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**MANAGEMENT SCIENCES FOR HEALTH**  
A NONPROFIT INSTITUTION

EVALUATION REPORT

Meals for Millions/  
Freedom from Hunger Foundation

HONDURAS

APPLIED NUTRITION PROGRAM

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## ACRONYMS

|             |                                                                                                                |
|-------------|----------------------------------------------------------------------------------------------------------------|
| ACORDE      | Asociacion Coordinadora de Recursos para el Desarrollo<br>(Association for Coordinating Development Resources) |
| AID (AID/W) | Agency for International Development                                                                           |
| ANP         | Applied Nutrition Program                                                                                      |
| ASECSA      |                                                                                                                |
| CDI         | Centro Cooperativo Tecnico Industrial<br>(Cooperative Technical Industrial Center)                             |
| CEDEN       | Comite de Desarrollo y Emergencia Nacional<br>(Committee for National Development and Emergency)               |
| CESAMO      | Centro de Salud con Medico<br>(Health Center with Physician)                                                   |
| CESAR       | Centro de Salud Rural<br>(Rural Health Center)                                                                 |
| CODEFOR     | Corporacion de Desarrollo Forestal<br>(Forestry Development Corporation)                                       |
| CODEL       | Coordination in Development                                                                                    |
| CORFINO     | Corporacion Forestal Industrial de Olancho<br>(Industrial Forestry Corporation of Olancho)                     |
| CSM         | Corn-Soya-milk flor (P.L. 480 food commodity)                                                                  |
| DARNO       | Direccion Agricola Regional del Nor Oriental<br>(Northeastern Regional Agricultural Office)                    |
| DPG         | Development Program Grant                                                                                      |
| EEC         | European Economic Community                                                                                    |
| ENA         | Escuela Nacional Agricola<br>(National Agriculture School)                                                     |
| FAC         | Food and Agriculture Organization of the United Nations                                                        |
| FMC         | Federacion de Mujeres Campesinas<br>(Federation of Rural Women)                                                |
| FVA         | Bureau of Food and Voluntary Assistance<br>(dependency of AID)                                                 |
| GOH         | Government of Honduras                                                                                         |

|         |                                                                                                                            |
|---------|----------------------------------------------------------------------------------------------------------------------------|
| IDG     | Institutional Development Grant                                                                                            |
| IHMA    | Instituto Hondureno de Mercadeo Agricola<br>(Honduran Institute of Agricultural Marketing)                                 |
| INCAP   | Instituto de Nutricion de Centro America y Panama<br>(Institute of Nutrition of Central America and Panama)                |
| INFOP   | Instituto Nacional de Formacion Obrero Patronal<br>(National Institute of Labor Management Development)                    |
| JBNS    | Junta Nacional de Bienestar Social<br>(National Board of Social Welfare)                                                   |
| MFM/FFH | Meals for Millions/Freedom from Hunger Foundation                                                                          |
| MG      | Matching Grant                                                                                                             |
| MOH     | Ministry of Health<br>(Ministerio de Salud Publica y Asistencia Social)                                                    |
| MPF     | Multi-Purpose Food                                                                                                         |
| MSH     | Management Sciences for Health                                                                                             |
| NGO     | Non-government Organization                                                                                                |
| SANAA   | Servicio Autonomo Nacional de Acueductos y Alcantarillado<br>(National Autonomous Service of Acueducts and Sewage Systems) |
| SAPLAN  | Sistema de Planifiacion en Alimentacion y Nutricion<br>(Food and Nutrition Planning System, dependency of CONSULPLANE)     |
| UNICEF  | United Nations Children's Fund                                                                                             |
| USAID/H | United States AID Mission to Honduras                                                                                      |

## I. EXECUTIVE SUMMARY

From early 1978 through June 1983, the Meals for Millions/Freedom from Hunger Foundations (MFM/FFH) spent \$419,774 to introduce and implement an applied nutrition program (ANP) in Honduras. During the life of the program, MFM/FFH has benefitted from several grants from the Agency for International Development: a development program grant (DPG) in 1978, an institutional development grant (IDG) from 1979 to 1981, and a three-year matching grant (MG) which began in 1982. More than 90% of the Honduras program budget, however, has come from private sources. A formal agreement, which authorized the program and recognized MFM's participation, was signed with the Ministry of Public Health and Social Assistance (MOH) in April 1978; MFM/FFH became incorporated under Honduran law as a private, service organization the following November.

The goal of the ANP is "to reduce the incidence of malnutrition of the most vulnerable groups in the pilot project area and to strengthen the capabilities of rural communities and local health delivery systems." Its purpose is to "organize and train communities to implement self-help projects in agriculture land animal husbandry, and to participate in health and nutrition programs." The area of influence of the ANP encompasses nine villages in a tropical, isolated area of the Department of Olancho. Six national staff members work in conjunction with an MOH rural health center to provide services to approximately 4,000 residents. Major program components include:

- coordination of development activities with government and private agencies;
- clinical control of children under five years old and pregnant women;
- health and nutrition education to mothers of second and third degree malnourished children;
- training in the management of groups and projects;
- training and technical assistance in small-scale agriculture; and
- promotion and implementation of self-help/income-generating projects.

Other activities carried out by the staff include the promotion of community water systems, supplementary feeding with P.L. 480 commodities, operating an experimental demonstration garden; and establishing an agricultural credit system.

Anthropometric surveys are conducted annually by the staff in all communities. During the four-year period, November 1978 to March 1983, the prevalence of second and third degree malnutrition has been reduced by 24%; this means that an estimated 20 presently normal or mildly malnourished children were saved from severe malnutrition this past year alone, and that undoubtedly an undetermined amount of death and illness has been averted. No vital statistics are collected in the area, nor does the program analyze the nutritional status of pregnant women. It is safe to say, after an analysis of program activities and other extraneous factors, that most of the observed decrease is probably

due to ANP interventions. Almost three-fourths of the pre-school children in the area have attended the growth and development clinics; immunization rates are even higher; the program reaches approximately 85% of the pregnant and lactating women with health and nutrition education; in 1982, 59 vegetable gardens were planted; and potable water systems have been constructed in three communities, two of which show the largest decreases in malnutrition.

MFM's most important function is that of a catalyst: a facilitator who, with minimum financial and material resources of its own, has been able to identify itself with community concerns and mobilize existing community, government and NGO resources. In practice, the ANP strategy has been characterized by effective interagency coordination, active community participation, integrated interventions at the village level, and a capable and motivated team effort. Collaborative and apparently lasting relationships have been developed between the community groups and the MOH health center. Despite considerable effort, however, a viable, long-term mechanism for the continued coordination and integration of multi-agency resources in the field has not been identified.

The ANP has successfully introduced a variety of technological improvements in most program areas. Of particular significance are an agricultural loan fund, family size silos, health center procedures, home improvements, community-based planning methods, and many more. There is room for improvement regarding certain technical analyses to determine the most appropriate and beneficial interventions to reach program goals in some specific areas, including the nutrition education program, cost/return analysis of agriculture interventions, and community income-generating projects. A good amount of valuable data is currently being collected and utilized by the staff for operational programming in all phases of the program; other than the annual anthropometric surveys, however, little data is organized, tabulated or analyzed for evaluation purposes.

The ANP staff should concentrate more attention on those communities which continue to show the highest rates of malnutrition. Various operational procedures and criteria need to be defined more precisely and written to assure consistency. The staff should develop a specific curriculum for the management training component, and involve community representatives to a greater extent in certain program decisions. The ANP team needs to strengthen its follow-up activities at the community level, particularly regarding agriculture and nutrition education. The development of a community-based system for the collection of vital statistics is also recommended.

The overall impression of the MFM applied nutrition program in Honduras is very positive and exciting. The level and mix of inputs is justifiable and the results to date are impressive, in terms of improved nutritional status, community participation, and the potential for improving the local economy. Equally as impressive is the process by which the staff carries out its mandate -- community oriented, close teamwork, motivated, and with excellent support from the home office.

## II. BACKGROUND

### A. Description of this Evaluation

The evaluation of the MFM/FFH applied nutrition program in Honduras was undertaken between June and December, 1983. The methodology consisted of five phases:

#### First phase: Preparation

June

- Orientation and discussion with AID/W project manager.
- Visit to MFM home office in Davis, CA for planning and initial interviews and data collection.
- Initial review of available documents.

#### Second phase: In-country protocol

July

- Orientation and planning with country program director to finalize arrangements.
- Introduction meetings with appropriate Ministry of Health and USAID/H officials.
- Initial meeting with program staff to (i) brief staff as to purpose and methodology of the evaluation, (ii) obtain a brief history and description of program and participating communities and agencies, and (iii) finalize selection and schedule of field visits and persons to be interviewed.

#### Third Phase: Data Collection

July

- Conduct interviews, visit field sites and review documentation.

#### Fourth Phase: Confirmation of Findings

July

- Detailed debriefing with program staff and MFM representative prior to departure.
- Summary debriefings with Ministry of Health and USAID/H officials.

#### Fifth Phase: Distribution of Reports

October-December

- First draft by principle evaluator with input from collaborating specialist:

- MFM/FFH home office
- MFM/Honduras program director
- collaborating evaluator
- AID/W evaluation coordinator
- MSH evaluation coordinator

Final country program report:

- MFM/FFH home office
- AID/W, Bureau of Food and Voluntary Assistance (FVA)

The principal evaluator and team leader for the MFM/FFH evaluation was James Becht, a public health evaluation and information specialist with fourteen years experience in Latin America. Assisting him was a second MSH consultant, Dr. Reinaldo Grueso, Medical Director of the Xaverian Hospital in Bogota, Colombia. Dr. Grueso, a renowned public health nutritionist, contributed both a cultural perspective relating to Honduras and a specialized technical balance vis-a-vis the principal evaluator. MFM/FFH was represented on the evaluation team by Richard Redder, its Vice President for Program, and Zoila Alvarez, the Honduras program director, both of whom took an active role and contributed significantly to the formulation of conclusions and recommendations. Consistent with the procedures established by MSH for the PVO evaluation methodology, field interviews occasionally required confidentiality, i.e. the absence of MFM personnel. A list of persons contacted and the itinerary of the evaluation are found in Appendices B and G respectively.

#### B. The Meals for Millions/Freedom from Hunger Foundation (MFM/FFH)

Meals for Millions/Freedom from Hunger Foundation is a private, non-profit organization incorporated under California law in 1946. The Foundation operates under a Charter and is administered by a Board of Trustees who serve without compensation.

Meals for Millions was founded as a voluntary relief agency by Clifford Clinton, who fed the hungry free in his Los Angeles cafeteria. His search for a low-cost food or food supplement with which to feed still greater numbers in the U.S. and overseas led to the development of Multi-Purpose Food (MPF), a high nutrition, protein, vitamin and mineral food supplement. Initially, MFM concentrated on developing and distributing MPF. Shiploads were sent overseas and to hungry communities in the United States.

In the late 1960's the Board of Trustees and professional staff recognized that a relief feeding program was essentially a stop-gap response to the problems of hunger and malnutrition. Gradually, a self-help approach was adopted, along with the provision of technical assistance and U.S.-based training. These were aimed at establishing food processing operations (by extrusion) in other countries, most notably Korea. In the 1970's, Meals for Millions adopted the

applied nutrition approach being promoted by the United Nations Food and Agriculture Organization (FAO) and began to shift its strategy to in-country training and the mobilization of local resources.

In March 1979, the Board of Trustees agreed to become the successor to the American Freedom from Hunger Foundation and to amend MFM's charter, adopting the present name. The goals of the MFM/FFH Foundation are to:

- "strengthen the capabilities of people in developing communities to solve their own food and nutrition problems;
- "do so within the framework of the communities existing economy and culture;
- "give special emphasis to the nutritional needs of infants, children, and pregnant and lactating women;
- "advance and perfect the 'participatory' or 'self-help' approach to achieve lasting development."

MFM/FFH is funded by private contributions, church and foundation donations, and grants from the Agency for International Development. MFM/FFH was the recipient of a Development Program Grant (DPG) in the three-year period ending November 1978. This was followed by an Institutional Development Grant (IDG) for an additional three years. Helped by these grants, MFM/FFH expanded and refined its program; upgraded its professional staff, and augmented and diversified its funding base. Government sources presently account for approximately 25% of the Foundation's revenue.

### C. The MFM/FFH Matching Grant

The Matching Grant (MG), awarded to MFM/FFH by the Agency for International Development, became effective in February 1982 and committed a total donation of \$1.850 million for a three-year period. The Foundation's contribution to the grant program is projected at \$3.305 million, or 55% of the total estimated expenditures. Other government contributions will provide \$625,000.

The overall goal of the MG program is "to strengthen the capabilities of developing communities to solve their own food and nutrition problems." Progress in achieving such capabilities will be measured in terms of improved nutritional status, increased community participation, and increased self-sufficiency. The program purpose is "to develop, implement and support Applied Nutrition Programs that provide people in selected rural developing communities with the technical, material and educational assistance they need to organize themselves and develop their capabilities to use the resources around them to solve their own food and nutrition problems."

MFM/FFH believes that the problems of hunger and malnutrition cannot be separated from the problems of poverty -- lack of knowledge, overpopulation, unemployment, poor sanitation, lack of potable water, lack of health services and low agricultural production -- and that an integrated approach is essential

for achieving success in development programs. The Applied Nutrition Program (ANP) framework encompasses this approach by developing comprehensive, interrelated educational activities which are focused on local problems, and by promoting coordination among different public and private agencies and the active participation of the people themselves.

The development and implementation of an ANP follows five stages:

- Stage 1: Doing a feasibility survey and preliminary planning.
- Stage 2: Defining objectives, collecting baseline data and doing more detailed planning.
- Stage 3: Initiating program operations.
- Stage 4: Evaluating and adjusting activities.
- Stage 5: Expanding the program to other communities.

Applied nutrition, as perceived by MFM/FFH, is a dynamic field in which the length of MFM's involvement cannot be predetermined and the possible activities undertaken are varied, both depending on local circumstances which may change with time. These activities often include health, education, agriculture, community development, and cooperatives. In support of the ANP strategy, the MG program incorporates specific components in food and nutrition training, food technology transfer, and a resource (documentation and dissemination) center in order to effectively respond to community needs as they are determined.

MFM/FFH chooses to work in countries where the need for food and nutrition skills is greatest and where close relationships have developed with former training course participants and with active local institutions. To the extent possible, the Foundation employs indigenous staff and provides long-term assistance to enable communities to carry forward programs after MFM/FFH support ends. The approach is to stimulate change rather than simply transfer technology. During the first year of the MG, ongoing ANPs in Honduras and Ecuador were to be expanded and new ANPs initiated in Antigua, Sierra Leone, and Thailand. During 1983-1984, ANPs will be developed for Kenya, selected Caribbean Islands, and Nepal.

#### D. Program Environment in Honduras

##### 1. Physical Setting

Honduras is a mountainous country, bordered by Nicaragua on the south and east, El Salvador on the northwest, and Guatemala on the west. The climate is tropical and rainfall is especially high on the northern coastal plains. The road system is continuously being improved and most regions of the country can be reached throughout the year within one day; secondary roads are less reliable and often impassable during the rainy season. Public transportation

is available to all Departments and telephones connect the Regional Health Offices and some Area hospitals with the capital city. Rural health centers are often isolated and must rely on hand carried messages or individual travel to communicate with the Area or Regional Health Offices.

The MFM program is situated in a small area of Olancho Department in the central highlands. Comprised for the most part of a large, tropical valley, Olancho has traditionally been a frontier, cattle and cotton region often by-passed in the development of the country's north-south corridor. The opening of a paved highway from Tegucigalpa in 1980 has reduced travel time from the capital city to 3-4 hours by private vehicle. All but one of the target communities are clustered within a six kilometer radius of the health center at Zopilotepe, which itself is 20 kilometers (about 45 minutes) from Juticalpa, the Department capital. Nevertheless, communications and access to services are often precarious during the rainy season.

## 2. Political and Economic context

Honduras is one of the poorest countries in Central America, with a per capita income of \$260 in 1982. Poverty is primarily concentrated in the rural areas where the legacy of the economic dependency has yet to dissipate. Illiteracy, infant mortality, and unemployment rates are still high. The country must import all its oil and has few natural resources; its chief exports are bananas, coffee, sugar, and timber. About one-fourth of the territory is devoted to agriculture and grazing, and two-thirds to forestry. More than 70% of the economically active population maintains a subsistence living in agriculture, hunting, or fishing. In recent years, there have been significant internal migrations from the rural areas to the cities, which have generated large socially and economically depressed urban areas. The economic situation of the country is conditioned by low productivity, high external dependence, and an unequitable distribution of the wealth.

Prospects for an improvement in the economy, which is necessary to finance public sector programs, are conditional upon an improvement in the political and military situation in the region. This adverse environment directly affects production conditions and the mobilization of resources. According to the Inter-American Development Bank, the most important tasks facing the Government are to re-establish an equilibrium in the balance of payments, reduce the level of the fiscal deficit, and provide the private sector with greater liquidity. In February 1982, Honduras installed a democratically elected President and Congress, which are to serve until 1986.

## 3. Significant Social and Cultural Factors

The ethnic composition of Honduras is a mixture of Spanish, Indian and Negro; Spanish is the predominant language. The cultural heritage has been shaped by colonialism, Catholicism, and the inequities of economic dependence. More than 60% of the population is dispersed in rural areas or resides in small communities. Families tend to be large (total fertility rate = 6.9), adult illiteracy is high (40%), and less than half of the population has access to

safe water. Until recently, social and geographic mobility has been limited. Services, public and private, are concentrated in the urban areas. Crowding and environmental sanitation have become serious problems in the marginal "shanty towns." Food supplies are generally scarce in rural areas from August to October, prior to the harvest season. Internal migrations are widespread from October to February when adults, whole families, and sometimes whole communities will seek work picking coffee and beans. In recent years, tens of thousands of people from Nicaragua and El Salvador have sought refuge within Honduras.

#### 4. Host Government Policies

Three priorities have been established within the Government's global development strategy: to achieve economic and financial stability; to experience growth and more equitable distribution of income; and to improve the quality of life of the population. Current economic and political conditions, however, have constrained progress in these areas. It is not unusual that when budgets become tight, as in Honduras, expenditures in social services suffer most. In recent years, the budget of the Ministry of Health and Social Assistance has decreased in real and relative terms. Priority attention has been given to defense and economic infrastructure projects.

The Ministry of Health is responsible for providing curative and preventive services for approximately 90% of the population; Social Security covers about 7%, and 3% use the private sector. Extension of coverage of primary health services, to rural and marginal urban areas, is the highest priority of the MOH. Children under five years of age, women between 15 and 49 years old, and workers comprise the priority population groups. On the basis of epidemiological risk and the social and economic consequences of disease, the following priority programs have been designated by the Ministry of Health: immunizations; control of diarrheas; control of tuberculosis; control of malaria; control of denque; nutrition; parasite control; basic sanitation; and health education. Nevertheless, ongoing commitments and demands in a traditional medical care/hospital system -- largely urban-oriented and curative -- continue to command the bulk of the Ministry's limited resources.

There does not exist an explicit government policy regarding nutrition, though there have been various unproductive attempts to define such a policy on a multisectoral basis. At the present time, three GOH agencies are involved in executing nutritional activities:

- The Ministry of Public Health, through its Division of Nutrition, provides supplementary feeding to second and third degree malnourished children, pregnant women and lactating mothers, and treatment of severe cases of pre-school malnutrition in special recuperation centers;
- The Ministry of Natural Resources provides technical and material assistance in the production, storage and marketing of basic foods (corn, beans, meat, sugar, and tuberous crops);

- The National Board of Social Welfare (JNBS) is also engaged in supplementary feeding of pre-school children.

A special unit (SAPLAN) was created within the Secretariate for Economic and Social Planning (CONSUPLANE) to plan, conduct interdisciplinary research, and coordinate activities at the national level in the area of food and nutrition. This unit was supported by both USAID and INCAP with the purpose of developing a national, multisectoral nutrition program; but due to a lack of technical capability and deficient planning, it has not fulfilled expectations.

The Government of Honduras, and in particular the Ministry of Health, has no defined policy regarding the role of private voluntary agencies. According to the Director General of Health, more than 200 PVOs are active in the health sector at the present time. The Ministry has neither the capacity or resources to monitor and evaluate the various projects which they carry out; but rather permits them to operate as long as their purpose and activities conform to national health policy.

#### 5. Demographic and Epidemiologic Profile

Honduras is not considered to be overly populated, with 4.1 million inhabitants (1983) within an area of 43,300 square miles (a density of 95 persons/sq. mi.), when compared with its neighbors; but it has the highest annual growth rate in Central America at 3.6% (1972-82). Sixty-two percent of the population resides in rural areas and approximately one-half of the population is under 15 years of age. The Ministry of Health reported the following demographic indicators for 1980: crude birth rate, 49.0; general fertility rate, 229.9; crude death rate, 10.8; infant mortality rate, 98.5; and life expectancy at birth, 55.3 years. More than three-fourths of the general morbidity is reported as infectious or parasitic diseases; the proportion is higher in children and is aggravated by high rates of protein-calorie malnutrition and diarrhea.

In 1981, MFM (Annual Report) reported that 75% of the children under five years of age in the Zopilotepe program area were malnourished. While this figure included cases of first degree malnutrition, the seriousness of the problem is confirmed by other independent studies (Table 1), which show a prevalence of second and third degree malnutrition ranging between 21% and 49% of children under five in all but one case throughout Honduras. In 1978, the Institute of Nutrition of Central America and Panama (INCAP) reported that, based on earlier studies, 21% of the pre-school children in Honduras were deficient in vitamin A; the prevalence of endemic goiter in the general population was 37%, and 32% of the population had low hemoglobin and hematocrit levels, especially pregnant women and pre-school children.

#### E. Relevant AID/USAID Policies and Strategies

The basic objective of AID's health programs is to assist developing countries to become self-sufficient in providing broad access to cost-effective preventive and curative health services. Program assistance concentrates on:

improving the effectiveness of health programs through improved program design, management and implementation; promoting self-financing of health programs; and increasing biomedical research and field testing in LDC settings. The Agency is giving increasing emphasis to private sector approaches to providing health care and health-promoting measures and private resources to cover the costs generated by health programs. The Agency continues to support indigenous institutions, including women's groups, universities and research institutions, village-level health committees, private sector health practitioners and enterprises, and voluntary organizations.

The objectives of AID's policy governing PVO relations and contributions are: to increase the economic development impact of PVO programs through increased program integration and focusing resources on field programs; to discourage dependence on U.S. Government financing of the international development programs of PVO's; to reduce the administrative cost to both AID and PVO's by simplifying management and administrative procedures; and to insure that AID funds are used in ways that reflect AID's legislative mandate yet take full advantage of the unique capabilities of voluntary agencies.

USAID's assistance program in Honduras in principle follows the basic guidelines set forth by AID/Washington, but is adapted to the political and economic realities of the country. Programs to support financial and political stability and economic development coincide with the host government's priorities. A major effort in the health sector currently provides long term financial and technical assistance to the Ministry of Health to improve management practices in the areas of planning, financial management, human resources development, information and logistics systems, maintenance, and supervision. Support of private voluntary organizations has been a relatively minor activity of USAID/Honduras, particularly in the health sector.

### III. THE MFM/FFH PROGRAM IN HONDURAS

#### A. Proposal Development Process

In 1977, an exploratory visit was made to Honduras by the MFM/FFH Regional Program Director responsible for Latin America and the Caribbean. Meetings were held with the Ministry of Health, USAID/Honduras, and private agencies to ascertain the possibilities of developing an Applied Nutrition Program and to survey current PVO and government activities. The MOH was receptive to the MFM initiative and queried several of its Regional Health Directors as to their interest in sponsoring such a program. The Director from Health Region No. 7 responded favorably and a site visit was made to Olancho Department. A formal request from the Regional Director to MFM, with concurrence by the MOH, followed. To this point, discussions were essentially held on a political level and only peripherally involved the technical divisions of the MOH.

MFM/FFH considered the following criteria in the selection of Olancho as the program area: It was a relatively newly opened area, heretofore a somewhat isolated frontier; there was potential for economic development, particularly related to agriculture and forestry, at the community level; few PVO's were operating in the Department; the Regional Health Director actively supported the concept of integrated development and inter-agency coordination; and, of course, a substantial need for food and nutrition improvements was apparent. The MOH Division of Nutrition viewed the proposal as a small demonstration project which should contribute to an intersectorial experience in planning and defining program alternatives. The Division had no previous experience with Applied Nutrition Programs.

A formal agreement was entered into by the Ministry of Health and Meals for Millions in April 1978. The agreement authorized the program, officially recognized MFM/FFH, and committed each party to cooperatively developing an ANP in Olancho. Several weeks later, MFM's country program director, a nutritionist, with the collaboration of the technical staff of the Regional Health office, initiated a feasibility study to select the specific area and communities where the program would be undertaken. The rural health center (CESAR) at Zopilotepe and eight satellite communities were chosen jointly three months later.

#### B. Program Goal, Purpose and Strategy

The goal of the MFM/FFH program in Honduras is stated as follows: "To reduce the incidence of malnutrition of the most vulnerable groups in the pilot project area and to strengthen the capabilities of rural communities and local health delivery systems." (The use of the term "incidence" is not an entirely accurate translation of the term used in Spanish -- indice -- which literally means "index" or "level.") Indicators by which to determine progress toward achievement of the goal are measures of health and nutrition status:

- "decrease in mortality and morbidity among 0-5 year old group;
- "increased nutritional status among 0-5 year old group;
- "improved nutritional status of pregnant and lactating mothers."

(Also, due to translation, this last statement is not meant to exclude pregnant women who are not yet mothers).

The purpose of the program, as expressed in the original 1982-84 documents, was to "organize and train communities to implement self-help projects in agriculture and animal husbandry, and to participate in health and nutrition programs." Specific indicators of purpose achievement were: the organization of eight communities; an increase of self-help projects in agriculture by 50%; and the participation of all pregnant and lactating "mothers" and 0-5 year old children in the nutrition and health programs.

The "logical framework" prepared by MFM/Honduras for 1983 reflected a modification of the goal and purpose of the program. The strengthening of local health delivery systems was deleted from the goal, ostensibly because significant reorganization and training had already been carried out at the CESAR and further efforts were no longer needed. Also the indicator referring to a decrease in child mortality and morbidity was changed to "maintain the life expectancy of children under five years." The implementation of self-help projects in home improvements was added to the program purpose, reflecting an increased involvement of the women's groups in this area. Regarding indicators, the number of organized communities was increased from eight to nine, and the increase expected in agricultural projects was changed from 50% to 60%.

