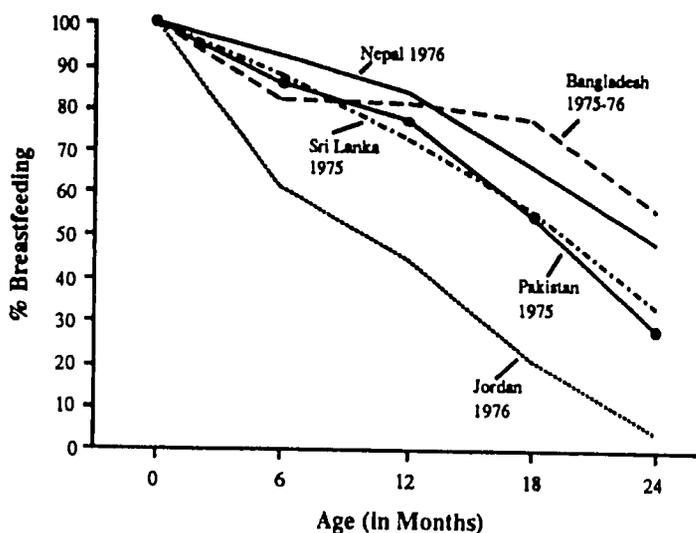


Demographic Data For Development Project

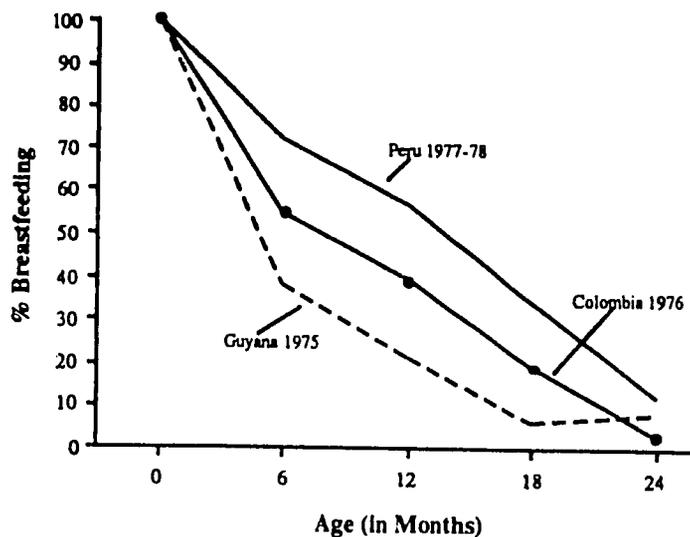
Source: Snyder, J.D., M.H. Merson, "The Magnitude of the Global Problem of Acute Diarrheal Disease: A Review of Active Surveillance Data," Bulletin of the World Health Organization, 60(4): 605-613, Geneva, Switzerland, 1982

**Fig. A-3: Percentage of Women Initiating Breastfeeding Who Continue to Breastfeed, by Infant's Age, in Developing Countries, World Fertility Survey Data**