Honduras was one of the first MFM country programs to employ the ANP strategy in a systematic manner from the beginning. Since the nutritional problem is considered to be multi-causal, the program staff promotes integrated interventions and the coordination of diverse resources. It is their belief that beneficial and lasting changes are obtained by emphasizing the "educational aspect in which learning is accomplished by doing." Program development in Honduras has followed the stages outlined by the FAO for ANPs.

### C. Planned Outputs and Inputs

Six outputs are described as "program objectives" by MFM/Honduras. These are taken from the 1982-1984 country program logical framework.

1. "To create a coordinating structure with the participation of all field personnel in the various institutions (Government and NGOs) which serve the area of CESAR in Zopilotepe.
2. "Clinical control of 0-5 year olds and pregnant women.
3. "Nutrition and health education to mothers with 2nd and 3rd degree malnourished children.

4. "Training program in management and administration of groups and projects.
5. "Training program in small-scale agriculture.
6. "Implementation of self-help/income generating projects."

In 1983, the objectives (outputs) of the program did not change much in substance but were described in more detail. Coordination (Output #1) was expanded to include community as well as interagency participants. The training of voluntary personnel was added to the health and nutrition education component (#3). Also, sub-outputs were added to "develop practical activities in home and environmental improvements" and provide "skills training" which would contribute to the conversion of home improvement projects into "small income-producing enterprises." To the agricultural training program (#5) was added the provision of "community agricultural extension services" to facilitate project development.

To accomplish the above program components, MFM/Honduras anticipated the employment of six full-time staff. Seeds, fertilizers, tools and other materials and equipment would be purchased as needed by MFM/FFH, as well as two vehicles. Direct expenditures by the Foundation were projected at \$441,157 for the three-year period, 1982-1984. Community inputs were expected in the form of unspecified amounts of labor, materials and land. Government contributions from various agencies consisted of personnel time and support costs, again in unspecified amounts.

#### IV. ACTIVITIES AND RESOURCE UTILIZATION

##### A. Summary of Activities

(Note: The following outline indicates the year in which the activities began. Many activities continued in subsequent years.)

##### 1. Year One: 1978 (final year of DPG)

- a. Establishment of legal prerogatives: Formal agreement with MOH (April); incorporation under Honduras law (November)
- b. Regional planning and development: installation of offices at Regional Health Office; conduct feasibility study to determine program area; selection of CESAR Zopilotepe and 11 satellite communities.
- c. Design and conduct socioeconomic and anthropometric baseline survey in each of program communities.

##### 2. Year Two: 1979 (first year of IDG)

- a. Formation of inter-agency coordinating committee at regional level: orientation regarding ANP strategy; conduct inventory of existing resources; development of long-range planning document.
- b. Analysis of baseline survey results and conduct evaluation of CESAR functions; introduce MOH "family portfolio" record system at health center; facilitate planning and construction of two new CESARs in the communities of Bijagual and Zopilotepe.
- c. Design health/nutrition education curriculum and implement in Zopilotepe and San Nicolas concurrent with distribution of supplementary food; reinstate school lunch program.
- d. Initiate training activities in horticulture, community leadership, and community health; promote school vegetable gardens and fruit trees at Zopilotepe and San Nicolas.

##### 3. Year Three: 1980 (second year of IDG)

- a. Improve MCH guidelines and procedures at health center: design and implement monitoring tools, registration and appointment records, and child health chart (for mothers); develop system of notification (to families) of high risk, malnourished children and pregnant women; design and implement system of appointments by community.

- b. Organize groups of mothers of malnourished children (5) and pregnant women (3); formulate calendar of attendance at health center for clinics and education; begin distribution of supplementary food at CESAR level.
- c. Revise health and nutrition education curriculum; prepare and distribute various pamphlets and a manual on community development.
- d. Organize 14 groups of women in 9 communities; begin taking anthropometric measurements in each community (by women); promote construction and use of latrines and hand-dug wells; conduct workshops on management of community projects.

4. Year Four: 1981 (final year of IDG)

- a. Conduct regional meeting of government agencies and NGOs to discuss coordination of resources; write, produce and disseminate radio programs on health, nutrition and agriculture.
- b. Continuation of health and nutrition education activities; add to curriculum, sections on cooking, food preparation, food preservation, breastfeeding and family planning.
- c. Conduct community anthropometric surveys in March and September.
- d. Promotion and coordination of potable water system project in San Nicolas; conduct internal parasite control campaign in all communities.
- e. Increase agricultural self-help and income generating project: initiate seminars on home improvements; initiate workshop series on horticulture for farmers; promote poultry projects in La Venta and Las Parras; promote development of fish ponds.
- f. Design and begin construction on training and demonstration center at CESAR in Zopilotepe.

5. Year Five: 1982 (first year of MG)

- a. Completion of training center in Zopilotepe: staff nutritionist, agronomist and promoters establish offices at center; development of demonstration projects in horticulture, rabbit management, and earthworm breeding.
- b. Expansion of nutrition education and monitoring: attend 13 women's groups from 9 communities at CESAR; initiate system of home visitation; conduct group meetings at community level; initiate use of weight-by-height chart by mothers; promote milk dispensing centers in 3 communities; conduct anthropometric survey in April.

- c. Expansion of health education and promotion activities: reorganization and training of community health workers (midwives and "guardians"); promote home and environmental improvements through women's groups; detection of high risk pregnancies, contagious diseases, and children with parasites in the communities; coordinate immunization campaign.
- d. Expansion of agriculture activities: development of course for community agricultural "leaders" at CESAR; promotion of home (50) and community (9) gardens; introduction of new techniques in small animal production (poultry, rabbits, swine, fish); provision of technical assistance in basic grains production (corn and rice); construction and distribution of 20 family-size silos; introduction of soil conservation and organic gardening techniques, new and improved vegetable seeds, and the use of fertilizers and insecticides.
- e. Integration of practical home improvement projects with educational program; introduction of smokeless lorena stove; initiation of community fund-raising activities by women's groups for construction of kitchen utensils, simple furniture and other domestic items.
- f. Coordination and partial funding of 2 community potable water systems in Zopilotepe and Las Llaves; implementation of insect control program through fumigation and drainage canals around homes; promotion of sanitary garbage and trash disposal and domestic animal control through "model homes" in various communities.

6. Year Six: 1983 (second year of MG)

- a. Maintenance of coordination with field personnel from MOH and other agencies continued (regional coordinating committee inactive since early 1982).
- b. Continuation of nutrition and health education activities, prenatal, postpartum and child control clinics, supplementary food distribution, home and environmental improvements, and PHC activities.
- c. Conduct anthropometric survey in all communities in February; design and conduct agricultural survey of 80 families in selected communities.
- d. Expansion of training and technical assistance activities in agricultural: creation and implementation of revolving loan fund for silos, basic grains and horticulture projects; increase experimentation and demonstration activities at training center (planting methods, new varieties, irrigation, etc.); production and diffusion of radio programs with DARND.

## B. Actual Inputs

### 1. Financial Resources

MFM/FFH reports total expenditures in the Honduras program of \$419,774 for the five and one-half years ending June 1983. (Table 2 itemizes these expenditures by line item and year.) MFM includes the cost of vehicles and other capital outlays as direct expenditures in the year in which they occur, and does not keep "current assets" or "depreciation" accounts. In Table 2, the evaluator has amortized the costs of vehicles over the project years. Table 3 provides information on construction, inventory and recuperable expenditures. It is calculated that as of June 30, 1983 the program had made real expenditures of \$387,615 and had assets totaling \$32,159. (The latter includes the current value of vehicles, \$15,908; revolving loan fund, \$6,520; training center, \$6,149; and tools, equipment and furniture, \$3,582.)

Slightly more than half of the MFM expenditure, were made during the fourth and fifth program years, reflecting somewhat of a "take off" stage in program evolution. Per capita expenditures rose from \$11.45 in 1979 to \$30.49 in 1982. Simultaneously, direct and indirect U.S. support costs, attributed specifically to the Honduras program, declined from 60.7% of total expenditures in 1979 to 25.7% in 1982. No Matching Grant funds have been used by MFM/FFH thus far in Honduras. Under the DPG, \$21,280 of AID funds were used in 1978, and an additional \$3,921 of IDG funds were spent in 1981. AID-source funds have accounted for 6.2% of total program expenditures.

As expected, personal services comprise the largest, single in-country expense item -- slightly more than one-half of the local costs. Small project grants, beginning in 1981, account for 12.7% of the in-country expenditures. About one-third of these, however, have recurring benefits: i.e. the training center, tools and equipment, and the revolving loan fund. In 1982, MFM loaned about \$4,800 to construct the water systems in Zopilotepe and Las Llaves. \$1,500 of this was subsequently reclassified as a donation, leaving \$3,300 to be repaid. Likewise, MFM paid about \$3,200 for materials to construct silos in 1981-82. Thus, about \$6,500 of "expenses" makes up a loan fund which, in practice, has been turned over continuously. In 1983, the ad hoc loan "account" has been increasing. Seeds, fertilizers and insecticides are purchased by the program as a direct expense. They are provided to individual farmers, in conjunction with training, technical assistance and a work plan, who contract to repay the value of the items in cash at harvest time. The payments enter into the revolving fund.

No attempt has been made to systematically record the monetary value of the inputs of participating organizations or communities. These are primarily personnel, material and technological inputs. It is known that the communities of Zopilotepe and Las Llaves raised \$15,000 in cash toward the construction of their joint potable water system. The recipients of agricultural loans have contributed money to the program through repayments; and women's groups have raised additional funds to finance their home improvement workshop projects. The amount of money coming from these two activities is noted in operational

documents by the staff, but is not recorded in the program's financial records and reports.

## 2. Human Resources

According to the 1982-84 logical framework, MFM anticipated six full-time staff. In 1983, program personnel consisted of: a director/administrator; a nutritionist/field coordinator; an agriculture technician (agronomist); a health promoter (auxiliary nurse); a community development specialist; and a driver. In addition the program employs a full-time secretary in Juticalpa (at the Regional Health Office), a part-time secretary/bookkeeper in Tegucigalpa, and has a lawyer on retainer. The program has employed a total of 17 persons for a total of 285 person-months during the life of the program (Table 4). The current country director has been with the program since its inception, providing not only consistency but adept leadership as well.

While some personnel problems have existed in the past, the competence and motivation of the current staff is very good. In 1978, during the planning and organizational phase, the program employed an experienced nutritionist as director, and an administrative assistant; a community promoter was added early in 1979, and later that year the nutritionist resigned and the administrator became director (see Figure 1). In 1980, a health promoter was hired. The two secretaries joined the staff in 1981; near the end of the year the two promoters and a recently hired agronomist were dismissed for activities inconsistent with the purpose and spirit of the program. The health promoter was replaced immediately and two community promoters, the current agronomist and a driver were added early in 1982. In January, 1983, the two community promoters were replaced by the current community development specialist.

The Ministry of Health has provided one auxiliary nurse to staff the rural health center throughout the life of the program. This person has been changed several times; the current nurse participates as a full member of the ANP team. MOH sanitation promoters, technical and supervisory personnel, and technicians from other government and NGO agencies participate on an intermittent basis as the specific needs of the agencies and the program dictate.

Community leaders are also active participants in the planning and execution of program activities. The coordinators of the women's groups regularly meet with the program staff; agricultural leaders and midwives also serve as "multipliers" of the training and technical assistance activities; elected community representatives on the patronatos facilitate the community decision-making process.

## 3. Material Resources

MFM/FFH, by virtue of its program budget, purchases many of the materials, tools, equipment and supplies used by the program. Other agencies also contribute significantly and irreplaceably to implement specific activities. The Ministry of Health provides facilities and supplies at the Regional Health Office in Juticalpa and the rural health center in Zopilotepe. Laboratory

analyses and some medications were provided for the parasite campaign, as were vaccines for the immunization campaigns and insecticides for the fumigation of homes. The Ministry of Natural Resources has contributed trees, fish fingerlings, earthworms, seeds and audio/visual equipment (on loan). The national forestry agency (CODEFOR) provided 4000 pineapple slips, and the national water agency (SANAA) conducted feasibility studies for the construction of two community water systems.

The United States Government donates P.L. 480 food commodities, which are distributed in Honduras by CARE. CARE has also contributed materials and technical assistance for three community water systems projects. Heifer Project provided rabbits for breeding and redistribution. Many other agencies have donated written materials.

At the community level, private and communal lands have been offered for horticulture and small animal projects. These and other workshop projects often required the addition of local raw materials for fencing, shelter, etc. Schools and homes serve as places for meetings and workshops.

#### 4. Technological Resources

Innovative methods, implements, materials and systems have been applied to all areas of program activity. The essence of the educational approach is to bring about productive and meaningful change in people's lives. All of the new technologies introduced thus far have been appropriate in terms of cultural acceptability, affordability, relevancy to specific felt problems and feasibility of assimilation. The potentially most significant technological innovation has been the application of an integrated team approach to solving complex problems at the community level. A second, often discussed (at theoretical levels) but seldom practical (in reality), innovation is MFM's application of community-level planning and execution as the basis of program and community development.

Technological innovations in specific areas include a spring-fed, gravity-flow water system serving two communities, and a well-based system in a third. By July 1983, 19 family-sized metal silos had been introduced into four program, and three other, communities. These and other agriculture innovations are often financed by a recently-established revolving credit fund. New and improved varieties of vegetables (carrots, lettuce, cucumbers) and yuca, and new methods of planting and fertilizing corn and rice have also been introduced. Farmers have learned new skills and techniques in organic gardening, soil conservation and small animal and fish production.

Women have been taught new ways to use and prepare foods and care for themselves and their families. Through group workshops, a variety of kitchen utensils, household furnishings and sanitary improvements have been introduced into countless homes. Many women now regularly monitor the health of their children through the use of weight/age or weight/height charts. New systems for immunizations, records and appointments have been incorporated into the health center functions. Also preliminary steps have been taken to introduce

consumer pre-cooperatives in several communities and to promote the legal incorporation of an umbrella organization to represent the community patronatos.

## C. Agency and Community Contributions

### 1. Interagency Relations

One of the cornerstones of the MFM/FFH program in Honduras is to mobilize and coordinate existing agency resources toward the resolution of community problems. This has been accomplished at basically two levels. An interagency coordinating committee was established early in the program (1979) to encourage joint planning of government resources at the regional level. Since February 1982 the committee has been inactive due to the lack of MOH leadership from the new Regional Health Director. Interagency coordination and mutual support has been most productive at the field level on a project-by-project basis. MFM personnel have sought out and obtained technical and material assistance from many government and non-government institutions as specific needs are detected; likewise, the ANP has collaborated with the initiatives of these agencies within and outside the geographical program area.

At least 25 government agencies and private organizations have contributed to the ANP in Honduras. (The specific nature of their participation is detailed in Appendix F). The agencies of the Government of Honduras have provided training, technical assistance and logistical support, and have donated material for agriculture, primary health care, and sanitation activities. Local PVOs have been involved in the distribution of food commodities, the provision of small animals and the construction of community water systems. International organizations have donated food commodities and have provided a considerable amount of technical information and written materials for use within the program.

### 2. Community Participation

Active community involvement is a second cornerstone in the ANP strategy. Community participation has been promoted and accomplished not only as beneficiaries or recipients of services, but also as the focus of many decision-making and management processes. The ANP planning and design process begins at the community level through formal and informal activities to identify problems and formulate appropriate responses.

Organized women's groups plan and execute home improvement and income generating projects, collect and manage their own funds, and prepare the community for surveys and campaigns. Lately, some of the elected patronatos have been revitalized and incorporated into this process. Agricultural leaders, through courses at the training center and extension visits, school teachers, midwives and other health volunteers are regularly consulted by the program staff. As mentioned previously, this modus operandi has resulted in the

mobilization of significant financial, human and materials resources; and has assured the appropriateness and acceptability of the interventions in each community.

## V. RESULTS TO DATE

### A. Outputs by Component

#### 1. Interagency Coordination

The first area of program outputs is encompassed in the "coordination of development activities...through a Coordinating Committee composed of government and private agencies" at the regional level. As evidence that this coordination had taken place, the 1982-84 Logical Framework indicated the realization of "periodic meetings" and the implementation of committee "work plans" by field staff. The Coordinating Committee was in fact formed in 1979 and indeed met on a fairly regular basis through 1981, in large part due to the impulse of the Regional Health Director. In February 1982 a civilian government took office, a new Director was named and, for lack of interest on his part, the Committee became inactive.

The main focus of coordination shifted to the field personnel and supervisors of participating agencies. The revised 1983 "logframe" reflects this change: periodic planning and coordination was found to be taking place by all MFM staff on a project-by-project basis. A long-range planning document was produced by the Coordinating Committee in 1981; these plans served as the basis for field activities in subsequent years, in spite of the inoperability of the coordinating committee. Implementation plans and agency resources are coordinated by the ANP team on a monthly and weekly basis at staff meetings.

#### 2. Clinical Control of 0-5 Year Olds and Pregnant Women

A goal was established to weigh and measure, on a monthly basis, between 350 and 400 children under five years of age. No indicator was proposed regarding clinical control of pregnant women; nor was an output cited for lactating mothers, even though these women were mentioned as "targets" of the program's goal and purpose. One of the purpose indicators states that "all pregnant and lactating mothers and 0-5 year old children (will be) participating in nutrition and health programs," though the specific nature of this participation may vary.

In 1982 and 1983, 428 and 547 children respectively attended at least one (out of 12) growth and development (G/D) clinics (Table 8). This represents a coverage of 60.7% and 73.6% of all children under five years old in the program area. The communities with highest coverage are Las Parras, Guayabillas and Zopilotepe; however, the data for Guayabillas is questionable. The coverage of children is not as low as it may appear from these figures. "Normal" children are not seen at the clinics; second and third degree malnourished children are supposed to be seen monthly, and first degree cases once every two or three months. The rate of G/D control visits in the ANP area has been considerably higher than for Health Region 7 as a whole, especially since 1981 (Table 5, figure 2.)

All children in the program area are targets of the immunization and parasite control campaigns. Again, the rates of coverage for polio, DPT and measles vaccinations are significantly higher in the program area (Table 6). The number of children tested and treated for parasites in 1981, however, comprised only 41% of the eligible population (Table 11). Table 7 and Figure 3 provide data on selected indicators of the attention given to women at the Zopilotepe health center. The rates of prenatal visits are consistently high from 1980 on; postpartum (lactating mothers) rates are considerably lower, but still higher than those of the Region; less than one-third of the pregnant women, however, are receiving tetanus toxoid vaccine; the demand for family planning services increased greatly in 1982, largely due to the activity of the MOH auxiliary nurse.

One of the most important interventions of the program is the supplementary food rations (P.L. 480 commodities: wheat flour, powdered milk, vegetable oil, CSM) provided to second and third degree malnourished children under five years, pregnant women and lactating mothers. Early attempts at distributing these food commodities in each community by the women's groups resulted in conflicts and criticisms. Since 1982, the distribution has been made at the training center, in conjunction with monthly health and nutrition education sessions, prenatal and G/D control, and vaccinations. In 1981 and 1982, the number of children receiving food supplements was 340 and 371 respectively, or slightly under half of the population under five years. Coverage was highest in Zopilotepe, San Nicolas and Guayabillas.

### 3. Nutrition and Health Education

Approximately 100 mothers of second and third degree malnourished children were initially sought to participate in the nutrition and health education program. (Appendix E outlines the program). In 1983, the proposed goal was increased to 300 mothers. Training was also to be extended to 14 "community volunteers" and a special course was to be given to 16 community members at the training center. In addition, the realization of 250 home improvement workshops would be integrated into the education program.

Nutrition and health education is a basic component of the ANP strategy, and it is accomplished fundamentally on an interpersonal level with women who are organized into three types of groups: (a) pregnant women; (b) mothers of children who attend the growth and development clinics; and (c) women's groups in each community. The first group meets monthly for prenatal control, to receive supplementary food rations and to participate in an educational session. These activities are directed toward protecting the health of mother and child and promoting breastfeeding.

The second group also meets monthly, receives food rations, and participates in an educational session; the children are weighed, measured and, if scheduled, vaccinated. The education is oriented toward promoting an adequate diet of the preschool child, oral rehydration for children with diarrhea and the importance of regular nutrition and health check-ups.

The third group meets in their respective communities twice each month. At these times, information is provided on the diet of the family in general, personal and food hygiene, child care and the various activities carried out by the health center and ANP. Simultaneously, the women learn new "trade" skills in carpentry, weaving, soap making, etc. and participate in workshops to produce kitchen utensils, household furnishings and other improvements within their own homes (see Appendix E). On these days, the ANP staff does home visits to control tuberculosis patients, follow-up women and children who have missed their control clinics, and promote community projects.

During the past two years, there have been 13-14 women's groups functioning in the nine communities (Table 10). At the present time, there are 333 women participating in the groups, representing 40% of the women 15-49 years of age. Coverage is highest in Las Parras, El Jobo and Guayabillas. Attendance at the meetings is usually over 50%. In 1982 and 1983, the average number of educational sessions per group per year was 8.9 and 8.0 respectively.

Even though the specific educational topics may vary, depending on the group, some women may be required to attend three or four meetings per month. The meetings at the training center in Zopilotepe may require, for some women, the better part of a day for travel and services, thereby increasing the non-monetary "cost" of participation. It should also be noted that while the subject matter is related to the problem of poor nutrition, many of the specific sessions are repetitive and others do not lend themselves to behavioral change unless other economic conditions are dealt with simultaneously. To date there has been no evaluation of this activity: statistically, it is not known how much the women have learned, if there have been changes in attitudes, or to what extent they have put into practice what they have learned. However, behavioral changes and sanitary improvements have been observed in many homes.

Another proposed indicator of the success of the education component is that "all second and third degree malnourished children will improve to and maintain a normal status." In 1983, 100 children with first degree malnutrition were also expected to improve. While there is little question of the premise behind such statements, they would appear to be overly ambitious and perhaps misplaced --being more appropriate as indicators of accomplishing the program goal.

#### 4. Training in Management and Administration of Group and Projects

The 1982-1984 "logical framework" stated that ten groups were to complete training programs in management and administration. In 1983, concurrent with the hiring of a community development specialist, the activity was changed to providing "continuous training on community organization and development" in each of the nine communities. The activity is being developed and the specialist has been working with the women's groups and the patronatos. A specific training program had not been developed as of July 1983.

Management training has been incorporated into most program components. Thirty school teachers were trained in 1980 in nutrition and the administration of the school lunch program. In 1981, 25 mothers learned to manage the supplementary feeding program. Four farmers completed training in the construction and use of silos (Table 16) and 12 more completed a course on the techniques and management of raising rabbits (Table 17); a total of five communities were involved. There are other management training and community development activities which are not easy to quantify. Certain observations regarding this training, however, should be mentioned. First, there is a lack of continuity and follow-up by the MFM staff. It appears that few of the trainees subsequently fulfill the program's expectations. A second observation is that only about two-thirds of the persons enrolled finish the courses. This may suggest a problem in scheduling or selection of participants.

## 5. Agriculture Training and Technical Assistance

### a. Food Production

From the beginning, the ANP has promoted the production of nutritious foods at the family level to improve the diet and, with the sale of excesses, increase the family's income. These activities have received greater attention since 1982 with the incorporation of the staff agronomist. The initial proposal called for two people from each village to be trained in agricultural techniques. In 1983, the expected outputs became more specific. The number of trained agricultural leaders was reduced to ten -- i.e. at least one demonstration site per community; and goals were established for various activities: 1,000 fruit trees; 10 families raising pigs; 20 families raising rabbits; 10 agriculture projects financed by a credit fund; 50 family gardens; 1,500 pineapple plants; and one fish pond.

During the first six months of 1983, the ANP boasted 38 horticulture projects, 38 grain projects and 10 small animal projects in the nine communities (Table 13), or an average of 9.6 projects per community. The most active communities regarding food production were Las Llaves (24) and San Nicolas (16). The promotion of vegetable gardens has been particularly successful. From 22 family and school gardens in 1981, the number more than doubled to 59 in 1982 and, so far, 29 have been planted in 1983 (Table 14). In certain communities, such as El Jobo and Las Llaves, carrots, cabbage and other vegetables were introduced for the first time.

A poultry project was attempted in 1981 in Las Parras, La Venta and Las Llaves (the project in Las Llaves was begun by INFOP in 1980); 391 people were to benefit from the consumption and sale of meat and eggs from the MFM projects. The project failed in La Venta due to a negative posture taken by the former ANP social promoter; in Las Parras, the chickens had to be sold because of low productivity and the high cost of feed. These families, however, secured a balance of \$855, which will be used in another project.

It was not possible to determine the degree of improvement in the diet of the families who participated in the agriculture interventions. One of the limitations of this evaluation is the lack of data regarding vegetable and animal production, consumption and sale of the foods introduced.

b. Food Storage

Based on an appropriate technology developed by CEDEN in Guatemala, the ANP has become involved in the construction and utilization of family silos (made out of zinc/tin alloy, with a volume of about 41 cubic feet) for the storage of basic grains: corn and beans. Traditionally, these grains are stored in a raised, thatched-roof structure which is highly susceptible to insects, rodents and thieves, and results in losses of about 30% of the harvest. At present (July 1983), ten families within the program area and nine families in other communities have purchased silos, and 21 additional units are almost ready for distribution. Interviews with two of the families confirmed excellent results with controlling losses and planning consumption needs.

The silo project is too recent to evaluate this year. Nevertheless, it is important that the ANP staff determine current production, storage and consumption levels of grains of the participating families to compare with similar non-silo families at a later date. A comparison of the nutritional status of 0-5 year old children would also provide a measure of impact. It is almost certain that in those communities where the diet is based on corn and beans, the availability of calories and proteins will improve significantly by using this type of silo, especially during the pre-harvest period of scarcity.

c. Revolving Loan Fund

In order to improve the potential effectiveness of the agricultural training and technical assistance, the ANP initiated in 1983 a system of in-kind loans (fertilizers, seeds, insecticides, materials, tools, etc.) to facilitate the production and storage of food at the family level. (The origin and management of the loan fund are discussed in the previous chapter: IV.8.4.) The participating farmers do not have access to government or other commercial credit sources because they do not have sufficient property or livestock guarantees.

During the first six months of 1983, 49 families had received goods on credit with a total value of \$3,420, an average of \$70 per family (Table 15). It is too early and there are no additional data to evaluate the impact of the credit system. One of the present deficiencies is that accounting for the fund has been handled informally and there are no written procedures to govern the fund and manage the return and re-utilization of the money it generates. The fund, nevertheless, has considerable turnover value.

## 6. Self-Help Income-Generating Projects

The final proposed output of the Honduras ANP refers to the promotion and implementation of projects, on a family or community level, which would increase the economic well-being of the participants. These projects are incorporated into, or result from, the home improvement and agriculture components of the program, which are described elsewhere. Training in the administration of these "commercial" undertakings is considered as a separate output component. Each community group and the managers of each family or community project are to receive such training.

As mentioned previously, no "curriculum" has been developed to guide the management training activities. It was also noticed that the ANP staff handles much of the banking and purchasing functions for these projects for lack of a community-based system -- for example, the workshop projects and the agricultural loan fund. Nevertheless, it is evident that progress is being made in the development of income-generating projects, and that all members of the staff are mutually supportive of each other's efforts. Thus far, marketing outside the program area has been limited and the inflow of external capital is small.

## 7. Water and Sanitation Projects

There is no doubt that improved water and sanitation conditions have a direct impact on improving health and nutritional status; and the ANP staff has been intermittently involved in this area. According to the proposed logical frameworks, however, there are no explicit outputs stated, except with regard to the education component. Nevertheless, community water systems have been promoted, coordinated and partially financed by MFM in three communities (San Nichols, Zopilotepe, and Las Llaves) and several more are currently being studied. The construction and utilization of latrines has also been promoted, though apparently with decreasing results. The number of latrines reported in the ANP communities dropped from 239 in 1981 to 133 in 1983, or only 20% of total families (Table 12). Rains and poor design account for much of the problem; also MFM strategy has shifted to promoting the initiative of the Regional Health Office, which, with support from the European Economic Community (EEC), mounted a Department-wide sanitation program in 1982.

## B. Program Impact

### 1. Nutritional Status of Children

One of the fundamental goals of the MFM Applied Nutrition Program in Honduras is to improve the nutritional status of the population, and especially that of children under five years of age. There is no doubt that the nutritional status of pre-school children is the result of the interaction of existing social, economic and cultural factors within the community; and that the level of nutrition achieved by them is an excellent indicator of the nutritional and

health status of the general population. This accounts for the importance given to monitoring the nutritional status of children by periodically collecting anthropometric measurements: weight, height and age.

This principle has been applied very well by MFM/FFH in Honduras. An initial anthropometric and socioeconomic survey was conducted in 1978 to obtain baseline data on each community and the program area as a whole. Measurement procedures and results were standardized within the census team, which was composed of ANP and regional health functionaries. The classification system developed by Federico Gomez was used to evaluate nutritional status, together with weight by age tables approved by the MOH Department of Nutrition. Subsequent anthropometric surveys were carried out annually beginning in 1981 (Tables 18-22).

Table 23 and Figure 4 condense the data on second and third degree malnutrition from the annual surveys. It is immediately apparent that the prevalence of second and third degree malnutrition in the ANP area has decreased from 11.6% in 1979 to 8.8% in 1983. Children with normal weight/age increased from 48.8% to 52.7% over the same period. The most significant reduction of second and third degree malnutrition occurred in San Nicolas, which went from 14.0% in 1978 to 2.9% in 1983; Zopilotepe also registered a reduction from 10.2% to 7.7% during the same period. These two communities comprise over half the population of the combined program area, and 45%-50% of the children under five years of age. Yet, the proportion of malnourished children found in these two communities dropped from 49.4% to 31.1% of all malnourished children during the five year period. Most of the remaining communities have basically maintained their relative levels, despite some seasonal fluctuations. The prevalence of second and third degree malnutrition in La Venta has increased from 10.7% in 1978 to 14.0% in 1983. In three other communities -- Las Parras, Las Llaves and particularly Guacamayas -- levels have increased in the past year and they should be watched for trends and causes.

Very significant is the elevation of prevalence in September 1981 (Figure 4). According to information provided by the regional health authorities, there was no specific epidemic of infectious diseases reported at that time. Records at the Zopilotepe health center, however, indicate unusual increases in diarrheal and skin diseases for that month, the former often associated with severe malnutrition (Table 26, Figure 5). ANP personnel also explained that from September through January, many villagers migrate to other areas in search of work, often leaving small children behind in the care of older siblings or neighbors. In addition, the period of greatest scarcity, especially of corn and beans, is from July through September.

Recognizing that not all the families residing in the area participate directly in the program, an analysis was done by the ANP staff on the evolution of nutritional status of a group of 100 children under the age of 30 months, whose families had participated actively during the period 1979-1982 (Table 24). Most significant is that the number of children with second and third degree malnutrition was reduced by 70%; and, similarly, the number of "normal" children increased by 23.4% among these families covered by the program. Looking at the progress made by individual children (Table 25) we find that 30% improved their nutritional status, 56% maintained normal levels, and 10%

remained in a state of first degree malnutrition. (It should be remembered that the Gomez system classifies as malnourished those children who may have suffered stunted growth -- weight by age -- but may at present be physiologically normal -- weight by height). Only four percent of the children suffered a deterioration of their nutritional status. Children from the communities of La Venta, San Nicolas and Las Parras demonstrated the most significant proportional improvements.

## 2. Nutritional Status of Women

A second goal of the ANP is to improve the nutritional status of pregnant women and lactating mothers. This is the group which has the most potential for improving the health of the population because of the direct relationship between maternal health and the health of the newborn, and because of the preventive benefits derived from education and child care practices. Unfortunately, no data is being tabulated by the ANP by which to evaluate the nutritional status of these women. Weights are recorded by the MOH auxiliary nurse for those women attending the CESAR. These are used by the ANP nutritionist for identifying and following-up high risk families and for allocating supplementary food commodities. The reporting forms are sent each month to the Regional Health Office and the data is not summarized or analyzed by the program for evaluative purposes.

## 3. Child Mortality and Morbidity

The third indicator of goal achievement was an expected "decrease in mortality and morbidity among 0-5 year olds." Statistics on deaths is another important area which is not being covered by the ANP, or for that matter by the Ministry of Health in all of Honduras. An analysis of child morbidity reported at the Zopilotepe health center was undertaken by the evaluators to approximate this indicator (Table 26, Figure 5). Total reported morbidity -- i.e. cases that are seen and diagnosed by the auxiliary nurse at the rural health center -- increased fairly steadily, more than doubling from September 1978 to March 1982. The sudden decline of cases in September 1982 may be due to the absence of the auxiliary during part of that month. The increase in overall child morbidity is not necessarily a negative indication of the program's success; more likely it reflects greater utilization of services due to the promotional efforts of the ANP. Actual morbidity levels at the community level, like mortality, is unknown.

## 4. Measures of Purpose Achievement

The logical frameworks mention three indicators to measure progress toward achieving the program's purpose. The first refers to the number of communities that have been organized. Though it is not specified precisely what "organized" means, it is evident that some organizing activities have taken place in all area communities. Six of the nine communities have functioning patronatos and all have at least one active women's group.

The second indicator anticipates that agricultural self-help projects will have increased by 60%. The 1979-1980 operational plan indicates that five new projects were to be carried out by July 1980. This indicator, like the previous one, also needs more clarification or modification.

Finally, the purpose of the ANP would be attained when "all pregnant and lactating mothers and 0-5 year old children are participating in nutrition and health programs." (The MOH was to have assigned two auxiliary nurses to the CESAR at Zopilotepe to help accomplish this ambitious goal, but only one was forthcoming.) As of 1983, 73.6% of the children 0-5 years old were attending the growth and development clinics (Table 8). In 1982, 143 pregnant women and lactating mothers were receiving supplementary food rations (Table 9); in that year there were an estimated 169 live births in the program area, indicating a rough coverage of 85%. These figures do not reflect all the ways women and children participate in the program, and many beneficiaries are involved in more than one activity. There is little doubt, however, that the MFM Applied Nutrition Program in Honduras is well on its way to achieving its goal and purpose.

## VI. ANALYSIS OF RESULTS

### A. Discussion of Impact

The ANP succeeded in reducing the prevalence of second and third degree malnutrition by 24%, from 11.6% in 1978 to 8.8% in 1983, in the area served by the Zopilotepe rural health center. During the same period the proportion of mildly malnourished children remained roughly the same, at about 39%, and children classified as normal increased by 8% to 53% in 1983. Fluctuations occurred from year to year and seasonally (Table 23, Figure 4). To explain the overall improvement in the nutritional status of preschool children, within the constraints of available data, two kinds of comparisons were made: the utilization of MOH services within the Zopilotepe health center area and Health Region No. 7 as a whole, and analysis of program activities and impact by community.

A major ANP component has been the promotion of growth and development control clinics for second and third degree malnourished children. The clinics were held at the CESAR and, unlike the Region in general, they were combined with the regular distribution of supplementary food and organized education of the mothers. During the second year of ANP operation (1979), the rates of both G/D control visits and regular illness visits (per 100 population) were significantly higher in Zopilotepe than the Region; and illness rates in both cases were higher than G/D control rates (Table 5, Figure 2). Since 1981, however, G/D control rates have increased dramatically in Zopilotepe, more than tripling illness visit rates by 1983, and outdistancing by more than eightfold the G/D control rates registered in the Region.

Control rates of pregnant women (prenatal visits) and lactating mothers (postpartum visits) have also improved at the center in relation to the Region (Table 7, Figure 3). Prenatal care doubled early in the program and has held steady; postpartum rates have tripled since 1981. Education and supplemental foods are also provided to these groups of women in the Zopilotepe area. The general impression, supported by observation, is that the increased attention to and exposure of mothers through these control clinics, at significantly higher than normal rates, has increased their interest and awareness toward improved child care and feeding practices. This is demonstrated statistically in the evolution of 100 children in the control program (Table 25), immunization rates (Table 6), and increased utilization of the health center for curative purposes (Table 26, Figure 5).

The impact of the ANP has not been felt uniformly in all program communities (Table 23, Figure 4). San Nicolas, with about 30% of the area's population, registered the greatest reduction in second and third degree malnutrition --79%, from 14.0 in 1979 to 2.9% in 1983. This decrease has been constant, but most dramatic since 1981. Zopilotepe, with about 25% of the population, demonstrates a reduction of 25%, from 10.2% in 1979 to 7.7% in 1983. Malnutrition in Zopilotepe increased steadily through 1981, then decreased sharply. These two communities, comprising more than one-half of the area's population, accounted for the improvement in the area as a whole. Significantly, San Nicolas benefitted from a community water system in 1981 and

Zopilotepe followed in 1982. Both communities are close to the health center and are relatively better off economically. Supplementary feeding and health and nutrition education coverage are also high in these communities.

Three communities -- El Jobo, Guayabillas and Guacamayas -- have, with some variations, maintained high rates of severe malnutrition, in the range of 15% to 25%. These communities are relatively poor and small. In addition, El Jobo is very distant from the Zopilotepe center and isolated; Guayabillas is subject to social divisions. None of these communities have potable water sources or adequate numbers of latrines. Only Guayabillas has had good coverage of supplementary feeding and G/D control; all had low coverage of agriculture projects and health and nutrition education.

The four remaining communities have generally lower rates of malnutrition (5% to 15%), but they have been rising in three and have remained level in the fourth. All four have had lower coverage of supplementary feeding and health and nutrition education. Las Llaves has had a water system since 1982, but its economic situation is precarious and it is somewhat distant from the health center.

Table 27 summarizes the general level of program activity, and certain conditioning factors, in each of the communities. Classifications are relative and do not reflect quality. There is no clear pattern of cause and effect in terms of impact; the solutions as well as the causes of malnutrition are complex. From the above discussion, it appears that water supplies and sanitation, supplementary feeding, and health and nutrition education are most often associated with improved nutritional status. The effects of these interventions, however, are significantly influenced by environmental conditions such as economic well-being, distance and social cohesion. A dramatic increase in the prevalence of severe malnutrition was registered in September 1981, indicating an apparent seasonal fluctuation in nutritional risks. Only three communities -- San Nicolas, La Venta and Guacamayas -- did not have increases at that time. None of these communities is significantly affected by seasonal migrations.

## B. Planning and Design Process

The applied nutrition program (ANP) concept, as promoted by FAO, has been adopted by Meals for Millions as its approach to meeting the health and nutrition needs in the countries in which it operates. Considerable flexibility, however, is given to the country program staff to design and adapt specific interventions to local needs and conditions. The field staff consults continuously with community leaders, women's groups, farmers and other residents to identify problems and discuss possible alternative interventions. The ANP team meets on a weekly basis to review and coordinate activities; periodic consultations are held with regional health officials and technical personnel from other agencies to discuss the feasibility of specific interventions and secure additional resources. Annually, the MFM/Honduras staff reviews the previous year's progress and develops a plan for the coming year and corresponding budget. This phase is often assisted by the MFM Regional Program Director. The country plan is discussed with regional health

officials and, where relevant, with other agencies to gain acceptance and commit their participation. The plan and budget are then forwarded to the home office in Davis for technical and administrative review, integration into the Foundation's total program, and final approval with an authorized budget.

Planning of the initial program in Honduras took place in 1978 and early 1979, and followed a systematic process of analysis. During the first three months, May through July, a feasibility study was undertaken by the program director/nutritionist for the purpose of selecting an appropriate site for the ANP within Olancho Department. She was assisted in the study by technical personnel of the Regional Health Office and the decision to select Zopilotepe was made jointly by the Regional Health Director and MFM. In October and November, the first anthropometric and socioeconomic survey was conducted in each of the communities in the program area in order to establish baseline data for planning and evaluation. Again, regional health personnel assisted in the design and execution of the survey. The first six months of 1979 were devoted to the analysis and preparation of survey results, the preparation of an annual operational plan, and an analysis of activities and procedures at the Zopilotepe health center (CESAR).

### C. Program Management

#### 1. Field Office

MFM/FFH is incorporated under Honduran law as a private, service organization since November 1978. The country program director is the official MFM representative and has power of attorney to conduct most legal transactions; power of attorney is also granted to their local lawyer and the MFM Regional Program Director. Any written agreement with public or private agencies and committing funds or personnel must be approved by the MFM Vice President for Program. The program director submits an annual budget which is reviewed and approved at the home office. Financial statements and requests for funds are made monthly; disbursements are wired from New York to a dollar account in Tegucigalpa which is administered by the director. Dollars are exchanged as needed and deposited in a local currency account for operational expenditures, including salaries. A second account is kept for the revolving credit fund.

MFM maintains two offices in Honduras. A small office is rented in Tegucigalpa where the director works one or two days per week. A part-time bookkeeper assists with typing, filing and maintaining financial records. A second office is provided for the ANP at the Regional Health Office in Juticalpa, Olancho to facilitate coordination at this level. A full-time secretary maintains program files and provides typing for the field personnel. The ANP field team operates from the training center adjacent to the health center in Zopilotepe. All MFM personnel in country are Honduran. The country program director is recruited and hired by MFM/Davis; she, in turn, recruits, hires, and supervises all other field staff. The staff nutritionist serves as field coordinator in Zopilotepe. MFM intentionally provides little commodity support. Almost all purchasing is done locally; some educational equipment and materials are purchased in the U.S.

## 2. Home Office

Program development, support and monitoring for MFM/FFH is managed from their offices in Davis, California. In addition to the Vice President for Program, a good technical support staff is based there, including: a nutrition planner/evaluator; a resource center director; a food technologist (appropriate technology R&D); a horticulturist; and a training specialist. MFM also employs three Regional Program Directors for Latin America/Caribbean, Africa, and Asia. The regional directors visit each of their projects three to four times each year. They often assist the country directors in planning, budgeting, and making projections, in addition to supervision and trouble-shooting.

Training for the country program staff is conducted on a continuing basis in four ways: (1) periodic field visits by the Regional Program Director and central technical staff; (2) workshops involving key staffs from all programs within the Region; (3) visits to other programs for specific purposes, e.g. credit fund operation; and (4) visits to Davis by the country program director. The practical experience, problem-oriented focus of the training is reported by the staff to be quite appropriate and effective.

The MFM President, controller, and other administrative staff are based in New York. This office primarily manages fund raising, accounting, and inter-organizational relations. The geographical division of responsibilities apparently does not cause significant problems in providing the necessary support for country programs. The most serious problem is an annual cash flow constraint in the period prior to the fund-raising drive. MFM maintains a close relationship with the University of California at Davis, Department of Food Technology and the Department of Nutrition, which has added more depth to their technical backstopping capability.

## 3. Host Government Role

A formal agreement authorizing the ANP was entered into with the Ministry of Public Health and Social Assistance in April 1978. No official delegation of responsibilities was given to any technical division of the MOH, e.g. the Division of Nutrition. Relations between the DON and MFM have been cordial; technical consultations have been sought and periodic progress reports given by MFM. DON personnel rarely visit the ANP field operations. Coordination with and supervision of the MFM program is managed by the Regional Health Office. Working relations with regional and local level MOH personnel have generally been very good. The most direct and constant contact has been with the auxiliary nurse who staffs and manages the rural health center (CESAR) at Zopilotepe. Full participation has been achieved at this level.

#### 4. USAID Relations

USAID/Honduras has no direct role regarding the MFM applied nutrition program in Olancho. The MFM program director periodically informs the Mission about the program, but no monitoring or supervision or material support is involved.

#### 5. Monitoring and Evaluation

The "logical framework" provides the basic, but flexible guide for the development of annual operational plans. These plans are regularly reviewed and modified by the ANP team on a monthly basis. Monthly progress reports and financial statements are prepared by the program director and submitted to the MFM Regional Program Director for review. Continuous data collection is carried out by the field staff for operational programming. Much of the information is not organized, tabulated nor utilized for evaluation purposes. Anthropometric surveys of children are conducted annually in each community to evaluate progress toward achieving the program goal. No summarization or analysis is done with the data collected at the CESAR on the nutritional status of pregnant women and lactating mothers. External monitoring is carried out quarterly by the Regional Program Director. Annual reviews are done internally in conjunction with the planning and budgeting process. The present evaluation is the first independent evaluation of the program.

#### D. The Importance of Program Environment

The MFM initiative in developing an applied nutrition program in Honduras coincided with a GOH interest and experiment at intersectoral planning in nutrition through SAPLAN. In Olancho, the active support and commitment of the Director of Health opened doors and set the tone for effective coordination within the Regional Health Office as well as with officials of other agencies. Technical and field personnel from government and private agencies have been genuinely supportive of collaborating with MFM. This general favorable climate greatly facilitated the development and implementation of the ANP.

Since the change of government in February 1982, however, the tenure and commitment of regional and village political authorities has been less certain. The tenuousness of the situation is compounded by the inability of the government to operationalize its strategy for intersectoral development in rural areas. The result has a direct relationship to the feasibility and strategy of establishing a viable institutional mechanism for coordinating multi-agency resources and managing an ANP in the future should an alternative to MFM become advisable or necessary.

Climatic, economic and social conditions have also affected various aspects of the program. During the rainy season, diarrheal and respiratory diseases are much more prevalent, with the corresponding implications for prioritizing program interventions. This phenomenon also coincides, in the agricultural cycle, with the period of food scarcity. Not only is the risk of malnutrition increased for women and children, but a large number of families migrate out of

the area at this time in search of work. Their absence notably decreases the coverage of control and education activities.

#### E. The Importance of Financial Constraints

The process of social development requires that sufficient time be given to allow lasting change to evolve and be absorbed by individuals and communities. trying to accomplish (impose) too much too fast may bring immediate superficial results, but often undermines the very process of achieving self-sufficiency and lasting progress. The MFM budget, while relatively small by bilateral program standards, is highly compatible with both village capacity and the potential of participating agencies.

In this sense, the financial "constraint" of the program is a positive factor. A larger budget, at this time, would not only jeopardize the community development process and the feasibility of sustaining and replicating the ANP in the future, but would also tax the administrative capabilities of the country program. Time, on the other hand, is the major constraint in bringing about behavioral change and the effective transfer of new technologies.

## VII. CONCLUSIONS AND RECOMMENDATIONS

### A. General Conclusions

1. The MFM/FFH has succeeded in bringing about a reduction in the prevalence of malnutrition in children under five years of age in the area served by the Applied Nutrition Program. While predetermined case-control groups were not established to validate this impact, comparisons among the target communities and an analysis of the activities carried out by the ANP, as well as other extraneous factors, definitely point to a direct positive impact by the ANP. Improvements in nutritional and health status have not been felt uniformly in all communities, however. The impact of the ANP on pregnant women and lactating mothers cannot be determined due to the lack of statistical data on their nutritional status.
2. The program's success to date, and promise for the future, is due to three significant factors: (i) the integration of multiple interventions (in health, nutrition, education, agriculture, community development, etc.) at the community and area levels; (ii) the effective mobilization and coordination of existing agency and community resources toward the resolution of community problems; and (iii) the presence of a capable and motivated team of national workers who understand and execute the ANP-CD strategy in a mutually supportive manner. MFM's most important function is that of a catalyst: a facilitator whose staff, with minimum financial and material resources of its own, has been able to empathize with community concerns and consolidate existing resources in the area.
3. A positive relationship has been established between the communities and the MOH rural health center at Zopilotepe. Local community structures -- women's groups, patronatos, teachers, volunteer health workers -- are being developed and strengthened. Primary health services and support systems at the CESAR have been reorganized and improved. And the two are collaborating effectively on immunizations, G/D control clinics, health and nutrition education, and prenatal care.
4. The Zopilotepe ANP is sustainable at current, and perhaps moderately higher, levels due to the productive and collaborative attitudes that have developed between the communities, CESAR, participating agencies, and MFM. In addition to facilitating a process, MFM provides supplementary technical personnel at the CESAR level. Viability of the ANP for an indefinite time in Zopilotepe, or replicability in other areas of the country, would require the existence of a permanent catalytic entity and the disposition of similar technical people at the local level. Given the financial and organizational constraints of the Honduran government, the long-range outlook appears precarious.
5. MFM has effectively introduced new technologies and improvements in a variety of program areas: new plant varieties and agriculture techniques; family silos; revolving loan fund; revised health center systems; kitchen utensils; and household furnishings. In all cases, they were found to be beneficial and feasible of being assimilated by the people. The ANP staff,

however, appeared to lack adequate planning and training in terms of allocating sufficient time to acquire, test, introduce and then adequately follow-up innovations in the field. In particular, the agriculture component (maintenance of a demonstration and experimental center, development and execution of training programs, the provision of technical assistance in nine communities, and coordination with other agencies) could be improved in this respect.

6. The ANP for the most part does not rely on local technical analyses to determine the most appropriate and beneficial intervention in key areas. For example, specific nutritional deficiencies and contributing factors have not been systematically identified and used as the basis for making the nutrition education program more problem-specific and effective. Decisions as to what types of crops and animals to promote are not being supported by an economic analysis to determine the anticipated costs and returns to the farmer. Also the ANP team is not, for lack of time and an appropriate system, designing and executing basic studies to evaluate specific interventions (e.g. silo) or procedures (e.g. weight/height chart).

7. The collection and use of information, by which to monitor activities and evaluate to program, is for the most part unorganized and in some cases incomplete. The staff collects and records quite a bit of routine data. Much of it is not tabulated and, therefore, not adequately analyzed. Some of the data does not appear to have a direct relationship to program objectives, purpose or goal. On the other hand, no data is being collected regarding child mortality and morbidity, nor is there a systematic analysis of the nutritional status of women. Vital statistics on births and deaths in each community -- the basic indicators of a primary health care system -- are also not being collected. To the credit of the staff, annual anthropometric surveys are undertaken, as well as several socioeconomic surveys and recently an agriculture census. The evaluators, however, found inconsistencies regarding population data, which fluctuates seasonally; and had difficulty in determining the number of beneficiaries for specific activities at different times during the life of the program, primarily for lack of an appropriately organized information system.

## B. Special Areas of Interest

### 1. Benefit Distribution and Spread Effects

The effects of the MFM program have been felt at different levels. ANP staff have operated in nine rural communities, comprising about 4,000 residents. Their services and activities -- in agriculture, clinics for children and women, health and nutrition education, and community development -- have directly reached between 20% and 25% of the total population; indirectly they have touched about two-thirds. Perhaps more important, the ANP now has a solid base for increasing this coverage each year, particularly in agriculture, community development and water projects. It appears that very few malnourished children and pregnant women currently miss being controlled by the

program; improvements in the attention given to these groups should be in quality, if not quantity.

MFM has also made a positive impact on field personnel and supervisors of other government and non-government agencies. The program has fomented a spirit of cooperation and mutual satisfaction, especially within the Regional Health Office and CESAR at Zopilotepe. Regional and central level functionaries have been made more aware of the complexity of the problem of malnutrition and the potential benefits of an ANP strategy. The MFM program is being seen as a potential model for future expansion, in some form, although few decision-makers have actually observed the program in operation and bureaucratic constraints to the integration of resources and decentralization of authority are very real.

## 2. Sustainability and Replicability

More than an institution, the ANP is a process. It has been successfully introduced and developed in the Zopilotepe area by MFM and it will, in all likelihood, continue to flourish as long as this facilitator remains. MFM is a national organization and has expressed its intention of continuing its presence and moderate support indefinitely, though modifying its inputs as time and circumstances determine. It is hoped that gradually community organizations will, with assistance, mature to the point of being able to facilitate their own problem-solving, response-formulation and resource-integration processes. Some communities are further along in this respect than others, as evidenced by the community water systems projects.

Supplemental personnel now provided by MFM are potentially available from GOH agencies -- agriculture extension workers and experimental stations with the Ministry of Natural Resources (DARNO), social promoters with the National Board of Social Welfare (JNBS), sanitation and health workers with the Ministry of Health, and local school teachers -- although it is doubtful that their assistance would be as constant and accessible. Local cooperatives may eventually be able to assume credit and marketing functions. Article 302 of the proposed Constitution recognizes the patronatos "for the exclusive ends of obtaining the improvement and development of communities." Current program plans include working towards the legal incorporation of an umbrella organization to represent and facilitate individual community and area-wide concerns.