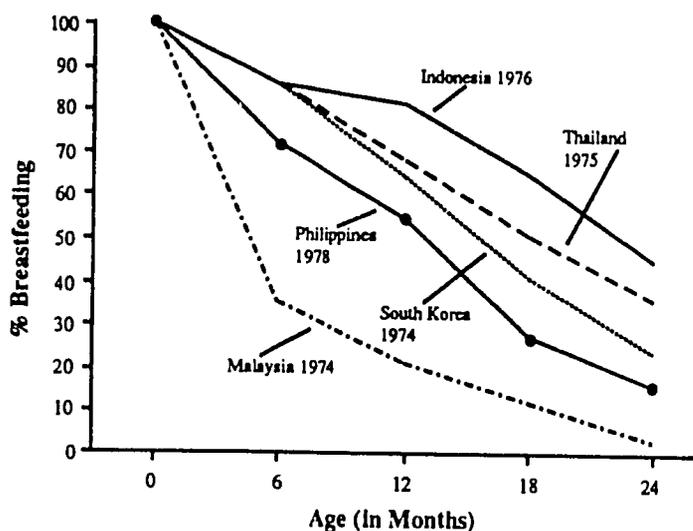
**MIDDLE EAST AND SOUTH ASIA**



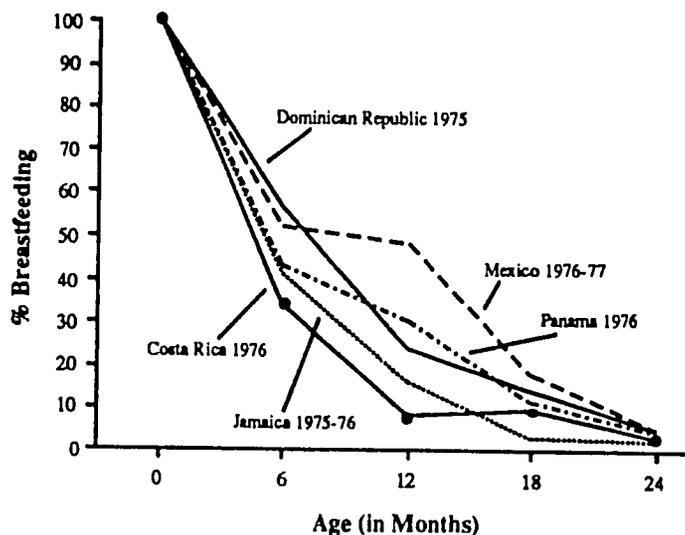
**SOUTH AMERICA**



**EAST & SOUTHEAST ASIA**



**CARIBBEAN & CENTRAL AMERICA**

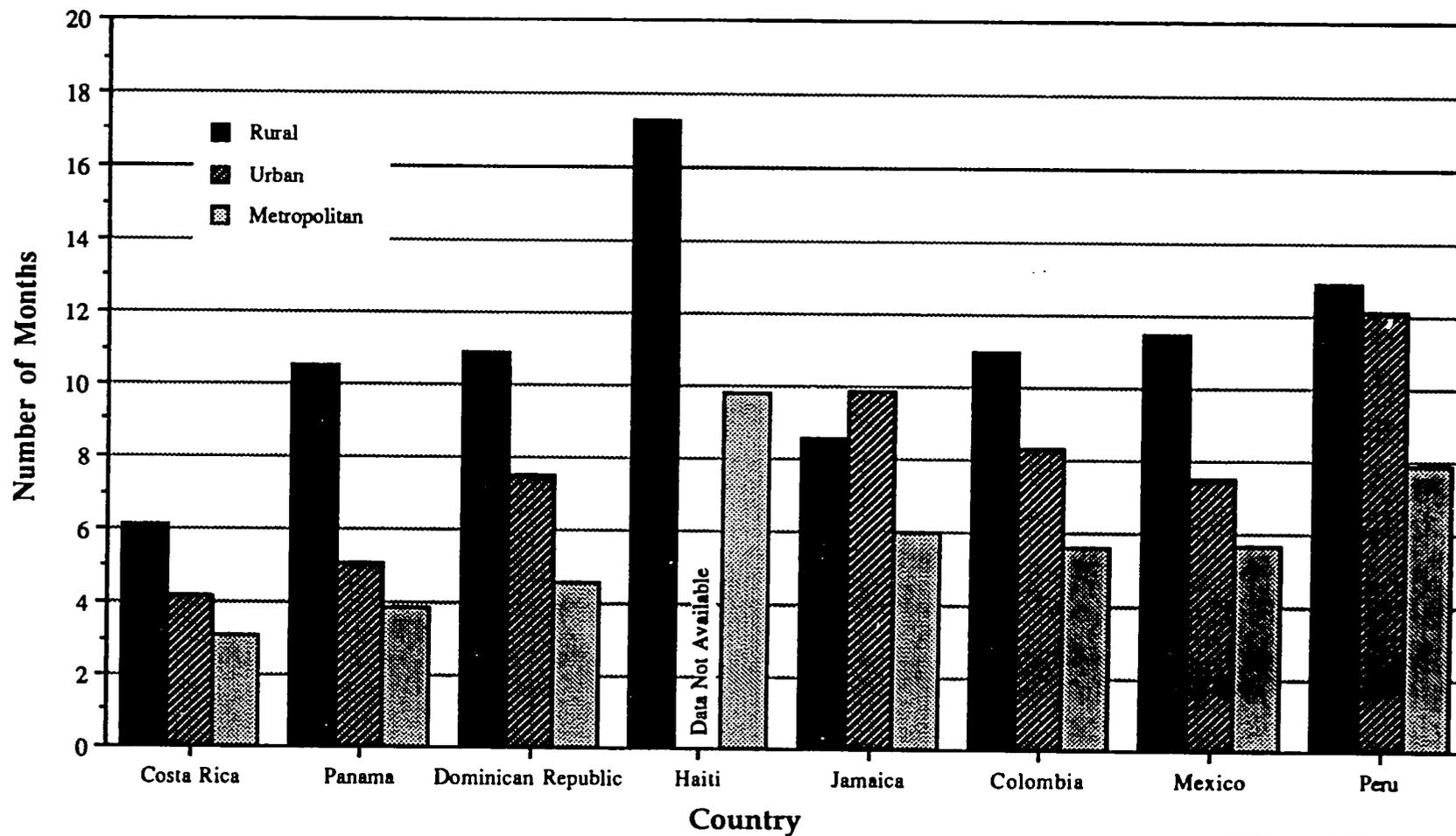


The duration of breastfeeding can be measured by the percentage of women initially breastfeeding who are continuing to breastfeed at specified intervals after delivery. At 12 months, more than half of these women are still breastfeeding in 8 of 10 Asian and Middle Eastern countries (graphs on left) but in only one of 8 Latin American and Caribbean countries (graphs on right).

Note: Plotted points are based on the sums of numerators and denominators for the month preceding and the month following as well as for the indicated month. For example, the percentage plotted at six months is based on data for five, six and seven months.  
Source: McCann, M.F., Liskin, L.S., Piotrow, P.T., Rinchart, W., and Fox, G. Breast-Feeding, fertility and family planning. Population Reports, Series J, No. 24. Baltimore, Johns Hopkins University, Population Information Program, November-December 1981.

**Fig. A-4: Mean Duration of Breastfeeding By Residence**

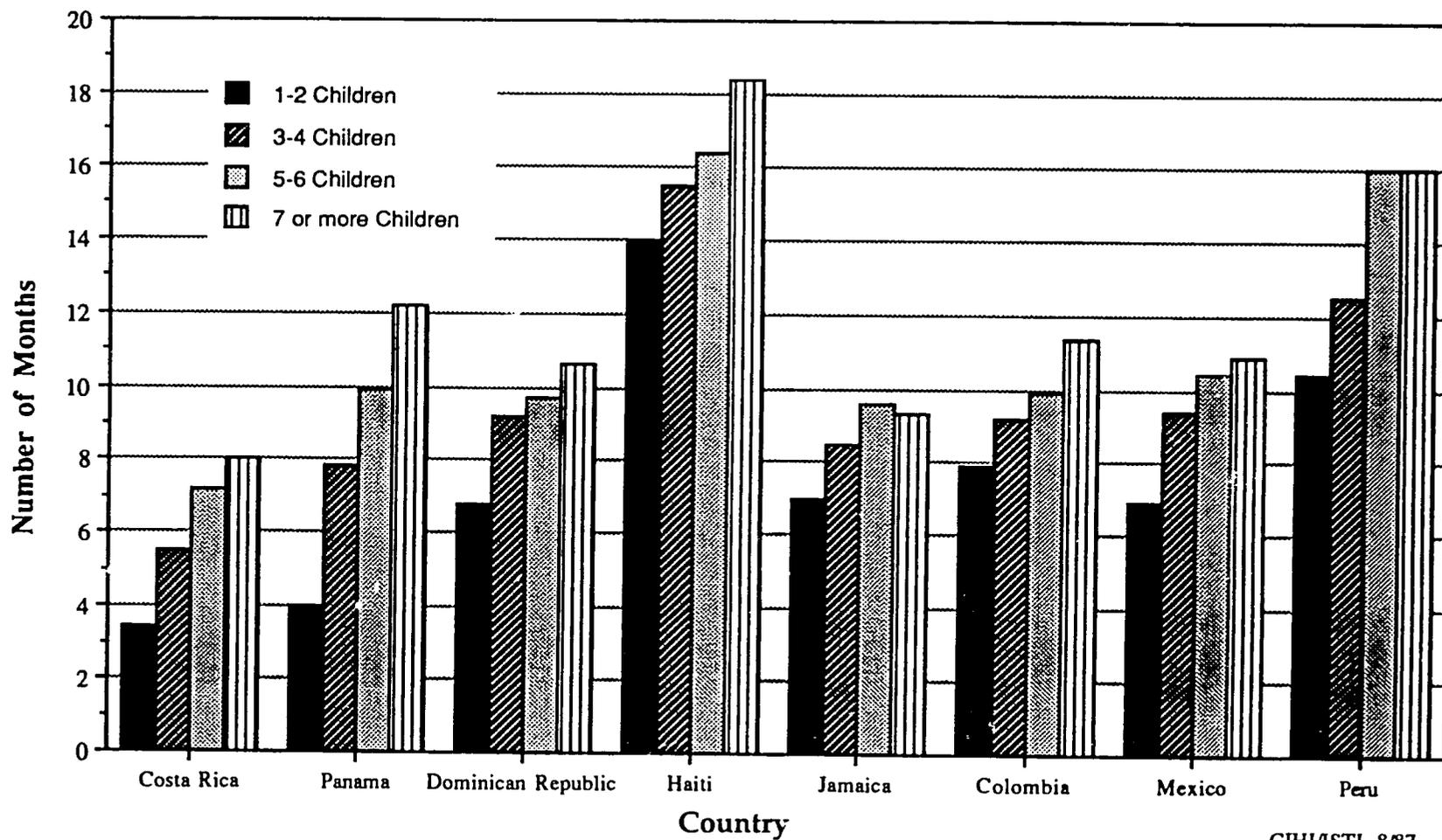
Source: WFS 1983



CIHI/ISTI, 8/87

**Fig. A-5: Mean Duration of Breastfeeding by Mother's Parity at Event**

Source: WFS 1983



CIHI/ISTI, 8/87

### B.3.1. Breastfeeding Prevalence and Trends

Breastfeeding prevalence is lower in the Latin America and Caribbean region than in other regions of the developing world. (See Figure A-3.) Though initiation rates are above 90 percent in many countries, prevalence rates at 3, 6, 9, and 12 months are sharply lower. Breastfeeding prevalence rates have tended to decline with development initially, reaching a low plateau, followed by a reversal to higher levels. This pattern has now been documented in developed and developing countries (Haaga, 1986; Hendershot; Millman, 1986). The major objective of breastfeeding interventions is to prevent the decline in long-duration populations, and to accelerate the reversal of the decline in short-duration populations. Short-duration breastfeeding is closely associated with urban residence and parity (see Figures A-4 and A-5).

### B.3.2. Breastfeeding and Fertility

In addition to playing a critical role in the growth of infants and children through the first two years of life, breastfeeding provides significant protection from short birth intervals through its suppression of ovarian activity (Rosa, 1975; WHO/NAS, 1982).