Replicability of the applied nutrition program or strategy in other areas of the country is much more tenuous. MFM has indicated a willingness to consider the expansion or relocation of its operations at some time in the future, preferably within Olancho Department. In this scenario, replicability would be feasible, barring the emergence of external constraints. MFM in addition has made concerted efforts to identify and work with a viable government agency which might assume sponsorship and execution of the ANP strategy; but the results have been very frustrating. There is no GOH agency which has the focus or capacity to plan and execute multi-sectoral programs at the community level. SAPLAN, the national food and nutrition planning body, has not responded to MFM initiatives and has considered the ANP "too small." GOH Ministries rarely

communicate at the central level, let alone coordinate programs; and there is a pervasive lack of definition and follow-through between the political and operational levels of government.

At the regional level, coordination and commitment was achieved during the first years of the program. This was possible because of the active interest and involvement of the former Regional Health Director and other agency officials. A regional development committee met fairly regularly to coordinate ANP as well as other departmental activities. These regional coordinating bodies are not formal or legal extensions of government, but function on the force of personalities. Changes of regional officials for political reasons in 1981, brought to an end this potential mechanism in Olancho. It appears that for the foreseeable future, private agencies hold the key to facilitating inter-agency coordination at the local level. This role could be assumed by MFM or another similar NGO.

### 3. Cost-Effectiveness

An analysis of the cost-effectiveness of this, or any other, project is essentially a determination of whether the results of the project activities have been "worth" the costs it took to bring them about. In the case of the ANP, two major limitations are immediately apparent. The first is that not all the costs are known or can be readily expressed in a common unit, e.g. dollars. MFM has an excellent system for recording and classifying direct expenditures which it manages; the system does not take into account pre-project development costs, nor does it allocate costs by program activity. Direct and indirect contributions from other agencies, and the elusive quantifiable value of community participation, are also not systematically and uniformly recorded. By the same token, not all project results are known, especially those which germinate over time and may not be apparent at any given time.

The second limitation of cost-effectiveness analysis can be expressed by: "as compared to what." This is particularly relevant regarding the ANP. No standard is available to judge, with reasonable precision, the relative worth of what has been accomplished. The ANP does encompass a unique approach to confronting the problem of malnutrition, together with other quality-of-life goals. During the past two years, MFM spent about \$30 per capita (total population of target area) per year to reduce the overall prevalence of second and third degree malnutrition by 24%; if those were the only costs and results, it took about \$6,000 to save each of an estimated 20 normal and mildly malnourished children from being severely malnourished during the past year --but, of course, they weren't the only costs and results. The ANP, however, operates at a different level and scope, under different conditions, and toward different ends than does the GOH or any of its Ministries. The ANP does what they don't do, and vice versa; direct comparisons of costs and worth, therefore, would be inappropriate.

It is appropriate, however, to look at cost-effectiveness within the context of the program itself, at least to approximate worth given the first set of limitations. The direct investment in money and other agency contributions appear to be quite reasonable. Salary levels are just and within local norms.

Commodities and capital investments have been kept at a minimum, and the demand for time and material inputs from other agencies has not been excessive. The level of technology introduced by the program has been very appropriate in terms of investment, transferability, utilization, and sustainability by the recipients.

A rough approximation of the MFM resources allocated to each program component can be based on relative staff inputs. (Direct salary costs of technical personnel and specific project related expenses, and prorating all other operational and support costs by the proportion of time each technical position has contributed to the program. See Tables 2-4.) To date (5/78-6/83) the distribution of MFM resources is estimated as follows: direction and coordination, 28.7%; nutrition, 23.5%; community promotion, 22.7%; health promotion, 15.6%; and agriculture, 9.5%. It should be remembered that an agronomist has been on board for only a year and a half. Also, the MOH auxiliary nurse and CESAR facilities effectively match the MFM contribution to health promotion and add, though to a lesser degree, to the nutrition component.

Significantly positive results have been demonstrated in terms of improved health and nutrition status. Progress has also been made in community organization and improving the local agriculture economy. All of these are long-term endeavors. Without a doubt, the effectiveness of specific program interventions can be improved, particularly with regard to nutrition education and the selection of agricultural projects. Giving more attention to community water systems and an increase in the distribution of supplementary food supplies during August-October would probably bring the most notable decreases in malnutrition in the short run. Overall, the cost-effectiveness of the ANP seems very good: the inputs are justifiable and the results are impressive. With the modifications suggested in this report, it should become even better.

### C. Recommendations

1. A concerted effort should be made by the ANP staff to direct more attention to those communities which have the highest prevalence of malnutrition. Particular emphasis should be given to potable water systems and community organization.
2. A request should be presented to the MOH and CARE to augment or modify the distribution of supplementary food commodities so that adequate amounts are available in August, September and October to meet the crisis of seasonal scarcity.
3. As an acknowledged model of integrated development at the community level, there is a need for MFM/Honduras to document its experiences more concisely for local dissemination. The ANP strategy, together with its successes and constraints observed through implementation should be recorded and presented to government and non-government agencies; seminars and workshops could be arranged with the Ministry of Health and other participating agencies to analyze and promote the ANP at the national and regional level.

4. Procedures and criteria for various program activities need to be defined more precisely and written down, perhaps in the form of operational manuals, in order to maintain consistency and promote replicability. Several areas requiring clarification and standardization include: admission and withdrawal of participants in the supplementary feeding program; regulations for the agricultural loan fund; the collection and use of statistics (information system); administration of community projects; and standardized procedures and operational definitions for conducting community censuses.

5. A specific curriculum should be designed for training the leaders of community groups in project planning and management. The following topics should be included: problem identification; formulation of appropriate responses; leadership functions; group dynamics and decision-making; and the administration of resources.

6. Long-term self-help goals of the ANP would be enhanced if certain management practices were to allow more community participation in decision-making and control of resources -- even at the expense of efficiency in the short term. Women's groups should assume more responsibility in managing the funds for workshop projects. To the extent possible, community leaders might be trained and incorporated into the process of collecting and analyzing basic socioeconomic data and vital statistics. And the staff should consider, in the future, the adoption of an appropriate mechanism by which community representatives can participate in the management of the revolving credit system. In addition to fostering "ownership" and responsibility, participation is the best means of education.

7. The ANP team needs to strengthen its follow-up activities at the community level and with individuals. Particular emphasis should be given to supervision and continuing technical assistance to persons who have previously received training in agriculture projects. Better use of those farmers as "models" for demonstration purposes within the community is also recommended. In the nutrition component, more attention should be given to the internal distribution and use of common foods in the home.

8. During the past four years, the ANP staff has collected a considerable amount of data regarding all phases of the program. This data has been used for operational programming primarily. Considering the innovativeness and success of the program to date, this data should be analyzed in more detail.

9. The MFM should consider modifying its accounting system to accommodate the needs of the ANP. It is recommended that a double-entry system be established for field programs and that accounts be opened for assets, depreciation and the revolving credit fund. All accounts need to be clearly defined -- as to what expenses are charged to which account -- and the criteria and procedures should be written. If community funds are to be held and utilized for any reason by the ANP staff, it is essential that adequate records are kept and controls retained by the community. Inventory and capital expenditure records need to be updated and incorporated into the accounting system. It is recommended that the proposed audit of the ANP be postponed until the end of the current fiscal year.

10. An evaluation should be conducted of the efficacy of the various health and nutrition education activities. This evaluation should go beyond an analysis of attendance and costs, and should document changes in the attitudes and behavior of the women. Interventions which are most effective and feasible through education should be pursued.
11. For planning and evaluation purposes, a household survey of food consumption by children under five years of age and pregnant women and lactating mothers should be conducted in March and September (to coincide with periods of food availability and scarcity) of 1984. A sample of households can be scientifically drawn from each community for this purpose, and the survey should be repeated in three or four years.
12. Likewise, criteria for evaluating the nutritional status of pregnant women and lactating mothers needs to be clarified by the ANP staff. Baseline measurements should be established as soon as possible, hopefully in conjunction with the next community survey. The progress of participating women should be monitored and analyzed regularly by the staff.
13. In the case of preschool children, it is recommended that the ANP continue to use the Gomez classification (weight by age) to evaluate and report program results. While the weight by height system (SAVE chart) is somewhat easier for the mothers to use and it does compensate for stunted growth, all surveys and statistics to date in the program have used weight by age. International and national comparisons as well use weight by age, and it is the system currently approved by the Ministry of Health. Prevalence rates are usually higher when determined by the Gomez classification because fewer borderline cases slip through; this, however, permits greater coverage of services.
14. MFM should work with the Regional Health Office to design and implement an appropriate system to collect and tabulate basic vital statistics -- births, deaths and, if possible, migration data -- in each community. Self-tabulating registries can be designed, which can be filled out by women's group leaders, midwives and/or health volunteers (preferably female) after minimal training. This data should be consolidated each month by the ANP staff and health center auxiliary nurse. The information would be very useful for community/area planning, case detection, and follow-up, and program evaluation.
15. An appropriate, efficient, and comprehensive information system should be designed and implemented without delay to monitor program activities and evaluate results. Data should be collected only for specific, identifiable purposes as determined by the program goal, purpose, and activity outputs, resources utilized, and significant conditioning (external) factors. Procedures and forms need to be defined and documented for the collection, tabulation, storage, retrieval, analysis and ultimate uses for each data set. The collection and storage of superfluous or merely "interesting" data should be suppressed for the sake of simplicity and time. MFM should consider employing a family-based record system to facilitate analysis of impact on families, in addition to the current "individuals per activity" tabulations.

16. The ANP staff would benefit from additional home office technical assistance in the following specific areas: the design of an appropriate information system; the design of a food consumption survey; methods of analyzing the costs and projected returns of alternative agricultural interventions and other income-generating projects; and basic techniques and simple studies for evaluating the efficacy of specific educational and agricultural interventions.

17. The ANP staff needs to begin looking ahead and planning now for the future, particularly in three areas. A strategy should be developed which would lead to the formation of an institutional base capable of not only sustaining the ANP for an indefinite period in the Zopilotepe area, but also promoting and introducing the concept in other areas as well. As a locally incorporated organization, MFM/Honduras may wish to assume part or all of this task itself. Second, a stable means of permanent, preferably nationally-based, economic and technological support should be sought for the long-term effort. Third, a strategy should be defined to strengthen intercommunity relations, on an informal basis at first, in order to identify and resolve area-wide problems.

#### D. General Lessons Learned

1. Government bureaucracy, in Honduras as elsewhere, does not accommodate the needs of integrated programming at the field level. Institutional structures are determined by technical specialities and political expediency, which tend to fragment services and remove decision-making from the point of execution. The coordination and effective utilization of diverse external (to the community) resources toward the resolution of complex "real-life" problems requires:

- an acceptance by agencies and villagers, of active community participation in a central decision-making role;
- a viable mechanism to decentralize responsibility and authority to manage public and private resources; and
- a spirit of cooperation and empathy in planning and executing interventions.

Only when common purposes, priorities, and strategies are recognized can effective coordination take place.

2. Materials, labor (time) and cash are ancillary aspects of community involvement. Participation in problem-identification, problem-solving and decision-making processes is much more important and lasting. This should be the focus of community development efforts.

3. The promotion and implementation of integrated community development activities often require the presence of a catalyst or facilitator -- a person or persons with vision, integrity, patience, empathy and humility. These

characteristics are most difficult to institutionalize; yet, institutionalization brings consistency and continuity, and often inflexibility, over the long term. PVO's, by nature and conviction, are independent-minded entities.

4. The auxiliary nurse in rural areas is the most overloaded person in the health care system. As very often the only service provider at the community level, she or he is charged with carrying out the myriad tasks assigned as priorities by the multitude, and often uncoordinated, technical and administrative divisions of the Ministry of Health. A great deal of care, planning and coordination is required concerning the assignment and support of tasks for rural health workers. PVO's are able to accomplish more than government agencies because they can place and support more people in the field. Unfortunately, this makes the private program less transferable, as well.

5. Out of respect and admiration for the MFM/Honduras staff and in concurrence with their approach and findings, we would like to close with the following statement from the country director's 1981 Activity Report:

"Behavioural changes are not observed immediately; change requires time and dedication according to the group with whom one is working. Young people are more susceptible to change and have to struggle between two currents in order to make a decision.

"To throw aside negative traditions and customs is, for the majority of our people, like throwing away life itself and this is true even in higher levels of living. We feel that only when man and woman accept, through education and continuous practice, that the alternatives presented offer a better life with less sick days, will a permanent change be observed. It is important or perhaps necessary then to know why the people do not simply take on new directions of action which they have seemed to theoretically accept. Thus, the educational aspect is, for the applied Nutrition Program, the area of major importance. Through education we have managed to discover that:

- Education must be consequential, useful and practical. To educate in a sporadic way is not practical nor advisable, the cost is high, and little or not satisfactory.
- Those in charge of carrying out the education need to be well trained in human development and motivation.
- That many persons have valid reasons for not putting into practice what they accept in theory.
- Many persons admit what they have been taught but are too lazy to practice it.
- The world is limited to the environment which surrounds it.
- The reorganization of community groups to receive education must be subject to the norms which are dictated to achieve learning."

## APPENDIX A

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TABLE 1

Prevalence of protein-calorie malnutrition in children under five years of age in different areas of Honduras, 1972-1977

| Locality                                              | Year of study       | Sample number | Normal weight (%) | Deficit weight by age (%) | Grade II & III (%) |
|-------------------------------------------------------|---------------------|---------------|-------------------|---------------------------|--------------------|
| <u>Francisco Morazán</u><br>Tegucigalpa, Nueva Suyapa | 1975 <sup>1</sup>   | 213           | 19                | 81                        | 42                 |
| <u>Colón</u><br>Zona del Bajo Aguán                   | 1975 <sup>1,2</sup> | 773           | 22                | 78                        | 34                 |
| <u>Cortés y Yoro</u><br>Fourteen Communities          | 1977 <sup>3</sup>   | 1628          | 27                | 73                        | 25                 |
| <u>Santa Barbara</u><br>Santa Barbara                 | 1972 <sup>2</sup>   | 413           | 29                | 71                        | 34                 |
| El Naranjito                                          | 1972 <sup>1</sup>   | 394           | 10                | 90                        | 46                 |
| <u>Copán</u><br>Trinidad                              | 1972 <sup>2</sup>   | 396           | 9                 | 91                        | 42                 |
| <u>Ocotepeque</u><br>Nueva Ocotepeque                 | 1972 <sup>2</sup>   | 156           | 13                | 87                        | 49                 |
| <u>Intibucá</u><br>Colomoncagua                       | 1974 <sup>2</sup>   | 104           | 7                 | 93                        | 34                 |
| Jesús de Otoro                                        | 1977 <sup>4</sup>   | 434           | 27                | 73                        | 46                 |
| <u>Comayagua</u><br>Siguatepeque and Minas de Oro     | 1976 <sup>4,5</sup> | 293           | 43                | 57                        | 8                  |
| Valle de Comayagua (8 localities)                     | 1976 <sup>7</sup>   | 1614          | 32                | 68                        | 21                 |
| <u>Choluteca</u><br>Region 4, Area 2                  | 1977 <sup>1</sup>   | 975           | 181               | 81                        | 26                 |

Sources: 1) Ministerio de S.P.; 2) Depto. de Nutrición/MSP; 3) Zúñiga, Maricela. INCAP/USC, 1977; 4) Donaire, A. Tesis en Medicina y Cirugía, 1976; 5) Salgado, Gilda. Tesis Medicina y Cirugía/UNAH, 1976; 6) Sanchez, O.R. Tesis Medicina y Cirugía/UNAH, 1977; 7) Godoy, R. Depto. Nutrición Preventiva/UNAH, 1977.

TABLE 2

Program expenses by line item and year,  
Meals for Millions, Honduras, 1978-1983

| Line Item                        | 1978          | 1979          | 1980          | 1981          | 1982           | 1983<br>(Jan.-Jun.) | Total          | Percent       |
|----------------------------------|---------------|---------------|---------------|---------------|----------------|---------------------|----------------|---------------|
| <b>In-Country Expenses</b>       |               |               |               |               |                |                     |                |               |
| Personal services: Honduras (a)* | 8,087         | 15,093        | 18,444        | 34,620        | 41,110         | 18,411              | 135,765        | 33.6          |
| Professional fees *              | -0-           | 2,546         | 2,079         | 3,797         | 2,162          | 1,034               | 11,618         | 2.9           |
| Operating Expenses (b)           | 4,854         | 5,304         | 4,176         | 5,611         | 7,037          | 3,654               | 30,636         | 7.6           |
| Equipment and materials (c)      | 45            | 112           | 378           | 121           | 1,451          | 774                 | 2,881          | 0.7           |
| Transportation and travel (d)    | 1,004         | 4,279         | 4,639         | 8,737         | 11,131         | 6,965               | 36,755         | 9.1           |
| Equipment repair & maintenance   | -0-           | 279           | 1,505         | 1,854         | 4,375          | 2,259               | 10,272         | 2.5           |
| Small project grants *           | -0-           | -0-           | -0-           | 10,078        | 15,700         | 7,255               | 33,033         | 8.2           |
| Sub-total                        | 13,990        | 27,613        | 31,221        | 64,818        | 82,966         | 40,352              | 260,960        | 64.6          |
| <b>Direct Support Costs</b>      |               |               |               |               |                |                     |                |               |
| Personal services: U.S. (a)      | 12,162        | 12,700        | 11,392        | 16,838        | 19,332         | 17,631              | 90,055         | 22.3          |
| Operating expenses (U.S.)        | 126           | 259           | 149           | 613           | 1,229          | 519                 | 2,895          | 0.7           |
| International & U.S. travel      | 2,737         | 4,144         | 3,600         | 8,280         | 3,745          | 5,882               | 28,388         | 7.0           |
| Sub-total                        | 15,025        | 17,103        | 15,141        | 25,731        | 24,306         | 24,032              | 121,338        | 30.0          |
| <b>Indirect Support Costs</b>    |               |               |               |               |                |                     |                |               |
| Overhead                         | 6,600         | 2,476         | 2,049         | 3,395         | 4,431          | 2,617               | 21,568         | 5.4           |
| <b>Grand Total</b>               | <b>35,615</b> | <b>47,192</b> | <b>48,411</b> | <b>93,944</b> | <b>111,703</b> | <b>67,001</b>       | <b>403,866</b> | <b>100.0</b>  |
| Percent of total                 | 8.8           | 11.7          | 12.0          | 23.3          | 27.6           | 16.6                | 100.0          | -0-           |
| Target population                | -0-           | 4,123         | 3,615         | 3,635         | 3,663          | 4,133               | -0-            | -0-           |
| Per capita expenditures          | -0-           | 11.45         | 13.39         | 25.84         | 30.49          | 16.21               | -0-            | -0-           |
| A.I.D. contribution              | 21,280        | -0-           | -0-           | 3,921         | -0-            | -0-                 | 25,201         | -0-           |
| Percent contribution             | 59.8          | -0-           | -0-           | 4.2           | -0-            | -0-                 | 6.2            | -0-           |
| <b>Real cost vehicles</b>        |               |               |               |               |                |                     |                |               |
| Real cost vehicles               | 7,611         |               | 9,000         |               |                | 11,431              | 28,042         | Current Value |
| Amortized 1978 Jeep              | 254           | 1,522         | 1,522         | 1,522         | 1,522          | 761                 | 7,103          | 508           |
| Amortized 1980 Jeep              |               |               | 150           | 1,800         | 1,800          | 900                 | 4,650          | 4,350         |
| Amortized 1983 Pick-up           |               |               |               |               |                | 381                 | 381            | 11,050        |
| Total Amortized                  | 254           | 1,522         | 1,672         | 3,322         | 3,322          | 2,042               | 12,134         | 15,908        |

Notes: (a) Includes: salaries, benefits, payroll taxes, and temporary help; for U.S. also includes professional fees.  
 (b) Includes: supplies, telephone, postage, rent, printing, insurance, dues, meetings, and miscellaneous.  
 (c) Includes: publications, audio/visual materials and small equipment.  
 (d) Includes: amortized costs of vehicles (over 5 years), fuel, and other local transportation. Residual value of vehicles in July 1983 estimated at \$15,908 (1978 Jeep = \$508; 1980 Jeep = \$4,350; 1983 Pick-up = \$11,050. Monthly depreciation is calculated at \$127, \$150, and \$190.50 respectively.)

\* See following tables for breakdown of expenses.

Source: Meals for Millions field and central office records.

TABLE 3

## Breakdown of expenses for professional fees and small project grants

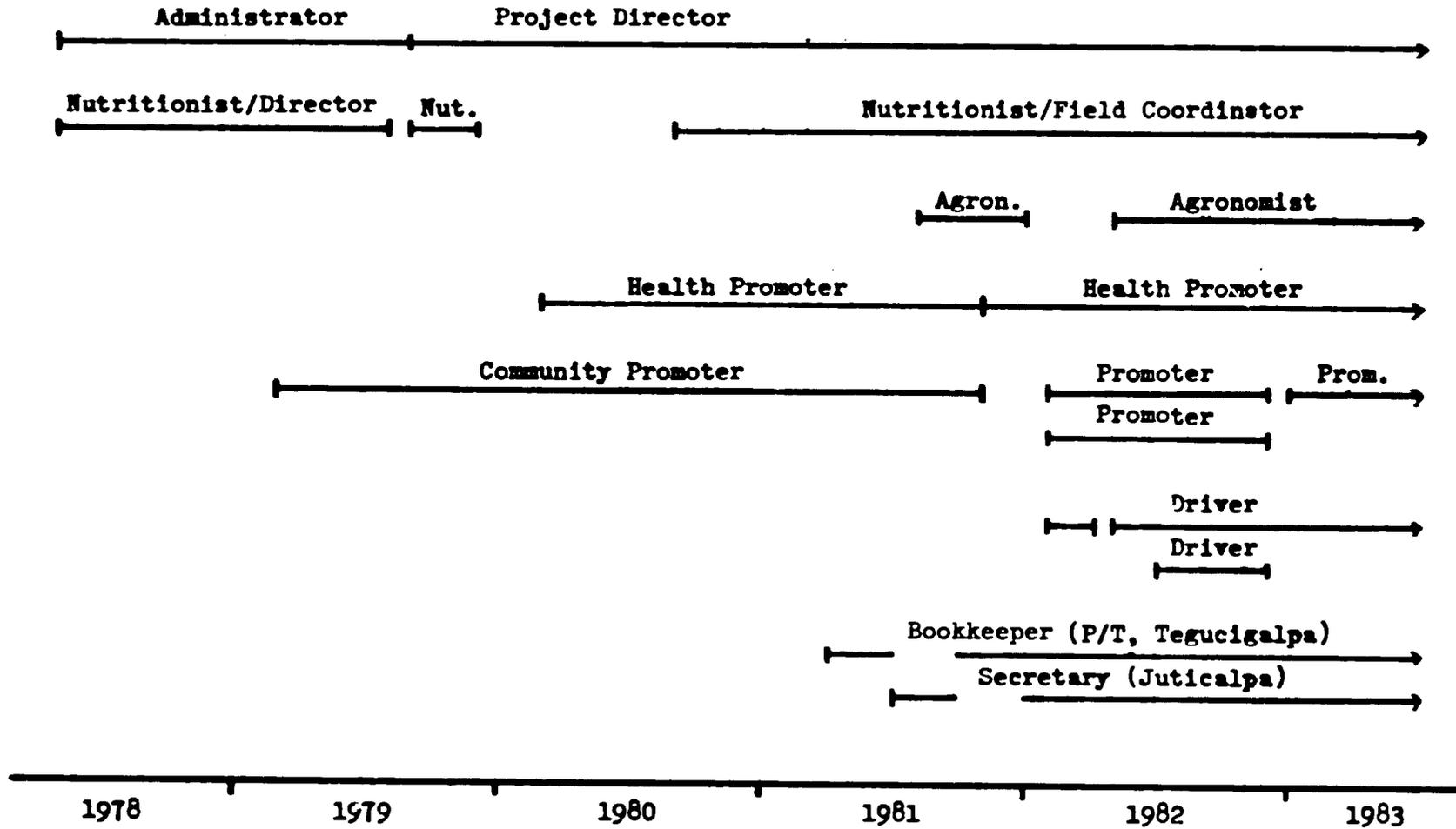
| Program Areas               | U.S. \$ | Percent of Distribution | Initial inventory: Equipment tools and furniture | Return income destined to revolving loan fund |
|-----------------------------|---------|-------------------------|--------------------------------------------------|-----------------------------------------------|
| <u>Small Project Grants</u> |         |                         |                                                  |                                               |
| Water systems               | 4,809   | 14.9                    | -                                                | 3,300                                         |
| Community workshops (a)     | 4,256   | 13.2                    | 434                                              | -0-                                           |
| Agriculture, aviculture (b) | 8,967   | 27.8                    | 1,171                                            | 3,220                                         |
| Training: courses, seminars | 3,019   | 9.4                     | -                                                | -                                             |
| Training center (c)         | 6,563   | 20.4                    | 414                                              | -                                             |
| Health and nutrition (d)    | 3,484   | 10.8                    | 431                                              | -                                             |
| Office furniture            | 1,132   | 3.5                     | 1,132                                            | -                                             |
| Sub-Total                   | 32,230  | 100.0                   | 3,582                                            | 6,520                                         |
| Unaccounted                 | 803     |                         |                                                  |                                               |
| Total Expended              | 33,033  |                         |                                                  |                                               |
| Percent accounted           | 97.6    |                         |                                                  |                                               |
| <u>Professional fees</u>    |         |                         |                                                  |                                               |
| Nutrition                   | 1,179   | 13.5                    |                                                  |                                               |
| Agriculture, aviculture     | 624     | 7.1                     |                                                  |                                               |
| Community organization      | 365     | 4.2                     |                                                  |                                               |
| Biogas                      | 195     | 2.2                     |                                                  |                                               |
| Legal                       | 6,375   | 73.0                    |                                                  |                                               |
| Sub-Total                   | 8,738   | 100.0                   |                                                  |                                               |
| Unaccounted                 | 2,880   |                         |                                                  |                                               |
| Total                       | 11,618  |                         |                                                  |                                               |
| Percent accounted           | 75.2    |                         |                                                  |                                               |

- Notes: (a) Materials and tools for projects by women's groups, such as making soap, room dividers, dish racks, cribs, play pens, waste baskets, food storage, etc.
- (b) Tools, seeds, fertilizers, insecticides for gardens and grains; materials and labor for silos; materials, supplies and chicks for poultry project.
- (c) Construction materials and labor, furniture and equipment.
- (d) Analysis and medicines for parasites; materials for latrines; equipment and furnitures for health center; transportation of Title II food.

Source: Meals for Millions/Honduras records.

FIGURE 1

In-country staffing pattern, Meals for Millions, Honduras, 1978-1983



Source: Meals for Millions, field records.

TABLE 4

Personnel utilization and costs by position, May 1978 to June 1983

| Position (F/T)          | Number<br>Persons<br>Employed | Total<br>Person<br>Months | Percent<br>Allocation<br>Time (Mos) | Average<br>Length of<br>Service | Number<br>Months<br>Position<br>Vacant | Percent<br>Time<br>Position<br>Vacant | Gross<br>Salaries<br>(incl.<br>severance) | Percent<br>Allocation<br>of Pay |
|-------------------------|-------------------------------|---------------------------|-------------------------------------|---------------------------------|----------------------------------------|---------------------------------------|-------------------------------------------|---------------------------------|
| Administration/Director | 1                             | 62                        | 21.8                                | 62.0                            | 0                                      | 0                                     | (42,172)                                  | 31.4                            |
| Nutritionist            | 3                             | 52                        | 18.2                                | 17.3                            | 10                                     | 16.1                                  | (37,875)                                  | 28.2                            |
| Agronomist              | 2                             | 19                        | 6.7                                 | 9.5                             | 43                                     | 69.4                                  | (8,129)                                   | 6.1                             |
| Health Promoter         | 2                             | 40                        | 14.0                                | 20.0                            | 22                                     | 35.5                                  | (11,956)                                  | 8.9                             |
| Community Promoter      | 4                             | 58                        | 20.3                                | 14.5                            | 14                                     | 22.6                                  | (24,504)                                  | 18.3                            |
| Driver                  | 3                             | 21                        | 7.4                                 | 7.0                             | 46                                     | 74.2                                  | (3,138)                                   | 2.3                             |
| Secretary/Bookkeeper    | 2                             | 33                        | 11.6                                | 16.5                            | 35                                     | 56.5                                  | (6,465)                                   | 4.8                             |
| <b>Total</b>            | <b>17</b>                     | <b>285</b>                | <b>100.0</b>                        | <b>16.8</b>                     |                                        |                                       | <b>(134,239)</b>                          | <b>100.0</b>                    |

( ) estimates based on monthly salary rates.

Source: Meals for Million/Honduras project records.

TABLE 5

Growth and development (G/D) control visits and illness visits by children 0-5 years old at rural health center level, Zopilotepe project area and Health Region No. 7, 1979-1983

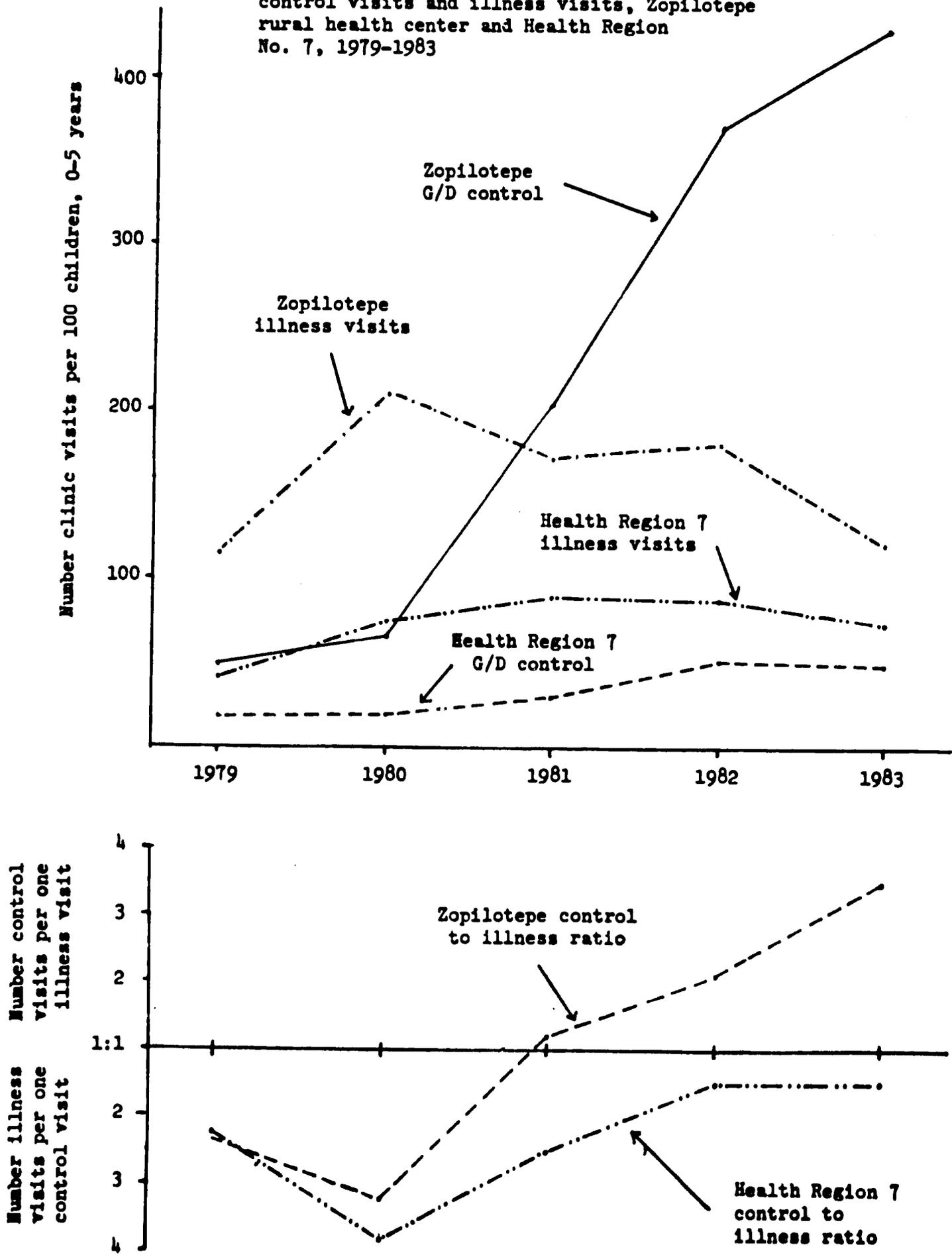
| Activity/Indicator (a)          | 1979   | 1980    | 1981   | 1982   | 1983 (b) |
|---------------------------------|--------|---------|--------|--------|----------|
| <u>Zopilotepe Project Area</u>  |        |         |        |        |          |
| G/D control visits, 0-5 years   | 424    | 527     | 1,640  | 2,834  | 1,612    |
| Illness visits, 0-5 years       | 991    | 1,698   | 1,381  | 1,378  | 455      |
| Population, 0-5 years           | 858    | (803)   | 803    | 761    | 752      |
| G/D control visits              |        |         |        |        |          |
| per 100 children                | 49.4   | (65.6)  | 204.2  | 372.4  | 214.4    |
| Illness visits per 100 children | 115.5  | (211.5) | 172.0  | 181.1  | 60.5     |
| Ratio control: illness visits   | 1:2.3  | 1:3.2   | 1.2:1  | 2.1:1  | 3.5:1    |
| <u>Health Region No. 7</u>      |        |         |        |        |          |
| G/D control visits, 0-5 years   | 7,586  | 8,357   | 15,564 | 25,640 | 11,621   |
| Illness visits, 0-5 years       | 16,576 | 31,469  | 38,882 | 39,672 | 17,329   |
| Population, 0-5 years           | 40,135 | 42,347  | 43,732 | 45,262 | (46,846) |
| G/D control visits              |        |         |        |        |          |
| per 100 children                | 18.9   | 19.7    | 35.6   | 56.6   | (24.8)   |
| Illness visits per 100 children | 41.3   | 74.3    | 88.9   | 87.6   | (37.0)   |
| Ratio control: illness visits   | 1:2.2  | 1:3.8   | 1:2.5  | 1:1.5  | 1:1.5    |

Source: Ministry of Health, Health Region No. 7, Statistics Department and Zopilotepe rural health center records.

- Notes: (a) Nursing activities only at rural health center level.  
 (b) January thru June; rates and ratios correspond to six months activity.  
 ( ) Estimated numbers.

FIGURE 2

Rates and ratios of growth and development (G/D)  
control visits and illness visits, Zopilotepe  
rural health center and Health Region  
No. 7, 1979-1983



Source: Table 5.

TABLE 6

Immunization coverage of children 0-5 years old,  
Zopilotepe project area and Health Region No. 7,  
1979-1982

| Vaccine           | Zopilotepe Project Area  |                              | Health Region No. 7      |                              |
|-------------------|--------------------------|------------------------------|--------------------------|------------------------------|
|                   | Total doses<br>1979-1982 | Coverage per<br>100 children | Total doses<br>1979-1982 | Coverage per<br>100 children |
| Polio (3rd doses) | 1,157                    | 153.4                        | 50,392                   | 117.1                        |
| DPT (3rd doses)   | 1,009                    | 133.8                        | 38,475                   | 89.4                         |
| Measles           | 683                      | 90.6                         | 35,054                   | 81.4                         |
| BCG               | 603                      | 80.0                         | 35,500                   | 82.5                         |

Source: Ministry of Health, Health Region No. 7, Statistics Department

Note: Mid-term population, 0-5 years, Zopilotepe area = 754  
Mid-term population, 0-5 years, Health Region No. 7 = 43,040

TABLE 7

Selected indicators of prenatal and post-partum care,  
Zopilotepe project area and Health Region No. 7, 1979-1983.

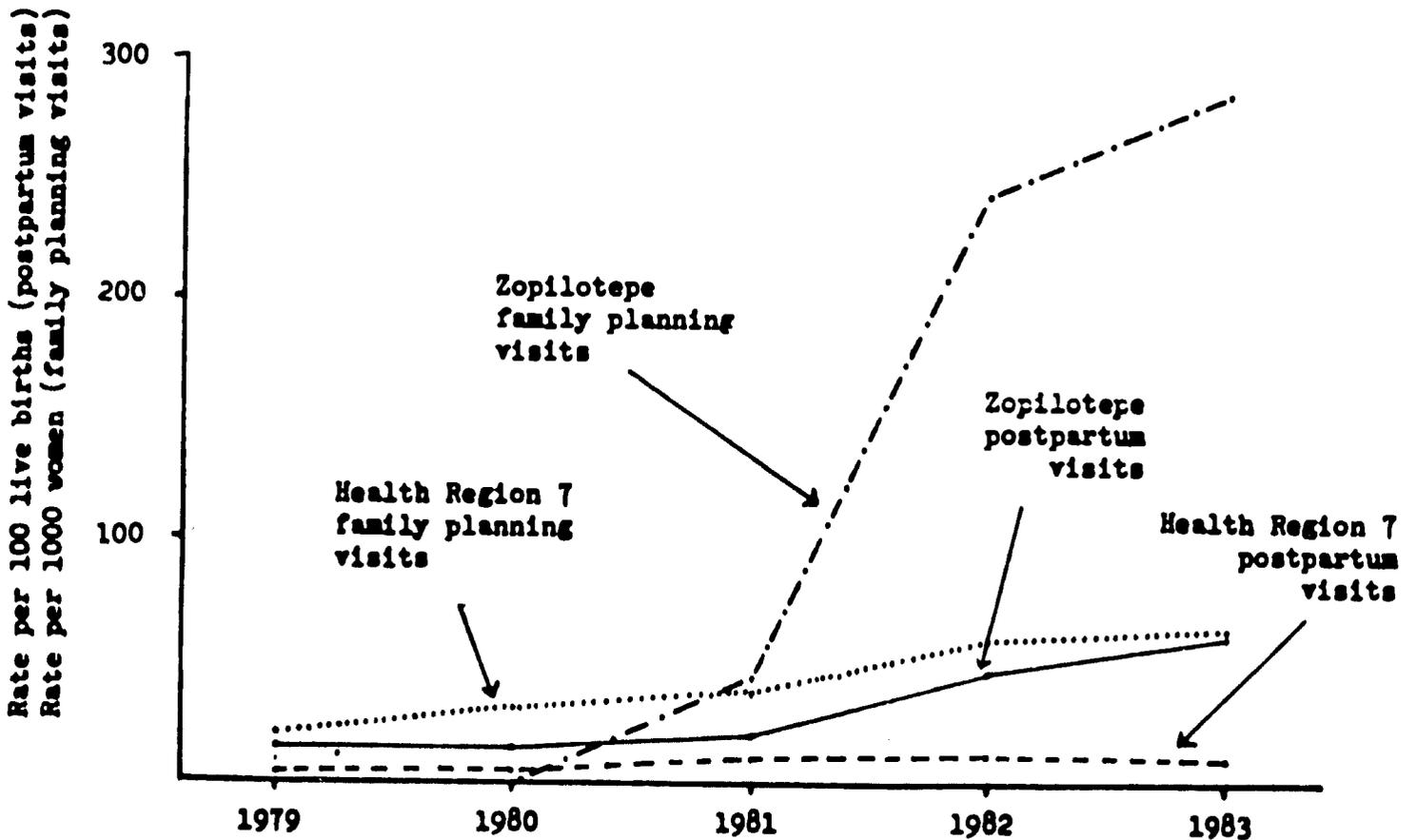
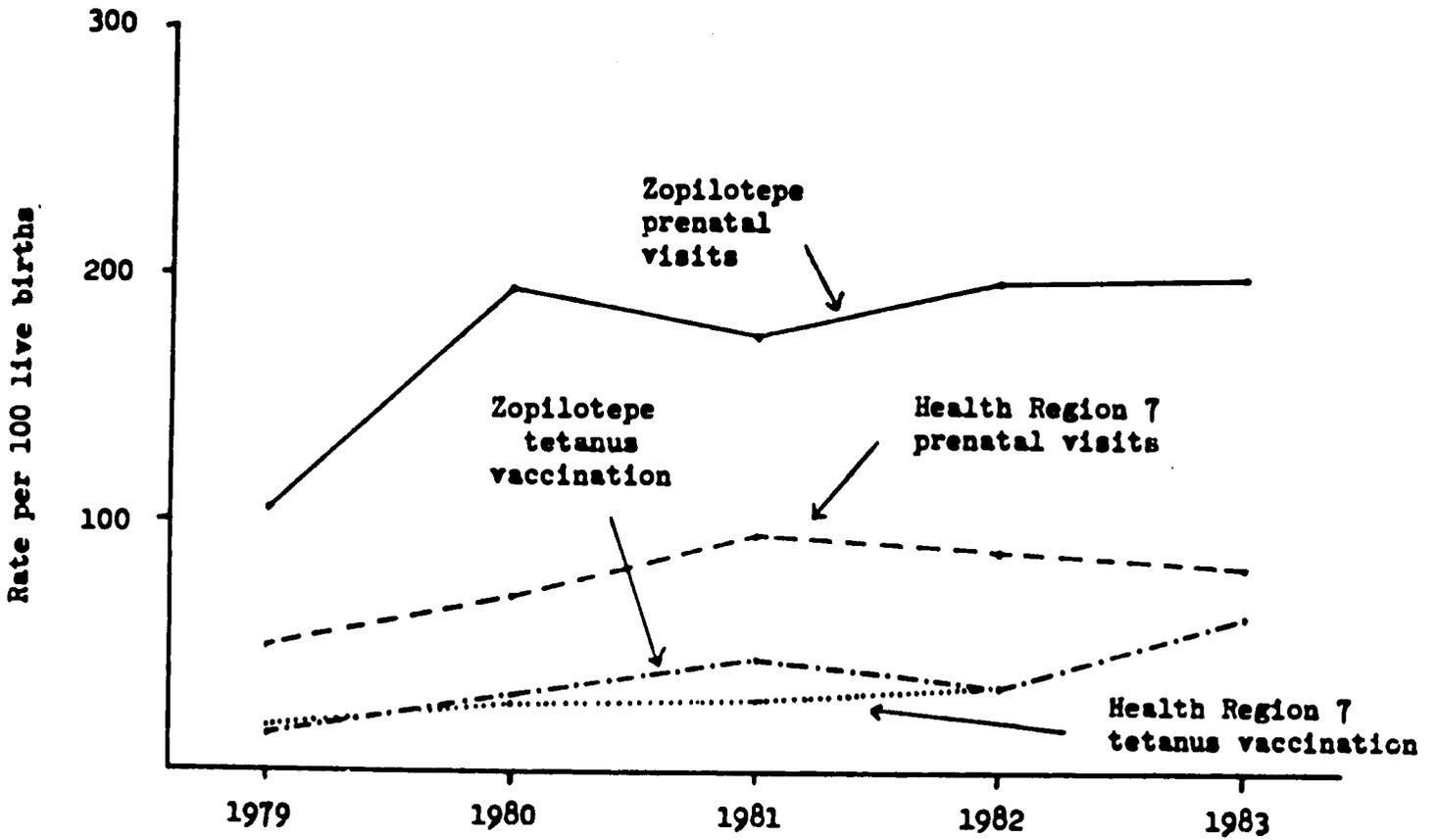
| Activity/Indicator                      | 1979   | 1980    | 1981   | 1982   | 1983 (a) |
|-----------------------------------------|--------|---------|--------|--------|----------|
| <u>Zopilotepe Project Area</u>          |        |         |        |        |          |
| Number prenatal visits                  | 201    | 326     | 293    | 333    | 167      |
| Number post partum visits               | 31     | 26      | 33     | 77     | 50       |
| Number family planning visits           | 0      | 0       | 31     | 179    | 104      |
| Tetanus toxoid to pregnant to women     | 30     | 49      | 72     | 56     | 52       |
| Population, women 15-49 years           | 829    | (727)   | 731    | 736    | 727      |
| Estimated number live births (b)        | 190    | (167)   | 168    | 169    | 167      |
| Prenatal visits per 100 live births     | 105.8  | (195.2) | 174.4  | 197.0  | 100.0    |
| Post partum visits per 100 live births  | 16.3   | (15.6)  | 19.6   | 45.6   | 29.9     |
| Family planning visits per 1000 women   | 0      | 0       | 42.4   | 243.2  | 143.1    |
| Tetanus vaccination per 100 live births | 15.8   | (29.3)  | 42.9   | 33.1   | 31.1     |
| <u>Health Region No.7</u>               |        |         |        |        |          |
| Number prenatal visits                  | 4,495  | 6,706   | 9,190  | 8,741  | 4,251    |
| Number post partum visits               | 403    | 479     | 889    | 1,171  | 494      |
| Number family planning visits           | 781    | 1,306   | 1,574  | 2,579  | 1,427    |
| Tetanus toxoid to pregnant women        | 1,569  | 2,477   | 2,694  | 3,579  | n/a      |
| Population, women 15-49 years           | 39,814 | 40,963  | 42,298 | 43,783 | (45,269) |
| Estimated number live births (b)        | 9,137  | 9,401   | 9,707  | 10,048 | (10,389) |
| Prenatal visits per 100 live births     | 49.2   | 71.3    | 94.7   | 87.0   | (40.9)   |
| Postpartum visits per 100 live births   | 4.4    | 5.1     | 9.2    | 11.7   | (4.8)    |
| Family planning visits per 1000 women   | 19.6   | 31.7    | 37.2   | 58.9   | (31.5)   |
| Tetanus vaccination per 100 live births | 17.2   | 26.3    | 27.8   | 35.6   | n/a      |

Source: Ministry of Health, Health Region No.7, Statistics Department and Zopilotepe rural health records.

Notes: (a) January thru June rates correspond to six months of activity.  
(b) Based on official General Fertility Rate of 229.5 live births per 1000 women, 15-49 years.  
( ) Estimated numbers.

FIGURE 3

Prenatal, postpartum and family planning visit rates and tetanus toxoid immunization rates for women, 15-49 years, Zopilotepe project area and Health Region No. 7, 1979-1983



Source: Table 7.

TABLE 8

Coverage of growth and development control component by community, 1982-1983

| Community    | 1982                    |                        |                    | 1983                    |                        |                    |
|--------------|-------------------------|------------------------|--------------------|-------------------------|------------------------|--------------------|
|              | Population<br>0-5 years | 0-5 years<br>covered * | Percent<br>covered | Population<br>0-5 years | 0-5 years<br>covered * | Percent<br>covered |
| Zopilotepe   | 165                     | 114                    | 69.1               | 183                     | 163                    | 89.1               |
| San Nicolás  | 198                     | 89                     | 44.9               | 172                     | 117                    | 68.0               |
| Guayabillas  | 74                      | 93                     | 125.6              | 96                      | 84                     | 87.5               |
| Las Parras   | 32                      | 25                     | 78.1               | 29                      | 25                     | 86.2               |
| La Venta     | 99                      | 35                     | 35.3               | 118                     | 62                     | 52.5               |
| Guacamayas   | 33                      | 15                     | 45.4               | 38                      | 25                     | 65.8               |
| Las Llaves   | 82                      | 44                     | 53.6               | 85                      | 56                     | 65.9               |
| El Tablon    | 22                      | 13                     | 59.1               | 22                      | 14                     | 63.6               |
| <b>Total</b> | <b>705</b>              | <b>428</b>             | <b>60.7</b>        | <b>743</b>              | <b>547</b>             | <b>73.6</b>        |

\*Children who attended at least one growth and development control clinic.

Source: Meals for Millions/Honduras project records.

Note: The data for **Guayabillas** are thought to be unreliable due to discrepancies in population census methods.

TABLE 9

Coverage of supplementary feeding component by beneficiary and community, 1980-1982.

| Community    | 1980                    |                       |                        |                                  | 1981                    |                       |                        |                                  | 1982                     |                       |                        |                                  |
|--------------|-------------------------|-----------------------|------------------------|----------------------------------|-------------------------|-----------------------|------------------------|----------------------------------|--------------------------|-----------------------|------------------------|----------------------------------|
|              | Number children 0-5 yrs | Number pregnant women | Number lactat. mothers | Number rations per mo./ benefic. | Number children 0-5 yrs | Number pregnant women | Number lactat. mothers | Number rations per mo./ benefic. | Number children 0-5 yrs. | Number pregnant women | Number lactat. mothers | Number rations per mo./ benefic. |
| Guayabillas  | 71                      | 11                    | 21                     | 5                                | 41                      | 8                     | 14                     | 6                                | 34                       | 9                     | 20                     | 6                                |
| San Nicolás  | 63                      | 14                    | 13                     | 3                                | 85                      | 2                     | 42                     | 6                                | 105                      | 5                     | 19                     | 6                                |
| Zopilotepe   | -                       | -                     | -                      | -                                | 80                      | 4                     | 29                     | 6                                | 71                       | 10                    | 22                     | 6                                |
| Las Llaves   | 44                      | 5                     | 12                     | 6                                | 29                      | 3                     | 18                     | 6                                | 26                       | 8                     | 16                     | 6                                |
| Las Parras   | -                       | -                     | -                      | -                                | 7                       | 1                     | 10                     | 6                                | 15                       | 1                     | 2                      | 6                                |
| Guacamayas   | 28                      | 5                     | 10                     | 3                                | 19                      | 2                     | 6                      | 6                                | 17                       | 4                     | 6                      | 6                                |
| El Tablón    | -                       | -                     | -                      | -                                | 7                       | 3                     | 5                      | 6                                | 11                       | 1                     | 3                      | 6                                |
| La Venta     | -                       | -                     | -                      | -                                | 45                      | 4                     | 20                     | 6                                | 48                       | 5                     | 12                     | 6                                |
| El Jobo      | -                       | -                     | -                      | -                                | 27                      | 2                     | 18                     | 6                                | 44                       | -                     | -                      | -                                |
| <b>Total</b> | 146                     | 35                    | 56                     | 7                                | 340                     | 29                    | 162                    | 6                                | 371                      | 43                    | 100                    | 6                                |

Source: Meals for Millions/Honduras project records.

TABLE 10

Number of women's groups, members, and health/  
nutrition sessions by community, 1981-1983

| Community    | 1981             |                   |                     |                    | 1982             |                   |                     |                    | 1983 (Jan.-June) |                   |                     |                    |                        |
|--------------|------------------|-------------------|---------------------|--------------------|------------------|-------------------|---------------------|--------------------|------------------|-------------------|---------------------|--------------------|------------------------|
|              | Number<br>Groups | Number<br>Members | Percent<br>Coverage | Number<br>Sessions | Number<br>Groups | Number<br>Members | Percent<br>Coverage | Number<br>Sessions | Number<br>Groups | Number<br>Members | Percent<br>Coverage | Number<br>Sessions | Percent*<br>Attendance |
| Guayabilas   | 2                | 28                | (41.8)              | 4                  | 2                | 36                | (53.7)              | 20                 | 2                | 46                | (70.8)              | 16                 | 35                     |
| San Nicolás  | 2                | 65                | (33.0)              | 4                  | 2                | 34                | (17.3)              | 20                 | 2                | 75                | (31.8)              | 16                 | 60                     |
| Zopilotepe   | 2                | 50                | (30.0)              | 4                  | 3                | 48                | (29.1)              | 16                 | 2                | 47                | (21.6)              | 16                 | 44                     |
| Las Llavas   | 1                | 23                | (31.1)              | 4                  | 1                | 36                | (48.6)              | 10                 | 1                | 38                | (40.9)              | 8                  | 63                     |
| Las Parras   | 1                | 15                | (55.6)              | 4                  | 1                | 16                | (59.3)              | 10                 | 1                | 16                | (57.1)              | 8                  | 56                     |
| La Venta     | 2                | 48                | (44.9)              | 4                  | 2                | 38                | (35.5)              | 20                 | 2                | 50                | (43.9)              | 16                 | 40                     |
| Guacamayas   | 1                | 15                | (42.9)              | 4                  | 1                | 18                | (51.4)              | 10                 | 1                | 17                | (50.0)              | 8                  | 76                     |
| El Tablón    | 1                | 10                | (52.6)              | 4                  | 1                | 9                 | (47.4)              | 9                  | 1                | 14                | (73.7)              | 8                  | 42                     |
| El Jobo      | 1                | 20                | (50.0)              | 1                  | 1                | 21                | (52.5)              | 10                 | 1                | 30                | (130.4)             | 8                  | 63                     |
| <b>Total</b> | <b>13</b>        | <b>274</b>        | <b>(37.5)</b>       | <b>33</b>          | <b>14</b>        | <b>256</b>        | <b>(35.0)</b>       | <b>125</b>         | <b>13</b>        | <b>333</b>        | <b>(40.1)</b>       | <b>104</b>         | <b>53</b>              |

( ) Estimates based on estimated number of women 15-49 years of age in each community.

\*Attendance observed in July 1983

Source: Meals for Millions/Honduras project records.