This contraceptive action is lessened by decreased suckling frequency brought about by practices such as longer intervals between feedings (e.g. scheduled rather than demand feedings, separation of mother from infant), bottle feeding, reduction of night feeds and the use of pacifiers. Any reduction in the high initiation rates and duration of breastfeeding is likely to increase fertility. If increases in fertility are to be prevented, a compensatory increase in contraceptive use must take place. Table A-9 shows the implications of a decline in breastfeeding for fertility and contraceptive use.

TABLE A-9

USE OF CONTRACEPTIVES TO PREVENT INCREASED FERTILITY DUE TO DECREASE IN POSTPARTUM INFERTILITY TO 3 MONTHS

Country	Mean duration breastfdg.(mo.)	Current use contracept.(%)	Projected use of contracept.(%)
Peru (1977-78)	13.8	31	44
Mexico (1976)	11.6	30	41
Jamaica (1975)	7.5	40	44

Source: WHO/NAS, 1982

### B.3.3. Growth Monitoring, Supplementation Practices and Management of Diarrhea

Inappropriate supplementation practices trigger repeated bouts of diarrhea, gradual growth failure, and lowered resistance to other diseases. In the Latin America/Caribbean region, too early introduction of contaminated and energy- and nutrient-poor liquid supplements is widespread. In many rural areas, semi-solids may not be introduced until 8 months or later with breastfeeding alone as the major source of nutrients. Food may be withheld during diarrhea and other childhood illnesses, and not replenished with high-calorie, high-protein supplements during recuperation. Growth failure, too gradual to be easily observed at first, can escalate rapidly with accompanying illness to death, or require costly rehabilitation.

A prospective study in a slum community in Peru found that the incidence of diarrhea in infants aged 3-5 months was lowest in those exclusively breastfed, increased 2 to 4 fold in those given foods other than breastmilk, and was 13-fold in infants given only cow's milk (WHO, 1986). Energy intake was 90-93% of that recommended during the first 6 months, but fell to 80-85% during the second 6 months. Median weight-for-age at one month exceeded the standard, but declined from 5-6 months until one year. Cereal and milk were often contaminated with fecal bacteria, especially milk or other milk drinks given in baby bottles. E. coli counts were also high in foods held for more than one hour after preparation. The appropriate use of ORT and special feeding during and following diarrhea (and other childhood illnesses), can provide significant protection against

the growth failure that begins typically around 6 months of age. Children who start out with low birth weights may never catch up without costly rehabilitation. The importance of not intervening early enough to prevent growth failure cannot be over-emphasized.

#### B.4. Interventions

##### B.4.1. Maternal Nutrition

Nutrition and health education to increase the intake of food by women during pregnancy and to increase participation in prenatal health services have been the most widely used interventions to improve maternal nutritional and health status. However, no studies of impact on the nutritional status of mothers or on birth weight are available. A major focus of interventions has also been the provision of food supplements to pregnant and nursing women. However, few programs have succeeded in reaching this target group or improving intakes on a large scale. As shown in Table A-10, small-scale projects have had significant effects on low birth weight.

Other interventions that are being tested or have shown some impact on low birth weight include the administration of erythromycin antibiotic during pregnancy to control infections, especially intra-uterine infections, and iron and folic acid supplements. There is growing interest among donors in strengthening prenatal care to include better screening and referral of high risk pregnancies (the World Bank, 1986; WHO, 1986), food and nutrient supplement programs, and immunization with tetanus toxoid (A.I.D., 1987).

TABLE A-10

## EFFECT OF FOOD SUPPLEMENTATION ON PREVALENCE OF LOW BIRTH WEIGHT

Country/ Location	<u>Daily Intake</u> kcal. prot.(g)		<u>Supplement</u> kcal. prot.(g)		Net Increase in kcal	% Redcn. in LBW
Colombia Bogota	1610	35 g	860	38 g	155	21
Guatemala 4 villages	1500	40 g	--	--	149	41
Mexico Rural	1950	50 g	300	20 g	275	80

Source: Ashworth and Feachem, 1985

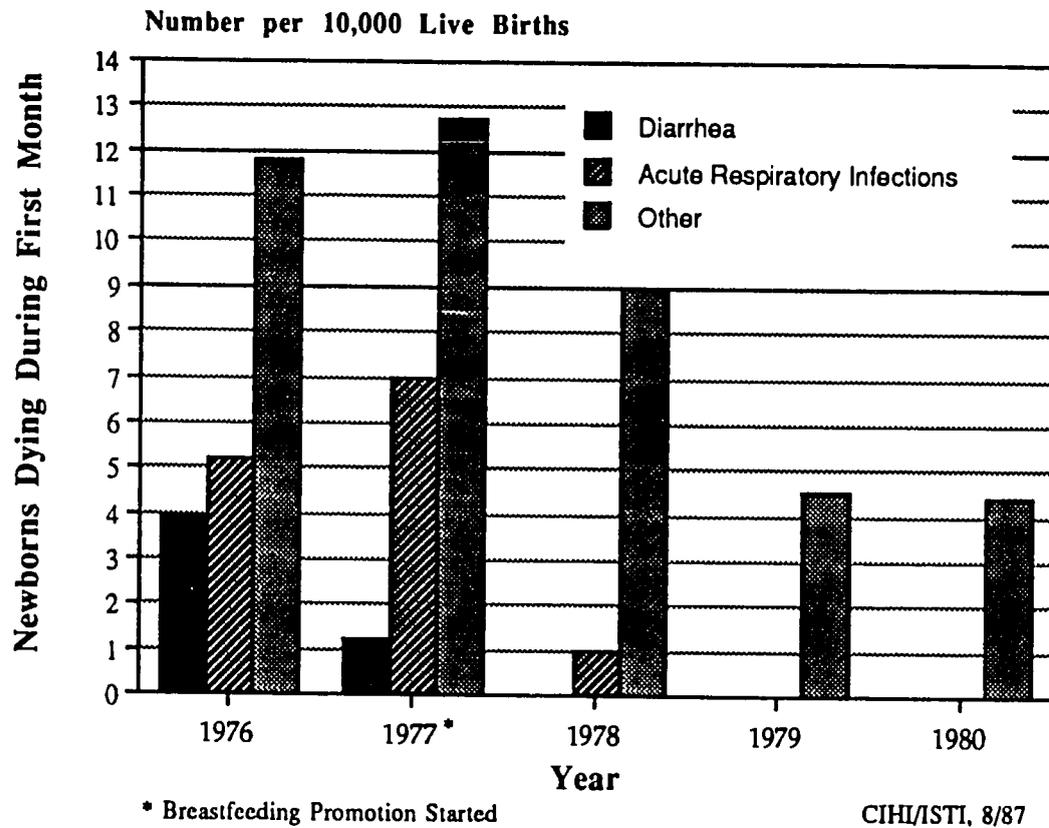
#### B.4.2. Breastfeeding

Lack of support for new mothers in urban areas, and constraints placed against the successful establishment of lactation at birth in hospitals and clinics, are chief among factors amenable to intervention, that limit breastfeeding. The A.I.D.-funded Collaborative Study on Breastfeeding Patterns and Determinants (Winikoff, et al, 1984) demonstrated conclusively that mismanagement of lactation in health services was far more pervasive than recognized before.

In 1980, the institution of hospital and clinic practices in Costa Rica that were supportive of breastfeeding resulted in lower infant morbidity and mortality due to higher initiation and duration of breastfeeding (Mata, 1982). (See Figure A-6.) In Honduras, the PROALMA project targeted maternity clinics and hospitals to bring about changes in lactation management policies and practices. The prevalence of short-duration breastfeeding was successfully reversed (INCS, 1986).