TABLE 11

Coverage of parasite control campaign  
in children 0-5 years of age, by community, 1981

| Community    | Children<br>Controlled | Total<br>Children | Percent<br>Coverage |
|--------------|------------------------|-------------------|---------------------|
| Guayabillas  | 44                     | 62                | 71.0                |
| San Nicolás  | 62                     | 211               | 29.4                |
| Zopilotepe   | 50                     | 154               | 32.5                |
| Las Llaves   | 30                     | 90                | 33.3                |
| Las Parras   | 8                      | 26                | 30.8                |
| Guacamayas   | 27                     | 35                | 77.1                |
| El Tablón    | 14                     | 17                | 82.4                |
| La Venta     | 48                     | 103               | 46.6                |
| El Jobo      | 22                     | 50                | 44.0                |
| <b>Total</b> | <b>305</b>             | <b>748</b>        | <b>40.8</b>         |

Source: Meals for Millions, Activity report, 1981

TABLE 12

Prevalence of family latrines by community, 1979-1983

| Community    | 1979               |                     | 1981               |                     | 1982               |                     | 1983               |                     |
|--------------|--------------------|---------------------|--------------------|---------------------|--------------------|---------------------|--------------------|---------------------|
|              | Number<br>Latrines | Percent<br>Families | Number<br>Latrines | Percent<br>Families | Number<br>Latrines | Percent<br>Families | Number<br>Latrines | Percent<br>Families |
| Guayabillas  | n.a.               | --                  | 23                 | 37.7                | 7                  | 11.5                | 3                  | 5.0                 |
| San Nicolás  | 27                 | 14.6                | 64                 | 32.7                | 64                 | 32.0                | 42                 | 23.1                |
| Zopilotepe   | 35                 | 21.2                | 52                 | 38.5                | 39                 | 24.1                | 39                 | 22.9                |
| Las Llaves   | 7                  | 10.4                | 35                 | 47.9                | 18                 | 24.7                | 25                 | 31.6                |
| Las Parras   | 10                 | 55.5                | 17                 | 81.0                | 11                 | 50.0                | 10                 | 43.5                |
| Guacamayas   | 7                  | 17.1                | 24                 | 68.6                | 11                 | 29.7                | 11                 | 29.7                |
| El Tablón    | 6                  | 42.9                | 4                  | 25.0                | 4                  | 25.0                | 2                  | 12.5                |
| La Venta     | 25                 | 24.3                | 20                 | 19.8                | 6                  | 5.9                 | 1                  | 1.0                 |
| El Jobo      | n.a.               | --                  | n.a.               | --                  | 1                  | 3.4                 | n.a.               | --                  |
| <b>Total</b> | <b>117</b>         | <b>19.7</b>         | <b>239</b>         | <b>37.5</b>         | <b>161</b>         | <b>23.0</b>         | <b>133</b>         | <b>19.8</b>         |

Note: Since more than one family may, in some cases, reside in a single dwelling and therefore use the same latrine, actual coverage of families may be slightly higher.

Source: Meals for Millions, Community surveys

TABLE 13

Number of families with agriculture, small animal  
and fish projects by community, 1983

| Community    | Number of families by type of project |            |                           |                             |          |               |          |                |                  |
|--------------|---------------------------------------|------------|---------------------------|-----------------------------|----------|---------------|----------|----------------|------------------|
|              | Family<br>Gardens                     | Silos      | Credit<br>Basic<br>Grains | Credit<br>Horti-<br>culture | Rabbits  | Fish<br>Ponds | Pigs     | Pine-<br>apple | School<br>Garden |
| Zopilotepe   | 1                                     | 4          | 1                         | 1                           | -        | -             | 1        | -              | 1                |
| San Nicolás  | 5                                     | 2          | 5                         | -                           | 3        | 1             | -        | -              | -                |
| Guayabillas  | -                                     | 1          | 1                         | -                           | -        | -             | -        | -              | 1                |
| Las Llaves   | 6                                     | -          | 8                         | 2                           | 4        | 1             | -        | 2              | 1                |
| Las Parras   | 2                                     | 3          | 4                         | 2                           | -        | -             | -        | -              | -                |
| La Venta     | 2                                     | -          | 1                         | 1                           | -        | -             | -        | -              | -                |
| Guacamaya    | 2                                     | -          | -                         | -                           | -        | -             | -        | -              | -                |
| El Tablón    | 6                                     | -          | -                         | -                           | -        | -             | -        | 1              | 1                |
| El Jobo      | -                                     | -          | 8                         | -                           | -        | -             | -        | -              | 1                |
| <b>Total</b> | <b>24</b>                             | <b>10*</b> | <b>28</b>                 | <b>6</b>                    | <b>7</b> | <b>2</b>      | <b>1</b> | <b>3</b>       | <b>5</b>         |

\*Additional silos were provided to nine (9) families in three (3) localities not included in project area: Juticalpa (2); Catacama (3); and Bijao (4).

Source: Meals for Millions/Honduras project records.

TABLE 14

Number of school and family gardens and beneficiaries by community, 1981-1983

| Community    | 1981           |                    |                  | 1982           |                    |                  | 1983 (Jan-June) |                    |                  |
|--------------|----------------|--------------------|------------------|----------------|--------------------|------------------|-----------------|--------------------|------------------|
|              | Number Gardens | Estimated Benefic. | Percent Coverage | Number Gardens | Estimated Benefic. | Percent Coverage | Number Gardens  | Estimated Benefic. | Percent Coverage |
| Guayabillas  | 2              | 107                | 32.8             | 8              | 49                 | 14.9             | 1               | n.a.               | --               |
| San Nicolás  | 2              | 61                 | 6.4              | 9              | 138                | 13.7             | 5               | n.a.               | --               |
| Zopilotepe   | 0              | 0                  | 0                | 4              | 33                 | 4.0              | 2               | n.a.               | --               |
| Las Llaves   | 1              | 14                 | 3.5              | 12             | 68                 | 18.1             | 7               | n.a.               | --               |
| Las Parras   | 8              | 40                 | 37.7             | 4              | 26                 | 18.6             | 2               | n.a.               | --               |
| Guacamayas   | 2              | 58                 | 31.0             | 4              | 24                 | 14.5             | 2               | n.a.               | --               |
| El Tablón    | 6              | 37                 | 35.2             | 3              | 16                 | 15.8             | 7               | n.a.               | --               |
| La Venta     | 0              | 0                  | 0                | 14             | 95                 | 18.0             | 2               | n.a.               | --               |
| El Jobo      | 1              | 104                | 59.8             | 1              | 75                 | 37.1             | 1               | n.a.               | --               |
| <b>Total</b> | <b>22</b>      | <b>421</b>         | <b>11.6</b>      | <b>59</b>      | <b>524</b>         | <b>14.3</b>      | <b>29</b>       | <b>n.a.</b>        | <b>--</b>        |

Source: Meals for Millions, program reports.

TABLE 15

Number of families with agriculture credit by type of project  
and amount of loan, 1983

| Amount<br>(in U.S. \$) | Number of families by type of project |              |               |
|------------------------|---------------------------------------|--------------|---------------|
|                        | Basic Grains                          | Vegetables   | Silos         |
| 0-50                   | 2                                     | 6            | 15            |
| 51-100                 | 14                                    | -            | -             |
| 101-150                | 9                                     | -            | -             |
| 151-200                | 2                                     | -            | -             |
| 201-250                | 1                                     | -            | -             |
| <b>Total</b>           | <b>28 (a)</b>                         | <b>6 (b)</b> | <b>15 (c)</b> |

Source: Meals for Millions/Honduras project records.

Note: (a) Total value of approved credits = \$2,604.93 or \$93.03/family average.

(b) Total value of approved credits = \$140.00 or \$23.33/family average.

(c) Total value of approved credits = \$675.00 or \$45.00/family average.

TABLE 16 .

Number of small farmers trained in the fabrication and use of silos by community, 1981 and 1983

| Community    | 1981     |           |                  | 1983     |           |                  |
|--------------|----------|-----------|------------------|----------|-----------|------------------|
|              | Enrolled | Completed | Currently Active | Enrolled | Completed | Currently Active |
| Zopilotepe   | -        | -         | -                | 1        | 1         | 1                |
| San Nicolás  | 2        | 2         | 1                | -        | -         | -                |
| Las Parras   | 1        | 1         | 1                | -        | -         | -                |
| <b>Total</b> | <b>3</b> | <b>3</b>  | <b>2</b>         | <b>1</b> | <b>1</b>  | <b>1</b>         |

Source: Meals for Millions/Honduras project records.

Note: During the 188-hour course in 1981, participants constructed 20 silos.

TABLE 17

Number of persons trained in the techniques of raising rabbits by community, 1982

| Community    | Enrolled | Completed | Currently Active |
|--------------|----------|-----------|------------------|
| Zopilotepe   | 6        | 0         | 0                |
| San Nicolás  | 1        | 1         | 0                |
| Guayabillas  | 2        | 2         | 0                |
| La Venta     | 8        | 8         | 0                |
| Las Parras   | 1        | 1         | 0                |
| <b>Total</b> | 18       | 12        | 0                |

Source: Meals for Million/Honduras project records.

Note: This 24-hour course was conducted by the National Institute of Labor and Management Development (INFOP).

TABLE 18

Prevalence of malnutrition\* in children under five years of age,  
by community, October–November, 1978

| Community    | Total<br>Number<br>Children | Normal<br>Weight |             | Grade<br>I |             | Grade<br>II |             | Grade<br>III |            | Total<br>Malnourished |             |
|--------------|-----------------------------|------------------|-------------|------------|-------------|-------------|-------------|--------------|------------|-----------------------|-------------|
|              |                             | No.              | %           | No.        | %           | No.         | %           | No.          | %          | No.                   | %           |
| Zopilotepe   | 166                         | 83               | 50.0        | 66         | 39.8        | 16          | 9.6         | 1            | 0.6        | 83                    | 50.0        |
| San Nicolás  | 185                         | 88               | 47.6        | 71         | 38.4        | 23          | 12.4        | 3            | 1.6        | 97                    | 52.4        |
| La Venta     | 131                         | 65               | 49.6        | 52         | 39.7        | 13          | 9.9         | 1            | 0.8        | 66                    | 50.4        |
| Las Llaves   | 81                          | 40               | 49.4        | 35         | 43.2        | 5           | 6.2         | 1            | 1.2        | 41                    | 50.6        |
| Guayabillas  | 84                          | 39               | 46.4        | 32         | 38.1        | 13          | 15.5        | -            | -          | 45                    | 53.6        |
| Guacamayas   | 40                          | 15               | 37.5        | 19         | 47.5        | 6           | 15.0        | -            | -          | 25                    | 62.5        |
| El Tablón    | 22                          | 12               | 54.5        | 9          | 40.9        | 1           | 4.5         | -            | -          | 10                    | 45.5        |
| Las Parras   | 39                          | 23               | 59.0        | 12         | 30.8        | 4           | 10.2        | -            | -          | 16                    | 41.0        |
| <b>Total</b> | <b>748</b>                  | <b>365</b>       | <b>48.8</b> | <b>296</b> | <b>39.6</b> | <b>81</b>   | <b>10.8</b> | <b>6</b>     | <b>0.8</b> | <b>383</b>            | <b>51.2</b> |

Source: Study of socio-cultural and nutritional conditions in the area of influence of the Zopilotepe rural health center. Meals for Millions, Applied Nutrition Program, Honduras, 1978.

\*Gomez classification, weight by age.

TABLE 19

Prevalence of malnutrition\* in children under five years of age  
by community, March 1981

| Community    | Total<br>Number<br>Children | Normal<br>Weight |             | Grade<br>I |             | Grade<br>II |             | Grade<br>III |            | Total<br>Malnourished |             |
|--------------|-----------------------------|------------------|-------------|------------|-------------|-------------|-------------|--------------|------------|-----------------------|-------------|
|              |                             | No.              | %           | No.        | %           | No.         | %           | No.          | %          | No.                   | %           |
| Guayabillas  | 76                          | 42               | 55.3        | 18         | 23.7        | 14          | 18.4        | 2            | 2.6        | 34                    | 44.7        |
| Zopilotepe   | 162                         | 87               | 53.7        | 46         | 28.4        | 25          | 15.4        | 4            | 2.5        | 75                    | 46.3        |
| San Nicolás  | 202                         | 117              | 57.9        | 59         | 29.2        | 23          | 11.4        | 3            | 1.5        | 85                    | 42.1        |
| Las Llavas   | 86                          | 49               | 57.0        | 31         | 36.0        | 5           | 5.8         | 1            | 1.2        | 37                    | 43.0        |
| La Venta     | 128                         | 65               | 50.8        | 50         | 39.0        | 12          | 9.4         | 1            | 0.8        | 63                    | 49.2        |
| Las Parras   | 26                          | 19               | 73.1        | 5          | 19.2        | 2           | 7.7         | 0            | -          | 7                     | 26.9        |
| Guacamayas   | 55                          | 31               | 56.4        | 13         | 23.6        | 11          | 20.0        | 0            | -          | 24                    | 43.6        |
| El Tablón    | 18                          | 12               | 66.7        | 4          | 22.2        | 1           | 5.6         | 1            | 5.5        | 6                     | 33.3        |
| El Jobo      | 50                          | 12               | 24.0        | 28         | 56.0        | 10          | 20.0        | 0            | -          | 38                    | 76.0        |
| <b>Total</b> | <b>803</b>                  | <b>434</b>       | <b>54.0</b> | <b>254</b> | <b>31.7</b> | <b>103</b>  | <b>12.8</b> | <b>12</b>    | <b>1.5</b> | <b>369</b>            | <b>46.0</b> |

Source: Anthropometric survey. Meals for Millions, Applied Nutrition Program, Honduras, 1981.

\*Gomez classification, weight by age.

TABLE 20

Prevalence of malnutrition\* in children under five years of age  
by community, September 1981

| Community    | Total<br>Number<br>Children | Normal<br>Weight |             | Grade<br>I |             | Grade<br>II |             | Grade<br>III |            | Total<br>Malnourished |             |
|--------------|-----------------------------|------------------|-------------|------------|-------------|-------------|-------------|--------------|------------|-----------------------|-------------|
|              |                             | No.              | %           | No.        | %           | No.         | %           | No.          | %          | No.                   | %           |
| Guayabillas  | 62                          | 27               | 43.5        | 19         | 30.7        | 15          | 24.2        | 1            | 1.6        | 35                    | 56.5        |
| Zopilotepe   | 154                         | 73               | 47.4        | 47         | 30.5        | 33          | 21.4        | 1            | 0.7        | 81                    | 52.6        |
| San Nicolás  | 211                         | 106              | 50.2        | 79         | 37.4        | 25          | 11.9        | 1            | 0.5        | 105                   | 49.8        |
| Las Llaves   | 90                          | 42               | 46.7        | 25         | 27.8        | 22          | 24.4        | 1            | 1.1        | 48                    | 53.3        |
| La Venta     | 103                         | 49               | 47.6        | 28         | 27.2        | 24          | 23.3        | 2            | 1.9        | 54                    | 52.4        |
| Las Parras   | 26                          | 15               | 57.7        | 4          | 15.4        | 7           | 26.9        | 0            | 0          | 11                    | 42.3        |
| Guacamayas   | 35                          | 14               | 40.0        | 16         | 45.7        | 5           | 14.3        | 0            | 0          | 21                    | 60.0        |
| El Tablón    | 17                          | 10               | 58.8        | 6          | 35.3        | 1           | 5.9         | 0            | 0          | 7                     | 41.2        |
| El Jobo      | 50                          | 12               | 24.0        | 28         | 56.0        | 10          | 20.0        | 0            | 0          | 38                    | 76.0        |
| <b>Total</b> | <b>748</b>                  | <b>348</b>       | <b>46.5</b> | <b>252</b> | <b>33.7</b> | <b>142</b>  | <b>19.1</b> | <b>6</b>     | <b>0.8</b> | <b>400</b>            | <b>53.5</b> |

Source: Anthropometric Survey. Meals for Millions, Applied Nutrition Program, Honduras, 1981.

\*Gomez classification, weight by age.

TABLE 21

Prevalence of malnutrition\* in children under five years of age  
by community, April 1982

| Community    | Total<br>Number<br>Children | Normal<br>Weight |             | Grade<br>I |             | Grade<br>II |            | Grade<br>III |            | Total<br>Malnourished |             |
|--------------|-----------------------------|------------------|-------------|------------|-------------|-------------|------------|--------------|------------|-----------------------|-------------|
|              |                             | No.              | %           | No.        | %           | No.         | %          | No.          | %          | No.                   | %           |
| Guayabillas  | 74                          | 28               | 37.8        | 29         | 39.2        | 16          | 21.6       | 1            | 1.4        | 46                    | 62.2        |
| Zopilotepe   | 165                         | 99               | 60.0        | 51         | 30.9        | 14          | 8.5        | 1            | 0.6        | 66                    | 40.0        |
| San Nicolás  | 198                         | 126              | 63.6        | 56         | 28.3        | 15          | 7.6        | 1            | 0.5        | 72                    | 36.4        |
| Las Llaves   | 82                          | 55               | 67.1        | 22         | 26.8        | 4           | 4.9        | 1            | 1.2        | 27                    | 32.9        |
| La Venta     | 99                          | 59               | 59.6        | 31         | 31.3        | 9           | 9.1        | 0            | 0          | 40                    | 40.4        |
| Las Parras   | 32                          | 17               | 53.1        | 13         | 40.6        | 2           | 6.3        | 0            | 0          | 15                    | 46.9        |
| Guacamayas   | 33                          | 22               | 66.7        | 10         | 30.3        | 1           | 3.0        | 0            | 0          | 11                    | 33.3        |
| El Tablón    | 22                          | 13               | 59.1        | 7          | 31.8        | 2           | 9.1        | 0            | 0          | 9                     | 40.9        |
| El Jobo      | 56                          | 24               | 42.9        | 18         | 32.1        | 10          | 17.9       | 4            | 7.1        | 32                    | 57.1        |
| <b>Total</b> | <b>761</b>                  | <b>443</b>       | <b>58.2</b> | <b>237</b> | <b>31.1</b> | <b>73</b>   | <b>9.6</b> | <b>8</b>     | <b>1.1</b> | <b>318</b>            | <b>41.8</b> |

Source: Anthropometric Survey. Meals for Millions, Applied Nutrition Program, Honduras, 1982.

\*Gomez classification, weight by age.

TABLE 22

Prevalence of malnutrition\* in children under five years of age  
by community, February 1983

| Community    | Total<br>Number<br>Children | Normal<br>Weight |             | Grade<br>I |             | Grade<br>II |            | Grade<br>III |            | Total<br>Malnourished |             |
|--------------|-----------------------------|------------------|-------------|------------|-------------|-------------|------------|--------------|------------|-----------------------|-------------|
|              |                             | No.              | %           | No.        | %           | No.         | %          | No.          | %          | No.                   | %           |
| Zopilotepe   | 183                         | 93               | 50.8        | 76         | 41.5        | 13          | 7.1        | 1            | 0.6        | 90                    | 49.2        |
| San Nicolás  | 171                         | 94               | 55.0        | 72         | 42.1        | 5           | 2.9        | 0            | 0          | 77                    | 45.0        |
| La Venta     | 100                         | 58               | 58.0        | 28         | 28.0        | 13          | 13.0       | 1            | 1.0        | 42                    | 42.0        |
| Las Llaves   | 82                          | 52               | 63.4        | 23         | 28.1        | 7           | 8.5        | 0            | 0          | 30                    | 36.6        |
| Guayabillas  | 78                          | 27               | 34.6        | 38         | 48.7        | 12          | 15.4       | 1            | 1.3        | 51                    | 65.4        |
| Guacamayas   | 33                          | 20               | 60.6        | 8          | 24.3        | 4           | 12.1       | 1            | 3.0        | 13                    | 39.4        |
| El Tablón    | 17                          | 7                | 41.2        | 10         | 58.8        | 0           | 0          | 0            | 0          | 10                    | 58.8        |
| Las Parras   | 32                          | 16               | 50.0        | 13         | 40.6        | 3           | 9.4        | 0            | 0          | 16                    | 50.0        |
| <b>Total</b> | <b>696</b>                  | <b>367</b>       | <b>52.7</b> | <b>268</b> | <b>38.5</b> | <b>57</b>   | <b>8.2</b> | <b>4</b>     | <b>0.6</b> | <b>329</b>            | <b>47.3</b> |

Source: Anthropometric survey. Meals for Millions, Applied Nutrition Program, Honduras, 1983.

\*Gomez classification, weight by age.

TABLE 23

Prevalence of second and third degree malnutrition\* in children  
under five years of age by community and year, 1978-1983

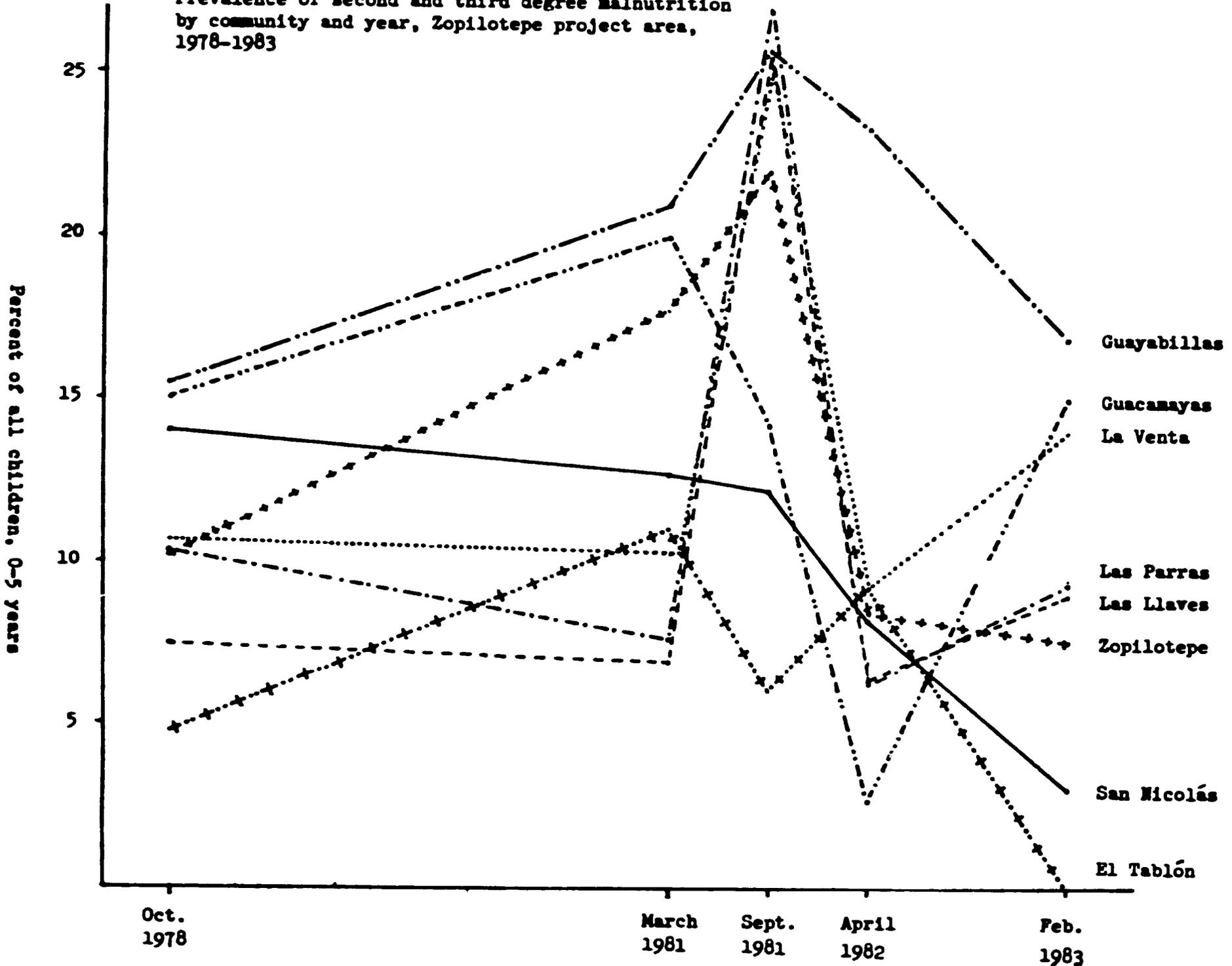
| Community    | 1978<br>(Oct.-Nov.) |             | 1981<br>(March) |             | 1981<br>(Sept.) |             | 1982<br>(April) |             | 1983<br>(Feb.) |            |
|--------------|---------------------|-------------|-----------------|-------------|-----------------|-------------|-----------------|-------------|----------------|------------|
|              | No.                 | %           | No.             | %           | No.             | %           | No.             | %           | No.            | %          |
| Guayabillas  | 13                  | 15.5        | 16              | 21.0        | 16              | 25.8        | 17              | 23.0        | 13             | 16.7       |
| Zopilotepe   | 17                  | 10.2        | 29              | 17.9        | 34              | 22.1        | 15              | 9.1         | 14             | 7.7        |
| San Nicolás  | 26                  | 14.0        | 26              | 12.9        | 26              | 12.4        | 16              | 8.1         | 5              | 2.9        |
| Las Llaves   | 6                   | 7.4         | 6               | 7.0         | 23              | 25.5        | 5               | 6.1         | 7              | 8.5        |
| La Venta     | 14                  | 10.7        | 13              | 10.2        | 26              | 25.2        | 9               | 9.1         | 14             | 14.0       |
| Las Parras   | 4                   | 10.2        | 2               | 7.7         | 7               | 26.9        | 2               | 6.3         | 3              | 9.4        |
| Guacamayas   | 6                   | 15.0        | 11              | 20.0        | 5               | 14.3        | 1               | 3.0         | 5              | 15.1       |
| El Tablón    | 1                   | 4.5         | 2               | 11.1        | 1               | 5.9         | 2               | 9.1         | 0              | 0          |
| El Jobo      | -                   | -           | 10              | 20.0        | 10              | 20.0        | 14              | 25.0        | -              | -          |
| <b>Total</b> | <b>87</b>           | <b>11.6</b> | <b>115</b>      | <b>14.3</b> | <b>148</b>      | <b>19.9</b> | <b>81</b>       | <b>10.7</b> | <b>61</b>      | <b>8.8</b> |

Source: Tables 18-22

\*Gomez classification, Grades II and III, weight by age.