**Fig. A-6: Newborn Mortality Before and After Introduction of Breastfeeding Promotion Selected Hospitals and Clinics, Costa Rica**

Source: Mata, L., et al., Plenum Press, 1983



#### B.4.3. Growth Monitoring and Supplementation Practices

The importance of using growth charts in nutrition counseling as motivational tools for mothers and community workers to help trigger supplementation and early ORT at the household level has been most recently demonstrated in the Dominican Republic and Ecuador. The Dominican Republic experience shows that even in the absence of a food supplement, growth failure among children under five can be prevented through a carefully designed program that based messages on a thorough analysis of constraints at the household level. For the English-speaking Caribbean, Sinha (CFNI/PAHO, 1986) has suggested that countries can use existing national nutrition surveys to identify "pockets of malnutrition", so that systematic growth monitoring may be focussed in the areas of highest risk, thereby reducing costs and management needs.

The use of donated or locally available food supplements provided as a complement for breastfeeding to fill the nutrient gaps in local weaning diets has yet to be conclusively shown to change infant feeding practices. However, take home food distributed to low-income households weekly or monthly from mother's clubs or health posts/centers is being increasingly used as an economic incentive to increase participation and coverage with basic health services. At the household level, food availability may be secured and more nutrient-dense foods may be consumed as a result of MCH food distribution programs. Thus food distribution programs may have beneficial indirect effects on maternal and young child nutrition (Commodities Reference Guide, FVA/PVC, A.I.D., 1987).

#### B.5. Implications for A.I.D.

Targeting nutrition services to children under two and geographical targeting to reach the poorest households are needed to increase nutritional impact. In a vast majority of populations, the groundwork for growth failure is laid well before the age of one year. First-time mothers are especially vulnerable to poor prenatal care and inadequate breastfeeding. Programs that can reach women of reproductive age and maintain frequent contact from pregnancy until one year postpartum should receive priority support. Nutrition education that effectively brings about behavior change and can reach a significant proportion of the population will be required. Social marketing approaches, effectively applied to maternal and child nutrition behaviors will need to be institutionalized in counterpart agencies. The widespread use of supervised growth monitoring activities that include nutrition and ORT counselling and referral of severe cases will be required. Child survival initiatives have helped strengthen the outreach capability of health services in a number of countries with A.I.D. assistance and could be the most cost-effective infrastructure for ensuring full coverage of children under 2 years of age in communities at high risk of malnutrition. Prenatal screening for high risk pregnancies and immunization are critical complementary services for nutritional improvement. Another delivery system is the network of public and private sector health facilities in LAC. The A.I.D.-sponsored lactation management training module has been shown to be an effective starting point for updating MCH services. Technical assistance mechanisms are currently in place

to assist missions in the above tasks. HPN officers, in-country PVO technical staff, and host country counterparts need short-term training in areas such as growth monitoring, social marketing, maternal nutrition, lactation management and others.

### C. MICRONUTRIENT DEFICIENCIES

Recent technological advances in dealing with micronutrient deficiencies has made the goal of eradicating and controlling them in the Latin America/Caribbean region achievable. Iron deficiency anemia and endemic goitre have a documented high prevalence in a significant number of A.I.D.-assisted countries. It is likely that vitamin A deficiency is also widely prevalent in the region.

#### C.1. Iron Deficiency Anemia

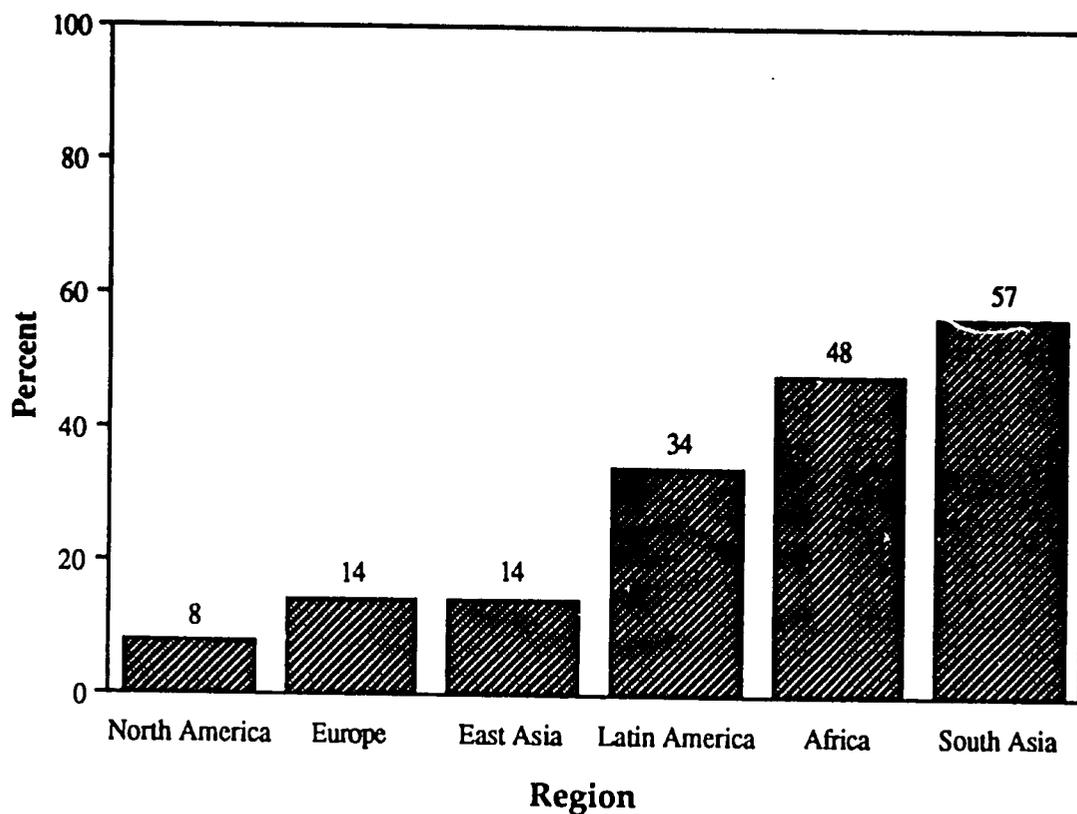
##### C.1.1. Prevalence

Iron deficiency anemia is the most widespread nutritional disorder in LAC. A third of the population of the region is estimated to suffer from some degree of deficiency by WHO standards (Cook et al, 1980). (See Figure A-7.) Age groups most affected include children under five and pregnant women.

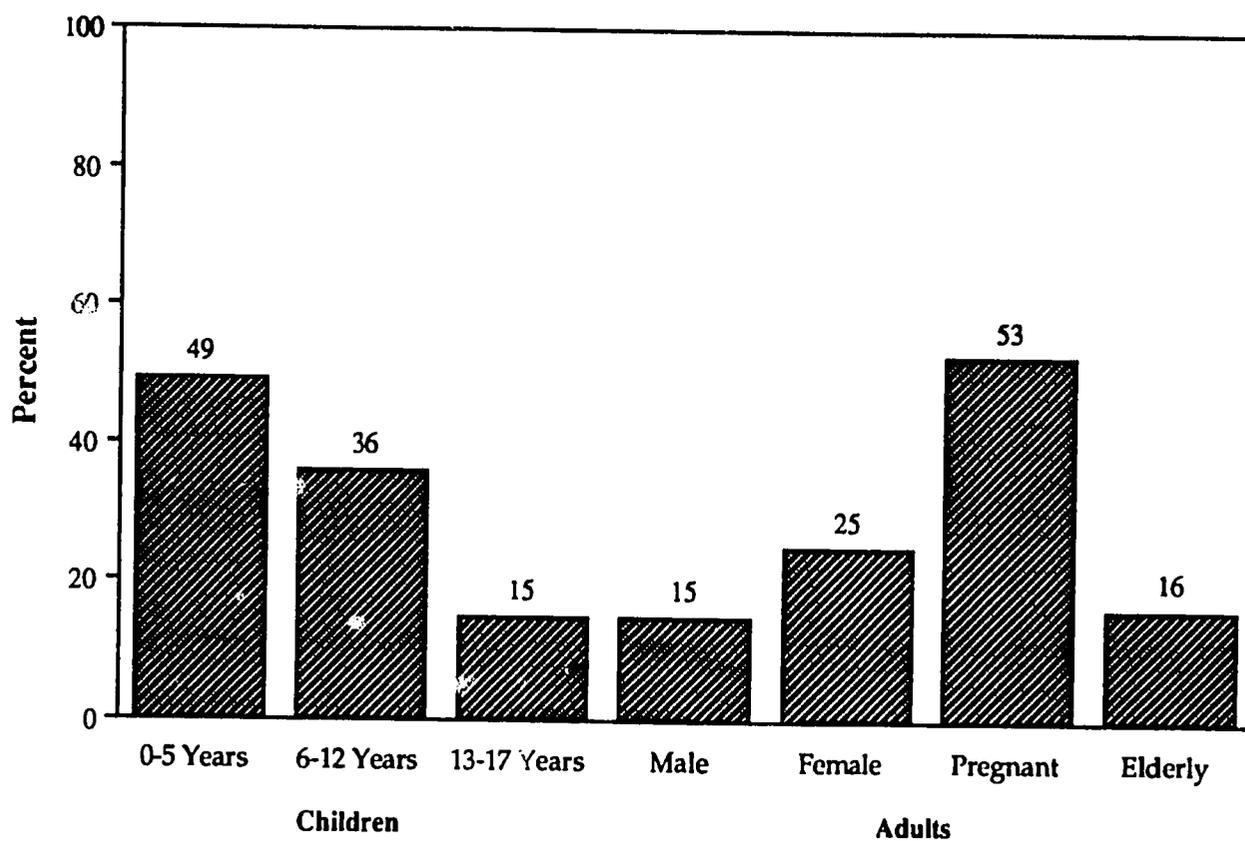
(See Figure A-8.)

**Fig. A-7: Prevalence of Anemia by Geographic Region, 1980**

Source: Cook, 1980

**Fig. A-8: Prevalence of Anemia by Age Worldwide, 1980**

Source: Cook, 1980



While milder and more prevalent forms of anemia are difficult to diagnose and their effects remain to be defined, the detrimental effects of severe anemia on pregnancy outcome, resistance to disease and mental/physical performance are well documented (INACG ref.). There is no indication from the data available of any significant change in the prevalence of anemia during the last few years.

#### C.1.2. Causality

An important causal factor appears to be the relatively low biological availability of iron that is present in local diets primarily from vegetable sources. Foods of animal origin are not generally consumed in quantities sufficient to meet iron needs by low income households and especially pregnant and nursing women and infants and young children. Infants born to iron deficient mothers have smaller stores of iron. Breastfeeding protects against anemia.

Parasites, especially malaria and hookworm also play a role in causing anemia.

#### C.1.3. Interventions

Nutrition education aimed at increasing the intake of low cost, locally available sources of utilizable iron and the distribution of iron supplements especially to pregnant women through maternal and child health services is a widely used intervention. The following factors have limited the effectiveness of these efforts: supplies of affordable concentrated sources of utilizable iron not easily available, ineffective nutrition education, erratic supplies of iron supplements, ineffective diagnostic techniques and inefficient management of

cases identified, and low compliance. Recent documentation of the effectiveness of food fortification programs in the region has focussed attention on the use of commonly consumed foods as vehicles for high absorption iron compounds (Stekel et al, 1986).

## C.2. Endemic Goitre

Iodine deficiency is associated with mental and physical impairment and in its severe form, cretinism, predisposes to mortality.

### C.2.1. Prevalence

Among A.I.D.-assisted countries in LAC, endemic goitre is a documented public health problem (prevalence above 10%) in Bolivia, Ecuador, El Salvador, Guatemala, and Peru (PAHO, 1986).

### C.2.2. Causality

The most important cause of endemic goitre in the region is the consumption of iodine-poor diets that are based on foods grown in iodine-poor soils. These are found in mountainous areas and regions originating from crystalline and igneous rock formations. The western mountain ranges that extend from Mexico through the Andes as far as Chile constitute one of the most concentrated iodine-deficient geographical areas in the world.

TABLE A-11

PREVALENCE OF ENDEMIC GOITRE  
BEFORE AND AFTER IODIZATION PROGRAMS\*

(**)	Before Iodization		After Iodization	
	Year	% Prevalence	Year	% Prevalence
Bolivia (1977)	1976 (LaPaz)	68.0	1981 (LaPaz)	61.6
	1976 (Pando)	77.0	1981 (Pando)	43.0
Ecuador (1973)	1969	23.7	1978	12.0
Panama (1970)	1967	16.5	1975	6.0

Note: Bolivia and Ecuador data pertain to schoolchildren, Panama data is from the general population.

\* National data unless specified in parentheses.

\*\* Year in which iodization program initiated.

Source: PAHO, 1986

### C.2.3. Interventions

The most effective and economical method of preventing endemic goitre is through the fortification of salt with iodine. All countries in the region with a significant goitre problem have passed legislation and are attempting to implement salt iodization. However coverage remains low in a number of countries due to major logistics and management problems (PAHO, 1985). These include transportation of iodized salt especially to remote areas, availability of local or imported uniodized salt, inadequate technical oversight, monitoring, and supervision. Table A-11 shows the prevalence of endemic goitre before and after the initiation of iodized salt programs.

### C.3. Vitamin A Deficiency

#### C.3.1. Prevalence

Blinding xerophthalmia (changes in the eye caused by vitamin A deficiency) is known to be widespread in Africa, Asia and the Western Pacific, with pockets occurring in Latin America and the Caribbean. However the lack of data prevents an accurate assessment of the situation. Breastfeeding protects the young infant from xerophthalmia. Children between the ages of 6 months and 6 years, and pregnant and nursing mothers most often suffer from xerophthalmia and night blindness due to vitamin A deficiency. Mild vitamin A deficiency may cause impaired immunity and physical growth before any sign of xerophthalmia appears; the diagnosis is made by finding low blood levels of the vitamin (DeMaeyer, 1984).

#### C.3.2. Causality

Studies on dietary practices in the region indicate that a high proportion of the population consumes inadequate or marginally adequate levels of vitamin A or its precursor, carotene. Higher income households consume higher levels of the vitamin and fat which increases absorption of vitamin A and carotene. Childhood diseases, especially measles and respiratory, urinary and gastrointestinal infections precipitate the appearance of xerophthalmia in children with little or no stores of vitamin A. An increase in the incidence of irreversible blindness in the aftermath of an outbreak of measles is not uncommon. Severe protein-calorie malnutrition also appears to interfere with the metabolism of vitamin A; keratomalacia

(irreversible eye damage and blindness) almost always occurs in advanced forms of protein-calorie malnutrition.

### C.3.3. Interventions

Nutrition education based on effective social marketing principles has only recently been used for vitamin A programs. Food fortification (and in some areas such as Haiti, supplementation with large doses of vitamin A) presently offers the greatest potential for controlling vitamin A deficiency disease in the region. The sugar fortification programs of Guatemala, Costa Rica, Panama, and Honduras have been a major development in this area. The Guatemala program was evaluated and found to be highly cost-effective (Arroyave et al, 1979).

### C.4. Implications for A.I.D.

A priority in the area of vitamin A is conducting assessments to identify where the pockets of deficiency are located. PVOs are a potential resource for delivering services and monitoring progress.