Sample size: Oct. 1978 - 884 children  
March 1981 - 803 children  
Sept. 1981 - 748 children  
April 1982 - 761 children  
Feb. 1983 - 696 children

FIGURE 4  
 Prevalence of second and third degree malnutrition  
 by community and year, Zopilotepe project area,  
 1978-1983



Source: Table 23.

TABLE 24

Nutritional status\* of 100 children  
under two and one-half years of age  
in five communities by year, 1979-1982

| Year | Normal | Grade I | Grade II | Grade III | Total |
|------|--------|---------|----------|-----------|-------|
| 1979 | 64     | 26      | 10       | 0         | 100   |
| 1980 | 61     | 27      | 12       | 0         | 100   |
| 1981 | 75     | 19      | 5        | 1         | 100   |
| 1982 | 79     | 18      | 3        | 0         | 100   |

Source: Meals for Millions/Honduras internal analysis, 1983

\*Gomez classification, weight by age.

TABLE 25

Evolution of the nutritional status\* of 100 children under two and one-half years of age in five communities from 1979 to 1982

| Community    | IMPROVED               |                     | SAME            |                     | DECLINED          |                     |
|--------------|------------------------|---------------------|-----------------|---------------------|-------------------|---------------------|
|              | Malnourished to Normal | Grade II to Grade I | Remained Normal | Remained in Grade I | Normal to Grade I | Grade I to Grade II |
| Zopilotepe   | 1                      | 4                   | 22              | 7                   | -                 | -                   |
| San Nicolás  | 10                     | 3                   | 18              | 2                   | 2                 | -                   |
| La Venta     | 7                      | -                   | 6               | -                   | -                 | 1                   |
| Guayabillas  | 2                      | -                   | 6               | -                   | -                 | -                   |
| Las Parras   | 8                      | -                   | 4               | 1                   | 1                 | -                   |
| <b>Total</b> | <b>23</b>              | <b>7</b>            | <b>56</b>       | <b>10</b>           | <b>3</b>          | <b>1</b>            |

Source: Meals for Millions/Honduras internal analysis, 1983.

\*Gomez classification, weight by age.

TABLE 26

Reported child morbidity (0-5 years) at Zopilotepe rural health center  
by diagnosis and year, September 1978 - March 1983

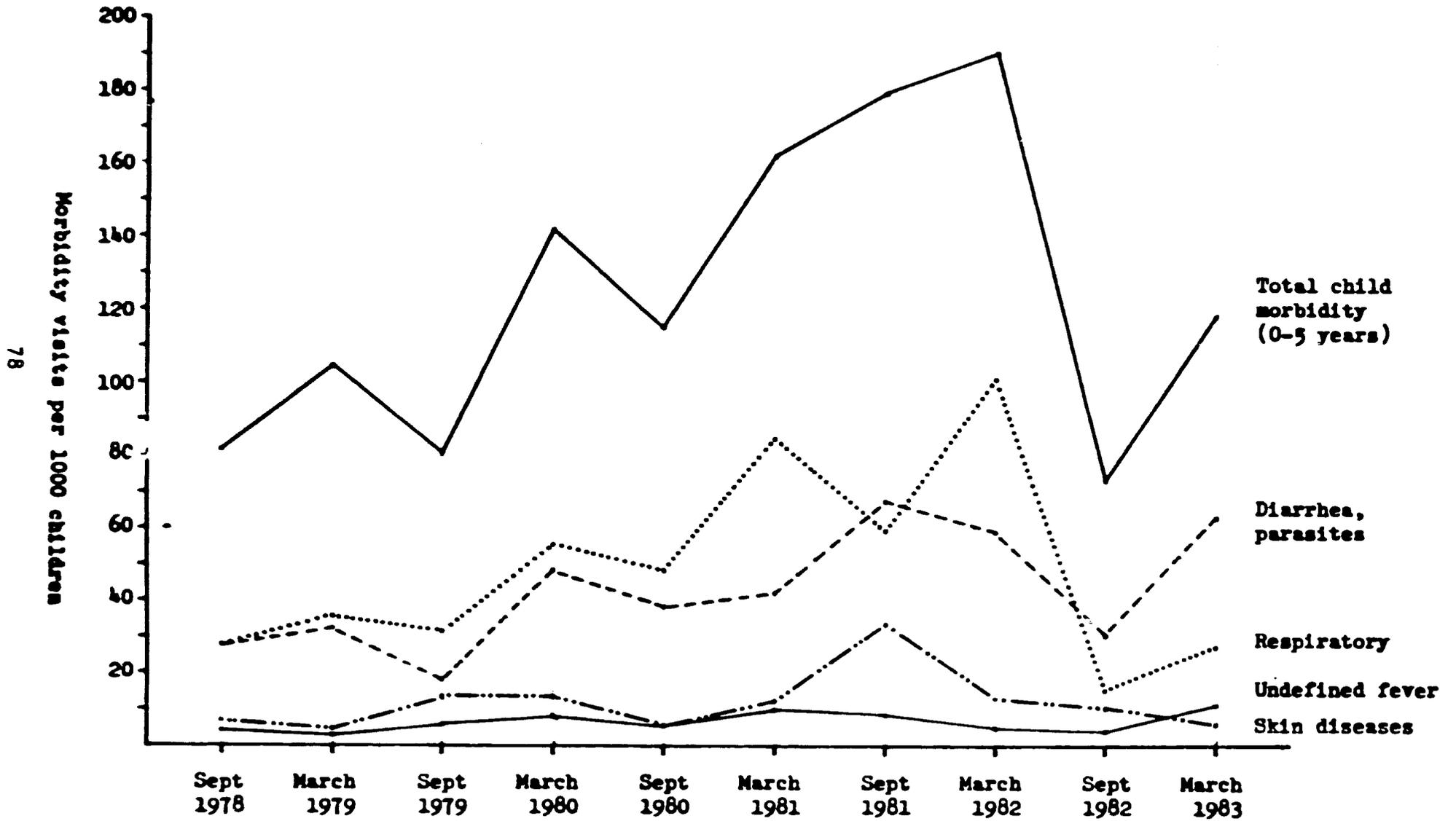
| Specific Morbidity             | Sept 1978 | March 1979 | Sept. 1979 | March 1980 | Sept. 1980 | March 1981 | Sept. 1981 | March 1982 | Sept. 1982 | March 1983 |
|--------------------------------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| <b>Clinic visits</b>           |           |            |            |            |            |            |            |            |            |            |
| Respiratory diseases           | 24        | 31         | 27         | 45         | 39         | 68         | 48         | 77         | 12         | 21         |
| Diarrhea, parasites            | 24        | 28         | 16         | 39         | 31         | 34         | 54         | 45         | 23         | 48         |
| Skin diseases                  | 6         | 4          | 12         | 11         | 5          | 10         | 27         | 10         | 8          | 5          |
| Undefined fever                | 4         | 3          | 5          | 7          | 5          | 8          | 7          | 4          | 3          | 8          |
| Mouth and throat               | 2         | 1          | 3          | 5          | 4          | 6          | 3          | 0          | 2          | 1          |
| Other and unknown              | 10        | 23         | 6          | 7          | 9          | 4          | 5          | 9          | 8          | 6          |
| Total visits                   | 70        | 90         | 69         | 114        | 93         | 130        | 144        | 145        | 56         | 89         |
| <b>Rates per 1000 children</b> |           |            |            |            |            |            |            |            |            |            |
| Respiratory diseases           | 28.0      | 36.1       | 31.5       | 56.0       | 48.6       | 84.7       | 59.8       | 101.2      | 15.8       | 27.9       |
| Diarrhea, parasites            | 28.0      | 32.6       | 18.6       | 48.6       | 38.6       | 42.3       | 67.2       | 59.1       | 30.2       | 63.8       |
| Skin diseases                  | 7.0       | 4.7        | 14.0       | 13.7       | 6.2        | 12.5       | 33.6       | 13.1       | 10.5       | 6.6        |
| Undefined fever                | 4.7       | 3.5        | 5.8        | 8.7        | 6.2        | 10.0       | 8.7        | 5.3        | 3.9        | 10.6       |
| Mouth and throat               | 2.3       | 1.2        | 3.5        | 6.2        | 5.0        | 7.5        | 3.7        | 0          | 2.6        | 1.3        |
| Other and unknown              | 11.6      | 26.8       | 7.0        | 8.8        | 11.2       | 4.9        | 6.3        | 11.8       | 10.6       | 8.2        |
| Total visits                   | 81.6      | 104.9      | 80.4       | 142.0      | 115.8      | 161.9      | 179.3      | 190.5      | 73.6       | 118.4      |

Source: Zopilotepe rural health center daily reporting forms.

\*Ailments diagnosed and recorded by auxiliary nurses. In most cases only one diagnosis is given.

FIGURE 5

Disease-specific child morbidity rates at Zopilotepe rural health center, September 1978 - March 1983



Source: Table 26.

TABLE 27

Relation of program activity coverage and other factors to impact on malnutrition, by community and specific activity/factor

| ACTIVITY/FACTOR                                    | San Nicolás | Zopilotepe | Las Llavas | Las Parras | El Tablón | La Venta | Guacamayas | Guayabillas | El Jobo |
|----------------------------------------------------|-------------|------------|------------|------------|-----------|----------|------------|-------------|---------|
| <u>Impact on malnutrition</u><br>1979/81 -1982/83) | Hi          | Hi         |            |            |           |          | Lo         | Lo          | Lo      |
| <u>Health and Nutrition</u>                        |             |            |            |            |           |          |            |             |         |
| Supplementary feeding (1981-82)                    | Hi          | Hi         | Lo         | Lo         |           | Lo       |            | Hi          |         |
| Latrine coverage (1981-83)                         |             |            |            | Hi         | Lo        | Lo       |            | Lo          |         |
| Water system (1981-82)                             | Hi          | Hi         | Hi         |            |           |          |            |             |         |
| Parasite campaign (1981)                           | Lo          | Lo         | Lo         | Lo         | Hi        |          | Hi         | Hi          |         |
| Growth/development control (1982-83)               | Lo          | Hi         |            | Hi         |           | Lo       |            | Hi          | Lo      |
| Health/nutrition education (1982-83)               | Hi          |            | Lo         | Lo         | Lo        |          |            |             |         |
| <u>Community Organization</u>                      |             |            |            |            |           |          |            |             |         |
| Women's groups (1981-83)                           | Lo          | Lo         |            | Hi         |           |          |            | Hi          | Hi      |
| Self-help projects (1981)                          | Hi          | Lo         | Hi         |            | Lo        |          | Hi         | Hi          |         |
| Patronatos (1983)                                  | Hi          | Lo         | Hi         | Lo         | Lo        |          |            |             | Hi      |
| <u>Agriculture</u>                                 |             |            |            |            |           |          |            |             |         |
| Gardens (1981-82)                                  | Lo          | Lo         |            | Hi         |           |          |            |             | Hi      |
| Poultry (1981)                                     | Lo          | Lo         | Hi         | Hi         | Lo        | Hi       | Lo         | Lo          | Lo      |
| Rabbits (1982)                                     |             |            | Lo         |            | Lo        | Hi       | Lo         |             | Lo      |
| Credits, silos, TA (1983)                          |             |            | Hi         | Hi         | Lo        | Lo       | Lo         | Lo          | Hi      |
| Small animal (1983)                                | Hi          |            | Hi         | Lo         | Lo        | Lo       | Lo         | Lo          | Lo      |
| <u>Other factors</u>                               |             |            |            |            |           |          |            |             |         |
| Proximity to CESAR                                 | Hi          | Hi         |            |            |           |          |            | Hi          | Lo      |
| Economy                                            | Hi          | Hi         |            |            |           | Hi       |            | Lo          | Lo      |
| Social cohesion                                    | Hi          |            |            |            | Lo        | Hi       |            | Lo          | Hi      |
| Population size                                    | Hi          | Hi         |            | Lo         | Lo        |          | Lo         |             | Lo      |

Source: Tables 8-14, 17, and 23; staff interviews

## APPENDIX B

### LIST OF PERSONS CONTACTED

#### Meals for Millions/Freedom from Hunger Foundation

|                         |                                             |
|-------------------------|---------------------------------------------|
| Richard A. Redder       | Vice President for Program                  |
| Louis Ziskind           | Regional Director, Latin America/Caribbean  |
| Maria Celeste Bustillos | Director, Nutrition Planning and Evaluation |
| Candace Martten         | Controller                                  |

#### Meals for Millions/Honduras

|                    |                                          |
|--------------------|------------------------------------------|
| Zoila Alvarez A.   | Program Director                         |
| Virginia Matos     | Nutritionist and Field Coordinator       |
| Alejandro Ramirez  | Agriculture Technician                   |
| Clemente Palacios  | Community Development Promoter           |
| Camila Elvir       | Health Promoter                          |
| Justo Puerto       | Agriculture Assistant (volunteer)        |
| Cornelio Peralta   | Driver                                   |
| Alicia Alvarez     | Secretary, Tegucigalpa (part time)       |
| Maura Villatoro    | Secretary, Juticalpa                     |
| Douglas B. Diaz    | Attorney (part time)                     |
| Hilda de Contreras | Former Program Director and Nutritionist |

#### Community Representatives

|                          |                                       |
|--------------------------|---------------------------------------|
| Transito Avila           | Women's Group Coordinator, Las Llaves |
| Rosa Turcios             | Teacher, Las Llaves                   |
| Maria Eustaquia de Ponce | Teacher, Las Llaves                   |
| Ortilio Claros           | Vice President, Patronato, Zopilotepe |
| Froilan Turcios          | Treasurer, Patronato, Zopilotepe      |
| Salatiel Osorio          | Secretary, Patronato, Zopilotepe      |
| Victor Mejia             | Farmer (silo beneficiary), Las Parras |
| Elida de Mejia           | Women's Group Coordinator, Las Parras |

#### Ministry of Public Health

|                                |                                      |
|--------------------------------|--------------------------------------|
| Gustavo Corrales S., M.D.      | Director General of Health           |
| Moises Sanchez                 | Chief, Division of Nursing           |
| Carlton Sierra Andina, M.D.    | Director, Health Region No. 7        |
| Ubence Calix L., M.D.          | Former Director, Health Region No. 7 |
| Sonia Azucena Rodriguez Romero | Regional Nurse Supervisor, Region 7  |
| Brigelda Murillo               | Nutrition Auxiliary, Region 7        |
| Blanca Dolores Ortega          | Statistical Auxiliary, Region 7      |
| Dilcia M. Peralta de Lobo      | Auxiliary Nurse, CESAR Zopilotepe    |

USAID Mission to Honduras

Ronald Witherell  
Tom Park

Chief, Human Resources Division  
Human Resources/Health

## APPENDIX C

### BIBLIOGRAPHY

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\_\_\_\_\_. First annual report to the Agency for International Development, matching grant No. PDC-0206-G-SS-2045-00, January 17, 1983.

\_\_\_\_\_. Resumen de actividades realizadas durante el mes de mayo de 1983.

## APPENDIX D

### LOGICAL FRAMEWORKS AND OPERATIONAL PLAN

1. Project Design Summary, Logical Framework, Matching Grant Proposal, 1982-1984.
2. Country Program Logical Framework, MFM/Honduras, 1982-1984.
3. Logical Framework (in Spanish) MFM/Honduras, 1983.
4. Operational Plan (in Spanish), MFM/Honduras, 1983.

PROJECT DESIGN SUMMARY  
LOGICAL FRAMEWORK

| IMMEDIATE OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | OBJECTIVE, VERIFIABLE INDICATORS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | MEANS OF VERIFICATION                                                                                                                                             | IMPORTANT ASSUMPTIONS                                                                                                                                                                                                                                                                                                                                                                          |      |      |                      |        |        |        |                  |     |     |     |                         |     |       |       |              |              |              |              |                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                       |
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----------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Program Goal:</b></p> <p>TO STRENGTHEN THE CAPABILITIES OF DEVELOPING COMMUNITIES TO SOLVE THEIR OWN FOOD AND NUTRITION PROBLEMS.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <p>Resources of local achievement:</p> <p>IMPROVED NUTRITIONAL STATUS</p> <p>INCREASED PARTICIPATION OF COMMUNITIES IN IDENTIFYING THEIR FOOD AND NUTRITIONAL PROBLEMS AND DEVELOPING SOLUTIONS TO THEM</p> <p>INCREASED SELF-SUFFICIENCY IN FOOD AND NUTRITION</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <p>CASE STUDIES OF INTERNATIONAL AGENCIES</p> <p>GOVERNMENT STATISTICS</p> <p>CEUSIS REPORTS</p> <p>COMMUNITY MEDICAL REPORTS</p> <p>HEALTH/NUTRITION SURVEYS</p> | <p>Assumptions for achieving goal targets</p> <p>POLITICAL SITUATION IN COUNTRIES REMAINS VISIBLE</p> <p>NO MAJOR CIVIL CONFLICTS IN PROGRAM AREA</p> <p>CLIMATIC CONDITIONS DO NOT CHANGE RADICALLY</p> <p>NO DRAMATIC CHANGE IN POPULATION DENSITY</p>                                                                                                                                       |      |      |                      |        |        |        |                  |     |     |     |                         |     |       |       |              |              |              |              |                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                       |
| <p><b>Program Purpose:</b></p> <p>TO DEVELOP, IMPLEMENT AND SUPPORT APPLIED NUTRITION PROGRAMS THAT PROVIDE PEOPLE IN SELECTED RURAL DEVELOPING COMMUNITIES WITH THE TECHNICAL, MATERIAL AND EDUCATIONAL ASSISTANCE THEY NEED TO ORGANIZE THEMSELVES AND DEVELOP THEIR CAPABILITIES TO USE THE RESOURCES AROUND THEM TO SOLVE THEIR OWN FOOD AND NUTRITION PROBLEMS.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <p>Conditions that will indicate purpose has been achieved: End of project status:</p> <p>LOCAL INSTITUTIONS AND GROUPS IN TARGET COUNTRIES SUPPORT AND ADOPT (INSTITUTIONALIZED) APM/FPN APPROACH TO ASSISTING DEVELOPING GROUPS WITHIN 3-6 YEARS</p> <p>APPLIED NUTRITION PROJECTS WILL BE SELF-SUSTAINING AFTER PILOT IMPLEMENTATION - 3-6 YEARS</p> <p>LOCAL GROUPS ARE PARTICIPATING IN PROJECT EVALUATIONS</p> <p>AT LEAST 5 APPLIED NUTRITION PROJECTS EXIST AFTER 3 YEARS THAT SHOW A DEMONSTRABLE POSITIVE EFFECT ON THE NUTRITIONAL STATUS OF THE TARGET GROUPS INVOLVED</p> <p>COMMUNITY LEVEL WORKERS IN PROJECT AREAS ARE TRAINED AND COMPETENT TO DESIGN AND IMPLEMENT FOOD AND NUTRITION PROJECTS</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <p>PROJECT REPORTS</p> <p>ON-SITE VISITS AND SURVEYS</p> <p>EVALUATION REPORTS</p> <p>PLANNING DOCUMENTS</p>                                                      | <p>Assumptions for achieving purpose</p> <p>FOOD AND NUTRITION PROBLEMS CAN BE DEALT SUCCESSFULLY BY COMMUNITY GROUPS</p> <p>COMMUNITIES ARE WILLING TO COOPERATE AND WORK TOGETHER</p> <p>LOCAL GOVERNMENTS ALLOW DEVELOPMENT INITIATIVES AT COMMUNITY LEVEL</p> <p>QUALIFIED LEADERS EXIST IN DEVELOPING COMMUNITIES</p> <p>PARTICIPATION OF COMMUNITY GROUPS IS NOT NECESSARILY PASSIVE</p> |      |      |                      |        |        |        |                  |     |     |     |                         |     |       |       |              |              |              |              |                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                       |
| <p><b>Labels:</b></p> <p><b>APPLIED NUTRITION PROGRAMS (ANPs)</b></p> <ul style="list-style-type: none"> <li>- Baseline surveys for new ANPs</li> <li>- Needs assessments of target groups</li> <li>- Nutrition education projects</li> <li>- Small development projects</li> <li>- On-going ANPs expanded</li> </ul> <p><b>FOOD AND NUTRITION TRAINING</b></p> <ul style="list-style-type: none"> <li>- Training courses for community workers in ANPs</li> <li>- Follow-up training</li> <li>- Training manual development</li> </ul> <p><b>FOOD TECHNOLOGY TRAINING PROJECTS</b></p> <ul style="list-style-type: none"> <li>- Appropriate food technologies identified, evaluated, and tested for target groups</li> <li>- Technical assistance provided to ANP target groups and institutions in program areas</li> <li>- Documentation of appropriate food technologies</li> </ul> <p><b>SCIENCE CENTER ACTIVITIES SUPPORT</b></p> <ul style="list-style-type: none"> <li>- Dissemination of program information</li> <li>- Publication of program case studies</li> <li>- Publication of newsletters</li> <li>- Publication of technical bulletins</li> <li>- Publication of training manual</li> </ul> | <p><b>Measures of Success:</b></p> <p><b>APPLIED NUTRITION PROGRAMS</b></p> <ul style="list-style-type: none"> <li>- Baseline surveys completed for three new ANPs</li> <li>- One needs assessment completed in ANP target groups year one, and two completed in years two and three</li> <li>- At least two major nutrition education projects are designed and implemented during course years</li> <li>- 35-40 small-scale development projects in food production are implemented</li> <li>- On-going ANPs in 10-15 and resources are expanded to include 10% of the villages in program target area</li> </ul> <p><b>TRAINING</b></p> <ul style="list-style-type: none"> <li>- A minimum of 10 training courses for community workers are designed and implemented</li> </ul> <table border="1" data-bbox="638 939 877 1026"> <thead> <tr> <th></th> <th colspan="3">No. of Training Courses</th> </tr> <tr> <th></th> <th>Year 1</th> <th>Year 2</th> <th>Year 3</th> </tr> </thead> <tbody> <tr> <td>Africa</td> <td>1-2</td> <td>2</td> <td>1-2</td> </tr> <tr> <td>Latin America/Caribbean</td> <td>1-2</td> <td>2</td> <td>1-2</td> </tr> <tr> <td>Asia/Pacific</td> <td>2</td> <td>1</td> <td>1-2</td> </tr> </tbody> </table> <ul style="list-style-type: none"> <li>- 80% of participants successfully completing training courses</li> <li>- 80% of participants in training courses later working formally in developing nutrition-related development projects</li> <li>- 80% nutrition related projects implemented as a result of skills learned in training</li> </ul> <p><b>FOOD TECHNOLOGY TRAINING</b></p> <ul style="list-style-type: none"> <li>- A minimum of 10-15 different appropriate food technologies are successfully being utilized by developing groups in the target area by the end of 3 years</li> <li>- 3 new appropriate food technologies are identified, tested and adopted during 3 years</li> <li>- Number of households for short-term technical assistance increased to satisfactorily increased from 10 to 20 per year</li> </ul> <p><b>SCIENCE CENTER</b></p> <ul style="list-style-type: none"> <li>- Number of pamphlets required for dissemination of appropriate food technology to ANPs/FPNs is able to respond increased from 100 to 200</li> <li>- Case study dissemination and replication of Extension resources and home programs</li> <li>- Evaluation on food and nutrition published (2 open year)</li> <li>- Technical bulletins on appropriate food technologies (2-4 open year)</li> <li>- Training manual "how to" published</li> </ul> |                                                                                                                                                                   | No. of Training Courses                                                                                                                                                                                                                                                                                                                                                                        |      |      |                      | Year 1 | Year 2 | Year 3 | Africa           | 1-2 | 2   | 1-2 | Latin America/Caribbean | 1-2 | 2     | 1-2   | Asia/Pacific | 2            | 1            | 1-2          | <p>BASILINE SURVEY REPORTS</p> <p>PROJECT REPORTS</p> <p>REPORTS ON TRAINING COURSES AND WORKSHOPS</p> <p>MONTHLY PROGRAM ACTIVITIES REPORTS</p> <p>FIELD TRIP/ON-SITE VISITS</p> <p>EVALUATION REPORTS</p> <p>TECHNICAL DOCUMENTS WRITTEN AND PUBLISHED</p> <p>RESOURCE CENTER DOCUMENTATION</p> <p>PUBLICATIONS</p> <p>MONTHLY PROGRAM REVIEWS</p> <p>CASE STUDIES IN EXISTENCE</p> | <p>Assumptions for achieving success:</p> <p>TRAINING, FOOD TECHNOLOGY AND ANPs ARE RELEVANT, EFFECTIVE AND CULTURALLY APPROPRIATE</p> <p>PARTICIPANTS SELECTED FOR TRAINING REMAIN POSITIONED IN AREAS WHERE THEY COULD IMPLEMENT AND EFFECT CHANGE</p> <p>COOPERATION OF LOCAL AGENCIES IS POSSIBLE</p>                             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | No. of Training Courses                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         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                                                                                                                                   |
| <p><b>Inputs:</b></p> <p><b>FUNDS FOR TRAINING AND EDUCATIONAL PURPOSES</b></p> <p><b>FUNDS FOR LOCAL AND INTERNATIONAL TRAVEL</b></p> <p><b>FUNDS FOR PROJECT SUPPORT</b></p> <p><b>LOCAL PARTICIPATION</b></p> <p><b>PERSONNEL:</b></p> <p><b>PERSONNEL MANAGEMENT STAFF</b></p> <ul style="list-style-type: none"> <li>- Program Director</li> <li>- Associate Program Director</li> <li>- Regional Director Office</li> <li>- Regional Director Asia</li> <li>- Regional Director Latin America/Caribbean</li> </ul> <p><b>TECHNICAL STAFF</b></p> <ul style="list-style-type: none"> <li>- Director of Training</li> <li>- Nutritionist</li> <li>- Director of Food Technology</li> <li>- Food Technology Specialist</li> <li>- Director of Resource Center</li> <li>- Information Specialist</li> <li>- Program Assistant</li> </ul> <p><b>MATERIALS STAFF</b></p> <p><b>PROJECT FIELD STAFF</b></p>                                                                                                                                                                                                                                                                                                    | <p>Implementation Target (Budget - \$000)</p> <table border="1" data-bbox="638 1474 877 1594"> <thead> <tr> <th></th> <th>1980</th> <th>1981</th> <th>1982</th> </tr> </thead> <tbody> <tr> <td>A.I.S. MATCHED GRANT</td> <td>200</td> <td>200</td> <td>200</td> </tr> <tr> <td>FPNS DEVELOPMENT</td> <td>100</td> <td>175</td> <td>275</td> </tr> <tr> <td>AM/FPNs</td> <td>910</td> <td>1,117</td> <td>1,272</td> </tr> <tr> <td><b>TOTAL</b></td> <td><b>1,200</b></td> <td><b>1,492</b></td> <td><b>1,747</b></td> </tr> </tbody> </table>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                   | 1980                                                                                                                                                                                                                                                                                                                                                                                           | 1981 | 1982 | A.I.S. MATCHED GRANT | 200    | 200    | 200    | FPNS DEVELOPMENT | 100 | 175 | 275 | AM/FPNs                 | 910 | 1,117 | 1,272 | <b>TOTAL</b> | <b>1,200</b> | <b>1,492</b> | <b>1,747</b> | <p>FINANCIAL REPORTS</p> <p>FIELD OFFICE REPORTS</p> <p>ANNUAL AUDIT</p> <p>PERSONNEL REPORTS</p>                                                                                                                                                                                                                                                                                     | <p>Assumptions for providing inputs:</p> <p>FUNDS ARE AVAILABLE WHEN NEEDED</p> <p>QUALIFIED PERSONNEL AVAILABLE AS PROGRAM IS HELD SHIFT IN INFLATION OR OTHER ECONOMICS</p> <p>ADEQUATE COORDINATION OF PERSONNEL AND ACTIVITIES IS MAINTAINED</p> <p>BUDGET LEVEL PROPOSED IS ADEQUATE TO MEET ALL ACTIVITIES AND CAPABILITIES</p> |
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| FPNS DEVELOPMENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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| <b>TOTAL</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           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Logical Framework