Since knowledge of the magnitude of iodine and iron deficiency and technologies for dealing effectively with them are generally well known in most LAC countries, missions can often move ahead quickly with interventions in these areas. For iodized salt programs, legislation is necessary for requiring all locally produced and imported salt be iodized. Where salt is marketed by few firms and processing is centralized, monitoring and enforcement of the law is easily done. Ideally, the government and industry must also agree to sharing the cost of iodization rather than passing it on to the consumer, especially in iodine-deficient areas, so that the consumer may not seek lower cost

uniodized salt. Similarly iron fortification of commonly consumed processed foods such sugar and salt, is a promising intervention for controlling anemia. Increasing the efficiency of current anemia prophylaxis programs (iron-folic acid supplements distributed from health and community centers) is another area for A.I.D. assistance.

Not all missions will be able to initiate project activities for dealing with micronutrient deficiencies. For those that can, mechanisms are already in place for technical assistance to help establish baselines and design an appropriate strategy.

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**ANNEX B**

**CURRENT PORTFOLIO OF A.I.D. ASSISTANCE FOR  
NUTRITION ACTIVITIES IN LATIN AMERICA AND THE CARIBBEAN**

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Data in this section are from a survey of A.I.D.-funded activities that were underway during 1985-1987. AID/W and mission officers and project documents were the major sources of information. Data collection occurred during 1986/1987. Table B-1 contains a list of all nutrition activities identified. A large proportion of these consist of food aid programs. Dollar-assisted activities are embedded in a variety of larger projects. They represent the work of at least three Bureaus (LAC, S&T, PVC), two major sectors (Agriculture/Rural Development and Health), eighteen country and regional field offices and six AID/W offices.

Information on parent projects was not difficult to locate or verify and is consistent with FY 1988 Annual Budget Submission (ABS) and Congressional Presentation (CP) documents. Data on the nature and level of nutrition components within these project is subjective, based largely on the personal knowledge of project officers. Data on coverage or effectiveness of nutrition components are virtually non-existent and had to be dropped from the analysis. NOTE: The action plan emphasizes establishment of project monitoring and nutrition surveillance activities as soon as possible within major projects that contain nutrition/comsumption objectives, so that the coverage, effectiveness, and impacts of nutrition activities can begin to be monitored.

## 1. Magnitude of Nutrition Assistance

As a proportion of total dollar assistance by A.I.D. to LAC countries, nutrition activities receive insignificant and dwindling funds.<sup>7</sup> A total of \$1,521,462 was provided in 1985, \$1,124,323 in 1986, and \$1,321,771 in 1987, of which nutrition activities accounted for \$13,753, \$11,712, and \$8,369 respectively. Among donor agencies, A.I.D. is a leader in nutrition in the region, with 194 activities in 18 countries totalling an estimated 28 million food in aid, 7 and 8 million in non-food assistance, during 1987. Food aid for nutrition increased during 1985-1987 and non-food assistance declined steadily in the same period. Title II of P.L. 480 is primary source of commodities in food aid activities that are designed to achieve nutritional goals. Titles I and III of P.L. 480 provide commodities for commercial sale to a number of countries in the region. However, local currency proceeds from these sales are rarely used for nutrition or household food security programs. This is a major untapped resource for strengthening food security, especially in response to the recession and structural adjustment in LAC countries.

## 2. Sources of Nutrition Funding

During FY85-FY87, the share of dollar resources from the various accounts that fund nutrition activities shifted somewhat

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<sup>7</sup> For the purpose of this analysis, food assistance for nutrition is defined as the world market value (as assigned by FAS/USDA) of all Title II food commodities. This includes all MCH, preschool, school, and other child feeding programs; and all food-for-work programs; non of the Sugar Quota, Sec. 416, Title I and III commodity values are included. Title I and II sales proceeds that support nutrition activities are included are non-donor funds and were identified in AID/W documents or by missions or AID/W officers as having a nutrition component.

in the region. (See Tables 3 and 4 in the main text.) While the Health account remains the largest single source of dollar assistance, the ARDN share has declined sharply. Child Survival account funds allocated to nutrition activities more than doubled in absolute terms from 1986 to 1987 but formed a smaller proportion of the total Fund which increased 10-fold from 1985 to 1987. The contribution of the Agriculture/Rural Development/Nutrition account in absolute terms dropped to less than one-third of 1985 levels from 3.8 million to 1.2 million in 1987, while the total ARDN funding for LAC went from 180 million to 160 million during the same period. ESF, P.L. 480 Titles I, II and III were minor contributors to the total funding for nutrition. (Title II allocates substantial commodities, but few funds for nutrition activities.)

### 3. Nature of Nutrition Activities

The largest number of nutrition activities is aimed at improving infant and child feeding practices including breastfeeding, weaning, and dietary management of diarrhea. Title II MCH and preschool feeding programs form the bulk of these and consist primarily of take-home dry distribution of commodities from health posts, mothers clubs and other distribution points. Recent evaluations have not been able to demonstrate impact on nutritional levels or measure the proportion of high risk groups covered. Dollar or local currency funds for activities complementing food aid are scarcely identifiable. These funds are vital accompaniments to food aid and cover costs of project design, analysis, training, education, and health inputs. (An important exception is the Caritas MCH

program in Bolivia which has garnered substantial non-food resources). Recent reviews of country Title II MCH programs reveal that more serious program design and technical backstopping problems exist in the LAC region compared to Africa and Asia. These are reflected in lack of outreach to the areas of greatest need, failure to recruit lowest income households, untargeted food distribution, little or no effective nutrition education or key health inputs (such as ORT, immunization), minimal systematic monitoring or evaluation, and duplication of services (Pines and King, 1986; Honduras evaluation, 1987). As a result, the role of food supplement distribution in reducing the prevalence of young child malnutrition in the region remains unclear.

A number of dollar-assisted health sector activities (for example, bilateral grants, PVO child survival grants) now include plans for growth monitoring and education messages on breastfeeding, weaning, and dietary management of diarrhea in addition to the traditional immunization- and ORT-only package. The new bilateral Child Survival Project in the Dominican Republic has a substantial proportion (approximately 80%) of funding allocated to nutrition activities. Existing data on the nutrition situation in the DR show high levels of childhood growth failure (PAHO, 1986), relatively low prevalence of breastfeeding (WFS/CPS), inappropriate timing and quality of supplementation, and poor management of diet during and following diarrhea (Griffiths et al, 1984). An independent evaluation of the A.I.D.-funded pilot project with Catholic Relief Services and Manoff International provided evidence that well-designed and targeted

nutrition interventions could improve nutritional status at reasonable cost, without relying on food supplement distribution even in economically disadvantaged communities of the country (Teller et al, 1987). USAID/Ecuador's PREMI (child survival) project, and projects in FVA/PVC's PVO Child Survival Grants Program are other examples of the recent recognition of the crucial role of nutrition components in achieving child survival objectives.

Maternal nutrition is most extensively covered by P.L. 480 Title II MCH feeding programs, where pregnant and nursing mothers are eligible to receive special food rations. Nutrition education concerning diet during pregnancy and lactation is frequently included in child survival projects. Low participation rates by pregnant women, especially low income women, and poor compliance with guidance to increase food intake during pregnancy are often cited as major reasons for low impact and effectiveness.

Only a few activities in the LAC nutrition portfolio are aimed at household food insecurity, a problem that affected 50 million people even before the economic crisis. Missions in Peru, Honduras, and Haiti are currently funding/have funded some preliminary analysis of issues and options in this area, though there is no evidence of a commitment to follow up with policy/project interventions that resulted from the analyses. More A.I.D.-assisted countries, especially countries with high levels of malnutrition, need to identify who is most at risk of food insufficiency, how current and proposed agriculture and rural development policies and programs, and structural adjustment, affect their consumption, and how they might be reached through

compensatory programs. The results of these analyses need to be translated into existing and new agriculture sector, rural development, and Food For Peace activities, including policy dialogue initiatives. Instead, agriculture sector strategies and projects continue to emphasize aggregate sectoral growth, productivity, and conservation, without sufficient consideration of near-term consumption implications for the poor. A.I.D. assistance has not gone to critical areas such as strengthening existing food subsidy programs, developing analytical capabilities and management/information systems expertise in public sector institutions, and nutritional surveillance.

A majority of programs that have the objective of increased consumption of food by the poor, consist of traditional food-for-work programs. These have been limited in their ability and scope to adequately target a significant proportion of high risk households, to provide sufficient or sustained economic support, or to generate longer-term economic assets in depressed areas.

A very small number of activities is devoted to controlling micronutrient deficiencies, despite their continued prevalence in large segments of the population, and the demonstrable success of programs in the region such as salt-iodization, iron and vitamin A fortification.

#### 4. Intermediaries

Private Voluntary Organizations (PVOs) are the Agency's chief intermediaries for approximately two-thirds of food aid, and handle one-quarter (1985, 1987) to a third (1986) of dollar assistance in the region. Food For Peace officers coordinate food aid activities with in-country PVO offices. The proportion of

food aid under Title II programmed through government-to-government grants has steadily declined from 84,436 metric tons in 1985, to 62,607 metric tons in 1986, and 29,224 metric tons in 1987. The World Food Program continues to program approximately 60,000 metric tons of P.L. 480 Title II commodities (in addition to programming commodities donated by other countries).

PVOs participate and co-sponsor a major segment of nutrition assistance, both food aid and dollar assisted activities, however, institutional strengthening in key areas appears to have lagged behind. No significant technical assistance or other form of institutional support to PVOs in key areas was identified. The FVA competitive Child Survival Grants programs of 1985-1987 have proven that PVOs will respond to A.I.D. dollar and technical assistance incentives. Areas where PVO strengthening is further needed include: consumption analysis to identify high risk households, information systems for monitoring and evaluation, new approaches in growth monitoring, social marketing, linkages with key health services (ORT, immunization), cost-effectiveness evaluations.

The majority of non-food assistance is in the form of bilateral grants to host government entities in the health sector. These are administered by A.I.D. missions, mainly in HPN divisions.

##### 5. Geographic Focus

Child survival emphasis countries receive approximately half the total funds allocated to nutrition in LAC. After CSF, the ARDN funded nutrition assistance is best focussed in countries of highest need. (See Table B-2.) However, the total allocation for

nutrition activities declined during 1985-1987 in emphasis countries.

6. Type of Assistance (Inputs)

Funds for in-country project costs, training, and technical assistance are the most frequently funded inputs. Research, surveys, and the procurement of nutrient supplements are infrequent. In P.L. 480 Title II programs, food commodities comprise the bulk of assistance; nutrition education is frequently mentioned in descriptions of MCH and preschool programs. However, there is minimal funding of nutrition education or other activities besides food distribution. The Bolivia Caritas mothers clubs project was an exception.

SUMMARY

Dollar assistance for nutrition activities in LAC is low and declining. Mechanisms to monitor the nature, scale, and effectiveness of these activities are inadequate.

The largest single category of projects are food distribution programs under Title II, that provided a total of 316,000 metric tons of food commodities in 1987. Distribution, generally through primary schools, health facilities, community organizations, food-for-work projects, is handled mostly by voluntary agencies such as CARE, Catholic Relief Services, ADRA, and others. Food aid to the region has been substantial but without accompanying dollar support needed to adequately design and monitor targeted programs that can effectively reach the poor. There is no new evidence of careful beneficiary selection, geographic or other targeting, sustained income generation, or complementary health and education services. As a result, absorptive capacity to administer effective programs does not appear to have kept pace with the rapid increases in numbers of recipients.

All non-food, dollar-assisted nutrition activities are embedded as small components in a vast array of larger projects, chiefly in health and child survival. There appears to be a growing recognition that ORT and immunization-only programs may succeed in shifting causes of mortality from dehydration and immunizable diseases to other causes without significant overall reductions, unless malnutrition (therefore susceptibility to disease) is reduced first. While A.I.D. projects are beginning to allocate funds for nutrition interventions, large-scale programs

with sufficient coverage of the high risk to make a difference will require institutional strengthening and are years away.

Only a limited number of activities are aimed at improving household food security. This remains the most critical gap in the current portfolio of A.I.D activities in the region.

TABLE B-1

A.I.D. PROJECTS IN LATIN AMERICA AND THE CARIBBEAN  
WITH A NUTRITION COMPONENT, BY COUNTRY

Country	Project Title	Project #	Account*
Antigua	Matching Grant-FFH	9380261	ARDN
Belize	FFH: Applied Nutrition Proj.	5050000	ARDN
	HOPE: Child Survival	5050017	HE
	Breast Is Best League	5050029	HE
	CARE: Maternal/Child Health	5050032	HE
	HBCU: Res.Grant Lincoln U.	9365053	ARDN
Bolivia	San Gabriel Health OPG	5110536	HE
	Self-Financing PHC	5110569	CS
	CRS: MCH/ORT/Growth Monit.	5110590	CS,ARDN, HE,P1/P2
	CARE:Child Hea./Rural San.	5110599	CS,HE
	Reducing Nutritional Blind.	9310045	ARDN
	Improving Mat.Inf. Nutrition	9311010	HE
	Nutrition: Health RSSA	9311198	HE
	SCF: Child Survival Grant	9380502	CS
	CARE: Child Survival Grant	9380503	CS
	PCI: Child Survival Grant	9380510	CS
	Esperanca:Child Survival	9380520	CS
	PCI: Child Survival Grant	9380521	CS
	PLAN: Child Survival Grant	9380522	CS
	ANDEAN: Child Survival	9380531	CS
	FFH: Child Survival Grant	9380528	CS
	SCF: Child Survival Grant	9380535	CS
	Maternal Child Feeding-ADRA		P2
	Maternal Child Feeding-FHI		P2
	Preschool Feeding-ADRA		P2
	School Feeding-ADRA		P2
	School Feeding-CRS		P2
	Other Child Feeding-ADRA		P2
	Food For Work-ADRA		P2
	Food For Work-CRS		P2
	Food For Work-FHI		P2
Chile	Improving Mat.Inf. Nutrition	9311010	HE
	Nutr.Surveys/Surveilliance	9311064	ARDN
Colombia	ITT Grant	5980616	CS,HE
	Nutr.Surveys/Surveilliance	9311064	ARDN,HE
	Nutrition: Health RSSA	9311198	HE

\* PL 480 Title II projects have no available project number.

Domin. Rep	National Nutr. Survey	5170000	PN
	Health/Nutr. Education OPG	5170174	HE
	Child Survival Project	5170239	HE
	Nutr. Consump. Anal. Agric. Pol.	9311171	ARDN
	Nutrition: Health RSSA	9311198	
	Maternal Child Feeding-CARE		P2
	Preschool Feeding-CARE		P2
	Preschool Feeding-CRS		P2
	Other Child Feeding-CARE		P2
	Other Child Feeding-CRS		P2
Food For Work-CRS		P2	
E. Carib.	Nut. Consump. Anal.	9311171	FN
Ecuador	Prog. Dev./Support	5180000	CS/HE
	Commun. Health Nursing	5180009	HE
	PREMI/CS Integr. Rural Hea.	5180015	CS/HE
	Strength. Commun. Org.	5180033	HE
	Preventing Iron Def.	9310227	HE
	Improv. Mat. Inf. Nut.	9311010	HE
	HEALTHCOM	9311018	FN
	Nut. Hea. RSSA	9311198	HE
	PVO Match. Grant-FFH	9380261	FN
	Child Survival Grant-SCF	9380502	CS
	Child Survival Grant-CRS	9380515	CS
	Eval./Imprvt. MCH Program	9380800	P2
	Maternal/Child Feeding-CRS		P2
	School Feeding-CRS		P2
Other Child Feeding-CRS		P2	
Food For Work-CRS		P2	
El Salvador	(Data not available)		
Grenada	Immediate Health Care	5380149	HE
Guatemala	Immun./ORS for Child Surv.	5200339	CS
	Dairy Development	5200355	FN
	Vitamin A Coop. Agmt.-JHU	9310045	HE
	HEALTHCOM	9311018	FN
	Nutrition: Hea.RSSA	9311198	HE
	Appropriate Tech./Health	9380507	CS
	Maternal/Child Feeding-CRS		P2
	Other Child Feeding-CRS		P2
	Maternal/Child Feeding-CARE		P2
	Other Child Feeding-CARE		P2
Food For Work-CARE		P2	
Haiti	Rural Health Delivery Sys.	5210091	HE/P1/P3
	Urban Health/Com.Dev.	5210159	HE
	Tar.Com.Hlth.Outr. PROSANT	5210172	HE
	Ext.Com.Hlth.Out.(AOPS II)	5210181	ES
	Mobilizing Mothers for CS	5210194	CS
	Vitamin A Coop. Agmt.-JHU	9310045	HE/FN
	HEALTHCOM	9311018	FN
	Nutr.Consump.Anal.Ag.Pol.	9311171	FN
PRICOR II	9365220	CS	

	Integ. Nut. Ed. Centers-CARE	9380503	HE
	Child Survival Grant-ICC	9380504	CS
	Child Survival Grant-SAWSO	9380509	CS
	Child Survival Grant-FPP	9380514	CS
	Women's Clubs Applied Nut.	9380515	HE
	Child Survival Grant-WVRO	9380527	CS
	Food For Work-CWS		P2
	Food For Work-ADRA		P2
	Food For Work-CARE		P2
	Maternal/Child Feeding-CRS		P2
	Maternal/Child Feeding-CWS		P2
	Maternal/Child Feeding-CARE		P2
	Maternal/Child Feeding-ADRA		P2
	Preschool Feeding-CARE		P2
	Preschool Feeding-CWS		P2
	School Feeding-CARE		P2
	School Feeding-CRS		P2
	School Feeding-ADRA		P2
	Other Child Feeding-CRS		P2
	Other Child Feeding-CARE		P2
	Other Child Feeding-ADRA		P2
	Food For Work-CARE		P2
	Food For Work-CWS		P2
	Food For Work-ADRA		P2
Honduras	Health Sector I	5220153	CS/PN/HE
	Hond. Agric. Res. Foundn.	5220249	FN
	Small Scale Livest. Dev.	5220251	ES
	Mosquitia Relief/Dev.	5220278	SD
	HEALTHCOM	9311018	FN
	Nut. Consump. Anal. Ag. Pol.	9311171	FN
	Nutrition: Health RSSA	9311198	HE
	Matching Grant-FFH	9380261	FN
	Maternal Child Feeding-CARE		P2
	Maternal Child Feeding-CRS		P2
	Preschool Feeding-CARE		P2
	School Feeding-CARE		P2
	Food For Work-CARE		P2
	Food For Work-CRS		P2
Jamaica	Health Management Impr.	5320064	HE
	Hillside Agriculture Project	5320101	FN
	Nutrition Education-INCS	9311010	FN
	Nutr. Consump. Anal. Ag. Pol.	9311065	FN
	Title XII- Tuskegee Inst.	9365542	SD
	School Feeding-GTG		P2
Mexico	Nutrition CRSP	9311309	FN
Panama	Integr. Rural Dev.	5250186	FN
	Agric. Tech. Transfer	5250227	FN
	Ag. Pol. Formln. Managemnt.	5250247	FN
	Nutrition Surveys/Surveill.	9311064	FN/HE
	Consump. Effects Ag. Pol.	9311274	FN

Peru	Prot.Digest.Phaseolus Vul.	5270166	FN
	Integ. Rural Development	5270178	FN
	Exten.Integ. Primary Health	5270219	FN/HE
	Integr.Health/Family Plng.	5270230	PN/HE
	Refores.Food For Wk.-SEPAS	5270231	FN/HE
	Central Selva Res. Mgmt.	5270240	FN/P1
	Expanded Fdg. Program-OFASA	5270247	FN/P2
	Expan.Impr.Fdg.Prg.-CARITAS	5270248	FN/P1
	Food For Work-CARE	5270261	FN/HE/P1/P2
	Agric. Tech. Transfer	5270282	FN
	Child Surv. Action Project	5270285	HE
	PVO Health Promo. Network	5270294	FN/HE
	Com.Health Prog.-Arequipa	5270297	FN/HE
	Pvt.Sector Nutrition/CS	5270308	HE
	Reduction in Child Mortal.	5270311	CS
	Improv. Maternal Inf. Diet	9311010	CS/HE/FN
	Nutrition: Health RSSA	9311198	HE
	Digest./Utilzn.Grain Amaran.	9365538	SC
	Duckweed Feed for Poultry	9365542	SD
	Agrobact.P.Modif.Nut.Val.	9365542	SD
	Bioelec.Impeden.Meas.Maln.	9365542	SD
	Transmission Cryptosporidium	9365542	SD
	Andean Tuber Crops	9365542	SD
	Epidem.Prolonged Diarr.	9365928	HE
	Maternal/Child Fdg.-CRS		P2
	Maternal/Child Fdg.-ADRA		P2
	Preschool Fdg.-CRS		P2
	Other Child Fdg.-CRS		P2
	Other Child Fdg.-CWS		P2
	Other Child Fdg.-ADRA		P2
	Food For Work-ADRA		P2
ROCAP	Regional Nut.Tech.Outreach	5960104	FN
	ORT,Growth Monit.& Nut.Ed.	5960115	HE
	Food Assistance Support	5960116	HE
St. Kitts	School Feeding - GTG		P2

TABLE B-2

FOOD VS. NON-FOOD ASSISTANCE FOR NUTRITION  
IN LATIN AMERICA AND THE CARIBBEAN  
(\$000)

Category	FY85	FY86	FY87
1. Food Assistance (Value of Title II Commodities at USDA Prices)	23,351	25,350	28,164
2. Non-Food Assistance	13,753	11,712	8,369

Sources: Title II from 1988 CP for FFP; non-food assistance from A.I.D. Health Information System, ISTI, 1987

TABLE B-3

GEOGRAPHIC DISTRIBUTION OF NUTRITION FUNDS BY ACCOUNT  
(\$000)

Country/Region	FY85	FY86	FY87
1. LAC Total (Nutrition)	13,753	11,712	8,369
- ARDN (Nutrition)	3,835	3,993	1,175
- HE (Nutrition)	7,837	5,431	3,701
- CSF (Nutrition)	895	847	2,372
2. Nutrition Activities in Emphasis Countries			
- Total (all accounts)	5,344	7,390	4,074
(%LAC)	(39)	(63)	(49)
- ARDN	2,477	3,170	865
(%LAC)	(64)	(79)	(10)
- HE	1,735	2,828	525
(%LAC)	(22)	(52)	(14)
- CSF	895	847	2,372
(%LAC)	(100)	(100)	(100)

Source: A.I.D. Health Information System, ISTI, 1987

TABLE B-4

P.L. 480 TITLE II PROGRAM LEVELS IN METRIC TONS  
FOR LATIN AMERICA AND THE CARIBBEAN

Region/Country	Actual FY 86	Estimated FY 87	Proposed FY 88
Latin America/ Caribbean Total	316,000	275,289	271,475
Emphasis Countries (percent of total)	230,694 (73)	235,061 (85)	209,613 (77)

Source: FY 1988 CP for Food for Peace, A.I.D.

## ANNEX C

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