HONDURAS, 1982 - 1984

| GOAL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | INDICATORS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | MEANS OF VERIFICATION                                                                                                                                                                                                                              | ASSUMPTIONS                                                                                                                                                                                                                                                                                                                                                                                                                      |
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| To reduce the incidence of malnutrition of the most vulnerable groups in the pilot project area and to strengthen the capabilities of rural communities and local health delivery systems.                                                                                                                                                                                                                                                                                                                         | <ul style="list-style-type: none"> <li>-Decrease in mortality and morbidity among 0-5 year old group</li> <li>-Increased nutritional status among 0-5 year old group</li> <li>-Improved nutritional status of pregnant and lactating mothers</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                       | <ul style="list-style-type: none"> <li>-Weight/Height measurements</li> <li>-Health center records</li> </ul>                                                                                                                                      | <ul style="list-style-type: none"> <li>People will improve diet by consuming locally produced nutritious foods.</li> </ul>                                                                                                                                                                                                                                                                                                       |
| PURPOSE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Organize and train communities to implement self-help projects in agriculture and animal husbandry, and to participate in health and nutrition programs.                                                                                                                                                                                                                                                                                                                                                           | <ul style="list-style-type: none"> <li>-At least 8 communities have been organized</li> <li>-Self-help projects in agriculture have increased by 50%</li> <li>-All pregnant and lactating mothers and 0-5 year old children are participating in nutrition and health programs</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>-Records</li> <li>-Surveys</li> <li>-Observations</li> </ul>                                                                                                                                                | <ul style="list-style-type: none"> <li>-Climate remains stable</li> <li>-Communities are willing to cooperate</li> <li>-Political stability</li> </ul>                                                                                                                                                                                                                                                                           |
| OUTPUTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <ul style="list-style-type: none"> <li>Coordination of development activities in conjunction with the coordinating committee</li> <li>Clinical control of 0-5 years old and pregnant women</li> <li>Nutrition and Health Education to mothers with 2nd and 3rd<sup>o</sup> malnourished children</li> <li>Training Program in management and administration of groups and projects</li> <li>Training Program in small-scale agriculture</li> <li>Implementation of self-help/income generating projects</li> </ul> | <ul style="list-style-type: none"> <li>-Periodic meetings of committee</li> <li>-Field staff are implementing committee work plans</li> <li>-350-400 children are periodically weighed and measured</li> <li>-Approximately 100 mothers are participating in Nutrition/Health program</li> <li>-2nd and 3rd degree malnourished children improve to normal status and remain at normal</li> <li>-10 groups have successfully completed training programs in management and administration</li> <li>-At least 2 people from each village have been trained in agricultural techniques</li> <li>-Fish ponds</li> <li>-Community and family gardens</li> <li>-Small animal production</li> </ul> | <ul style="list-style-type: none"> <li>-Records of organized groups</li> <li>-Surveys</li> <li>-Observations</li> <li>-Reporting forms</li> <li>-Data collections</li> <li>-Monthly activity reports</li> <li>-Training program reports</li> </ul> | <ul style="list-style-type: none"> <li>-Committee remains active</li> <li>-People are willing to cooperate</li> <li>-Technical personnel are available</li> <li>-Members of committee carry out their respective responsibilities</li> <li>-Material and equipment are available on a timely basis</li> <li>-Trained personnel return to work with their communities</li> <li>-Technical assistance is made available</li> </ul> |
| INPUTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <ul style="list-style-type: none"> <li>Personnel (6 MFM/FFH Staff)</li> <li>Materials/Equipment - MFM/FFH (seeds, fertilizers, tools, etc.)</li> <li>Community Inputs (labor and local materials)</li> <li>Vehicles (2)</li> <li>GOH Inputs (MOA, INFOP, MOH Personnel)</li> <li>Irrigation</li> <li>Land</li> </ul>                                                                                                                                                                                               | <ul style="list-style-type: none"> <li>1982: \$132,000</li> <li>1983: \$146,520</li> <li>1984: \$162,637</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <ul style="list-style-type: none"> <li>-Records</li> <li>-Reporting forms</li> <li>-Observation</li> <li>-Data collection</li> <li>-Financial reports</li> </ul>                                                                                   | <ul style="list-style-type: none"> <li>-Funds are available as required</li> <li>-M/E at project site when needed</li> <li>-GOH continues to provide personnel input</li> <li>-Unanticipated expenditures are minimal</li> </ul>                                                                                                                                                                                                 |

**MARCO LÓGICO**  
**MURUMBAS 1983**  
**REALS FOR MILLIONS FUNDATION**

| META                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | INDICADORES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | MEDIOS DE VERIFICACION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | SUPUESTOS                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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| <p>Disminuir el índice de desnutrición en el área de influencia del CESAR de Zapitotepa y fortalecer la capacidad de las comunidades rurales.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <p>1. Mantener las expectativas de vida de los niños menores de 5 años.<br/>2. Incrementar las mejoras en el estado nutricional de la población menor de 5 años.<br/>3. Mejorar el estado nutricional de las embarazadas y lactantes.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <p>1. Toma de peso y talla.<br/>2. Recuerdos del Centro de Salud.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <p>Que las familias mejoren su dieta, produciendo y consumiendo alimentos más nutritivos.</p>                                                                                                                                                                                                                                                                                                                                               |
| <b>Objetivo fundamental (Purpose)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <p>Organizar y capacitar los miembros de las comunidades para la implementación de proyectos comunitarios mediante la ayuda mutua, en las áreas de agropecuaria y mejoras de la vivienda y para participar en los programas de Nutrición y Salud.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <p>1. Mantener grupos organizados en 9 comunidades.<br/>2. Incrementar los proyectos de agropecuaria en un 60%.<br/>3. Todas las embarazadas y las madres lactantes además de las madres de los niños menores de 5 años participan en el Programa de Nutrición y Salud.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <p>- Informes del Programa.<br/>- Encuestas.<br/>- Observaciones.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <p>Que las condiciones del clima sean favorables.<br/>Que las comunidades estén en disposición de cooperar.<br/>Que la situación política en el país se mantenga estable.</p>                                                                                                                                                                                                                                                               |
| <b>Objetivos antepuestos</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <p>1. Mantener las actividades de coordinación a nivel interagencial y comunitario.<br/><br/>2. Mantener el control materno infantil (embarazadas, lactantes y menores de 5 años).<br/><br/>3. a) Educar en Salud y Nutrición a las madres de niños desnutridos en control en el Centro de Salud y en la comunidad, así como al personal voluntario.<br/><br/>b) Desarrollar como parte del Programa Educativo, actividades prácticas para el mejoramiento del hogar, el ambiente y por ende el problema nutricional.<br/><br/>c) Capacitar en destrezas manuales así como en otras actividades que contribuyan al mejoramiento del hogar y que posteriormente se puedan desarrollar en pequeñas empresas generadoras de ingresos.<br/><br/>4. Educar y organizar las comunidades a fin de que logren alcanzar los conocimientos necesarios para la participación en la solución de las necesidades relacionadas al problema nutricional.<br/><br/>5. a) Desarrollar un Programa de capacitación agropecuaria a nivel del Centro de Capacitación.<br/>b) Brindar servicios de extensión agrícola comunal para el desarrollo de proyectos.<br/><br/>6. Capacitar los grupos comunales para la implementación, administración y manejo de proyectos que generen ingresos, medios de la ayuda mutua.</p> | <p>- Reuniones periódicas a nivel de los supervisores del personal de campo de área.<br/><br/>1. Planificación conjunta mensual del personal de campo para el desarrollo de las actividades.<br/>Tomar medidas entre paréntesis de 350 a 400 niñas mensualmente.<br/>Realizar un censo entre paréntesis poblacional.<br/>Realizar 13 reuniones mensuales con los grupos de madres en control.<br/>300 madres participan en el programa de Nutrición y Salud.<br/>Todos los niños de 2° y 3° grado de desnutrición mejoran y mantienen su estado normal.<br/>100 niños desnutridos en 1° grado mejoran y mantienen su estado nutricional.<br/>14 miembros del personal voluntario de la comunidad reciben capacitación continua en el programa de Salud.<br/>Realización de 250 talleres incluyendo chiqueros, chineros, concalcos, mejoras de piso y estufas.<br/>16 miembros de la comunidad se capacitan en curso de Nutrición y Salud a nivel del Centro de Capacitación.<br/>1 Centro taller en área de proyecto piloto P.N.A. para desarrollo de:<br/>- Proyecto alfarería.<br/>- Proyecto de tejidos de fibra.<br/>- Proyecto producción alios y otros de hojalata.<br/><br/>9 comunidades del área reciben la capacitación continua sobre organización y desarrollo comunal.<br/><br/>- Capacitación de 10 líderes comunales.<br/>- Seguimiento proyecto frutas con 1,000 plantas disponibles en cítricos, mango y aguacates.<br/>1. Proyecto de cerdos con 10 familias beneficiarias inicialmente.<br/>Seguimiento proyecto de conejos con 20 familias beneficiarias.<br/>10 proyectos de agricultura con fardo rotatorio.<br/>50 huertos familiares.<br/>Proyecto piloto piña con 1,500 plantas disponibles.<br/>1 estanque de peces.<br/><br/>1 capacitación por grupo y por proyecto a desarrollar en las 9 comunidades.</p> | <p>- Informes sobre los acuerdos tomados con los supervisores.<br/>- Informes de la planificación conjunta y logros obtenidos.<br/>- Recuerdos de los niños.<br/>- Informes mensuales de la asistencia a la clínica.<br/><br/>- Observaciones<br/><br/>Informes mensuales<br/>Encuestas.<br/>- Informes del programa de entrenamiento<br/><br/>Informe y observación de los talleres realizados.<br/><br/>Informe y observación de la actividad realizada.<br/><br/>Observación e informes de la actividad y los proyectos realizados.</p> | <p>Que los supervisores apoyen la organización y planificación del personal de campo.<br/>Que las madres asistan al Centro de Salud con sus niños.<br/>Disponibilidad del personal técnico.<br/>-Que haya material y equipo disponible y a tiempo.<br/>-Que el personal capacitado trabaje en sus comunidades.<br/>-Que los miembros de la comunidad cumplan sus responsabilidades.<br/><br/>Que todas las plantas se desarrollen bien.</p> |

| O B J E T I V O S                                                                                                                                                                                   | ACTIVIDADES CONTEMPLADAS                                                                                                                                                                                                                                                                                                                                                                               | FECHA                                                                                                                    | INDICADORES                                                                                                                                                                                                        | VERIFICACION                                                                             | SUPUESTO                                                                                                                                                                                                                      |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1) Mantener las actividades de coordinación a nivel interagencial y comunitario                                                                                                                     | 1- Reunión de Supervisores de Personal de campo<br>2- Planificación conjunta mensual de Personal de Campo<br>3- Grabación de un programa radial D.A.R.N.O.<br>4- Cursos de Capacitación para el Desarrollo Comunitario<br>5- Seminarios a Nivel Nacional                                                                                                                                               | 24/1/83<br>4/3/83<br>24/1/83<br>4/1/83 en adelante                                                                       | 1 Reunión<br>1 Plan Mensual<br>4 Programas Mensuales<br>12 Cursos                                                                                                                                                  | Informe de la reunión<br>Informe de la Planificación<br>Informe de los cursos realizados | Que asistiera la reunión<br>Que todos los Promotores participaran en la planificación                                                                                                                                         |
| 2) Mantener el control Materno Infantil (embarazadas, lactantes y menores de 5 años)                                                                                                                | 1- Realizar un censo Antropométrico poblacional:<br>a) Detectar embarazadas<br>b) Detectar Niños desnutridos                                                                                                                                                                                                                                                                                           | 13 al 28/2/83                                                                                                            | 1 Censo en 9 Comunidades                                                                                                                                                                                           | Informe del Censo                                                                        |                                                                                                                                                                                                                               |
| 3) Educar en Salud y Nutrición a las Madres de Niños desnutridos en control en el Centro de Salud y en la Comunidad así como al Personal Voluntario                                                 | 1- Reuniones mensuales<br>2- Distribución del Suplemento Alimenticio CARE<br>3- Pesarse y medir los niños en control en el Centro<br>4- Capacitar Personal Voluntario de la Comunidad<br>5 Visitas domiciliarias                                                                                                                                                                                       | Todo el año<br>Todo el año<br>Todo el año<br>Todo el año<br>Marzo-Nov.                                                   | 12 Reuniones mensuales<br>307 Madres participan<br>Todas las embarazadas, lactantes y niños desnutridos en control<br>350 a 400 niños pesados mensualmente<br>14 Miembros<br>200 Visitas                           | Informes mensuales de las Reuniones<br>Informes de CARE<br>Informe de la Actividad       | Que las Madres asistan a las reuniones al Centro de Salud<br>Que haya alimentos disponibles en el Centro<br>Que el personal voluntario esté disponible para trabajar en la comunidad<br>Que haya equipo y material disponible |
| b) Desarrollar como parte del Programa Educativo actividades prácticas para el mejoramiento del hogar, el ambiente y por ende el estado nutricional.                                                | 1- Seguimiento actividad de talleres<br>a) Chiferos<br>b) Chimeros<br>c) Canceles<br>d) Mejoras del piso<br>e) Estufas<br>2- Capacitar en salud y nutrición líderes comunitarios.                                                                                                                                                                                                                      | Todo el año<br>Marzo-Nov.                                                                                                | 250 talleres<br>16 Miembros                                                                                                                                                                                        | Informe y observación de la actividad                                                    |                                                                                                                                                                                                                               |
| c) Capacitar en destrezas manuales así como en otras actividades que contribuyan al mejoramiento del hogar y que posteriormente se puedan desarrollar en pequeñas empresas generadoras de ingresos. | Centro Taller en área de Proyecto piloto P.N.A. para desarrollo de:<br>- Proyecto Alfarería<br>- Proyecto de Tejidos de Fibra<br>- Proyecto producción alitas y helajata<br>- Proyecto -Bio Gas                                                                                                                                                                                                        | Marzo-Nov.                                                                                                               | 11 personas se capacitan                                                                                                                                                                                           | Observación e Informe de la actividad                                                    |                                                                                                                                                                                                                               |
| 4) Educar y organizar las comunidades a fin de que logren alcanzar los conocimientos necesarios para la participación en la solución a sus necesidades relacionadas al problema nutricional.        | 1- Reuniones con las Madres beneficiarias del programa para organizarlas.<br>2- Reunión con los Padres de familia para integrarlas<br>3- Reuniones con los patronatos comunales<br>4- Reuniones con los grupos juveniles para iniciarlos en el desarrollo y participación de las actividades<br>5- Visitas domiciliarias en las casas más remotas<br>6- Cursos de capacitación en roles parlamentarios | Enero-Dic.                                                                                                               | 15 reuniones mensuales<br>1 curso por grupo por comunidad                                                                                                                                                          | Informe de la actividad                                                                  | Que las Madres asistan a las reuniones                                                                                                                                                                                        |
| 5) Desarrollar un programa de capacitación agrario-cuarta a nivel del desarrollo de capacitación                                                                                                    | Capacitación de líderes agrícolas comunitarios en:<br>a) Cultivo hortícolas<br>b) Construcción de acequias<br>c) Construcción de abaneros oronéticos<br>d) Cría de lambricos                                                                                                                                                                                                                           | Marzo-Dic.                                                                                                               | 10 Líderes                                                                                                                                                                                                         | Observación e Informe de la actividad                                                    | Que haya personas interesadas en la capacitación                                                                                                                                                                              |
| b) Brindar servicios de extensión agrícola comunal para el desarrollo de proyectos.                                                                                                                 | 1- Seguimiento proyecto frutales<br>2- Proyecto cría y manejo de cerdas<br>3- Seguimiento proyecto conejo<br>4- Proyecto avos<br>5- Proyectos agrícolas con fondos rotatorios<br>6- Huertos familiares<br>7- Proyecto Piloto PIRAS<br>8- Estanques para Peces<br>9- Introducción de nuevas variedades en especies                                                                                      | Agosto-83<br>Abril-83<br>Todo el año<br>Abril-83<br>Todo el año<br>Marzo-Dic.<br>Abril-Dic.<br>Abril-Junio<br>Septiembre | 1,000 plantas<br>1 proyecto para beneficiar inicialmente 10 familias<br>20 familias beneficiarias<br>10 familias inicialmente<br>10 proyectos<br>50 Huertos familias<br>1,500 plantas hijas de PIRAS<br>1 estanque |                                                                                          |                                                                                                                                                                                                                               |
| 6) Capacitar los grupos comunales para la implementación, administración y manejo de proyectos que generen en ingresos, mediante la ayuda mutua.                                                    | Brindar capacitación por grupo y por proyecto a desarrollar en cada comunidad                                                                                                                                                                                                                                                                                                                          | Marzo-Abril                                                                                                              | Capacitación de todos los grupos envueltos en proyectos                                                                                                                                                            |                                                                                          |                                                                                                                                                                                                                               |
| 7) Capacitar al personal del P.N.A. con aquellos cursos que les permitan una mejor función dentro de los servicios al programa                                                                      | -Curso sobre el manejo de granos<br>-Curso sobre conservación de suelos<br>-Curso sobre secado de alimentos<br>-Taller sobre Desarrollo Comunal                                                                                                                                                                                                                                                        | Enero-83<br>Enero-83<br>Marzo-Abril<br>Marzo                                                                             | 1 Curso<br>1 Curso<br>1 curso<br>1 Curso                                                                                                                                                                           |                                                                                          |                                                                                                                                                                                                                               |
| 8) Evaluar y dar seguimiento a las actividades del P.N.A.                                                                                                                                           | -Revisión y evaluación de actividades y personal<br>-Revisión y ampliación de los objetivos del plan de actividades mensual y anual<br>-Completación de curso teórico<br>-Búsqueda de posibles recursos para capacitación de personal comunitario<br>-Curso Alfarería -Curso fibras<br>-Búsqueda de nuevas variedades en cultivos de especies para el área                                             | Enero-Dic.                                                                                                               |                                                                                                                                                                                                                    |                                                                                          |                                                                                                                                                                                                                               |

## APPENDIX E

### EDUCATIONAL PROGRAM OUTLINES (Translated from MFM/FFH documents in Spanish, 1981)

#### Curriculum for Women's Groups

1. Malnutrition
  - a. What is malnutrition?
  - b. Causes and effects
  - c. What should we do?
2. Detection of a malnourished child
  - a. Monitoring growth
  - b. Reasons
  - c. Growth in relation to weight, age, and health
  - d. Growth and development as a measure of health
3. Hygiene<sup>1</sup>
  - a. Personal
  - b. Food
  - c. Environment
4. Food and hygiene care of the child
  - a. Malnourished or sick?
  - b. Home-made rehydration solution
5. Characteristics of a nutritious diet
  - a. Purpose and conversion of food
  - b. Food requirements of the pre-school child
6. Basic food groups
  - a. Food and its functions
7. Food requirements during the first year of life
  - a. Food preparation according to the different stages of development.
8. Intestinal parasites
  - a. Relationship to malnutrition
  - b. Importance of control
  - c. How to combat them
  - d. Parasite control campaign
9. Vaccination
  - a. Importance of vaccination (prevention)
10. Improvement of the diet
  - a. Production
  - b. Preparation and conservation for consumption and marketing

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<sup>1</sup> Group workshops and income producing activities related to hygiene.

11. Food preparation
  - a. Canning
  - b. Confectionery
  - c. Preparation of specific foods:
 

|                                 |       |                |
|---------------------------------|-------|----------------|
| tomato                          | beans | green plantain |
| cabbage                         | yuca  | ripe plantain  |
| raddish                         | eggs  | carrots        |
| utilization of vegetable leaves |       |                |

Home improvements

Kitchen utensils

- |                                                                                                                                                                                     |                                                                                                                                                                                                                                         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ol style="list-style-type: none"> <li>a. Room dividers (screens)</li> <li>b. Rubbish containers, baskets</li> <li>c. Soap making</li> <li>d. Playpens</li> <li>e. Cribs</li> </ol> | <ol style="list-style-type: none"> <li>a. Strainers, sieves</li> <li>b.</li> <li>c. Graters</li> <li>d. Baking molds</li> <li>e. Dishracks</li> <li>f. Food protectors</li> <li>g. Spoon/ladle holders</li> <li>h. Cupboards</li> </ol> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Curriculum for Pregnant Women

1. Services provided at the health center
  - a. The importance of utilization
  - b. The importance of prenatal control
  - c. The importance of vaccination
  - d. Other services of the midwife
  - e. Discussion and recommendations
2. What is pregnancy
  - a. Physical development and conception
  - b. Development of the pregnancy
  - c. Delivery, complications, and consequences
3. Diet during pregnancy and lactation
  - a. Basic food groups
  - b. Food and their functions
4. Prenatal and postpartum care
  - a. Complications
  - b. Hygiene: food, personal, environment
5. Weaning
6. Development of the child by month
  - a. Vaccination
  - b. Food requirements during the first year of life
7. Family planning

**Note:** The implementaion of this educational program will be shared by the auxiliary nurse, MFM staff, and community midwives.

This program will be given continuously and the nutritionist will keep herself informed regarding new concepts and audiovisual methods which results from field research.

#### Curriculum for Agricultural Leaders

1. Production of vegetables
2. Preparation and conservation of soils
3. Raising small animals
4. Citriculture

#### Curriculum for Community Leaders

1. Nutrition and health
2. Prepartion and conservation of food products for commercial purposes
3. Home improvements
4. Manual skillls

#### Community Workshops: examples of home improvement activities

1. Kitchen sanitation and utencils.
  - dish racks
  - cupboards
  - soap making
  - food covers
  - waste baskets
  - baking molds
  - food graters
  - strainers/sieves
  - dust pans
  - mops
2. Household furnishings
  - cribs
  - playpens
  - shelving
  - room partitions
  - bed covers
  - animal gates
3. Environmental improvements
  - plaster walls
  - improve floors
  - fumigation
  - drainage canals

## APPENDIX F

### CONTRIBUTIONS OF PARTICIPATING AGENCIES

#### Government Agencies

|                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CORFINO                                                             | Training courses in fish pond development and management.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Forestry Development Corporation (CODEFOR)                          | Design and development of a model course on staff management and community development; workshop on soil preparation; donation of 400 pineapple slips.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Industry Development Center (CDI)                                   | Feasibility study on soap making (San Nicolas, 1981); workshop on construction of lorena stoves and solar ovens (1982).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 16th Infantry Battalion                                             | Transport of materials and food commodities.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Ministry of Education                                               | Participation and training of teachers in school vegetable gardens and other community ANP activities.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Ministry of Natural Resources (DARNO, ENA, et al.)                  | Training and technical assistance; loan of audio/visual equipment; production and broadcasting of radio programs (1981-83); donation of ornamental and fruit trees (1981), fingerlings for 2 fish ponds (1981), and earthworms for breeding and redistribution (1982).                                                                                                                                                                                                                                                                                                                                                                                                              |
| Ministry of Public Health and Social Assistance (MOH)               | Legal sponsorship since initiation in 1978. Region 7 Health Office: counterpart agency in Olancho Department; technical/supervisory support in PHC and nutrition; curriculum review; collaboration on feasibility study and anthropometric surveys; laboratory and medical services for internal parasite control campaign (1981); technical and material support for immunization and fumigation (insect control) campaigns (1981-1982); logistics and transport of materials and food commodities.<br><br>CESAR Zopilotepe: rural health center facilities; PHC and family planning activities by auxiliary nurse; potable water and latrine construction by sanitation promoter. |
| Municipality of Juticalpa                                           | Logistics and transport of materials and food commodities.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| National Autonomous Service of Aqueducts and Sewage Systems (SANAA) | Community potable water systems (Zopilotepe and Las Llaves, 1982)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

National Board of Social Welfare (JNBS)

Materials and transport for construction of training center.

National Institute of Labor Management Development (INFOP)

Workshops in horticulture (3 communities, 1979); courses in poultry management (Las Parras and La Venta, 1981).

### Local Private Organizations

CARE

Provision of P.L. 480, Title II food commodities for school lunch program (1979 +) and MCH supplementary feeding program (1980 +); community potable water systems (San Nicolas, 1981; Zopilotepe and Las Llaves, 1982).

CEDEN

Interchange of program visits and technical assistance on personnel management; exchange of information on appropriate technology projects.

Heifer Project

Donation of rabbits for breeding and redistribution.

### International Organizations

ACORDE

Provision of information on improved agricultural techniques.

ASECSA (Guatemala)

Written materials and training seminars.

Coordination in Development (CODEL, New York)

Workshops on environmental improvements.

DIGESTA

Donation of literature on agricultural topics.

Institute of Nutrition of Central America and Panama (INCAP, Guatemala)

Donation of technical publications.

Ministry of Public Health (Mexico)

Written information and materials on health and nutrition.

United Nations Children's Fund (UNICEF, Guatemala)

Donation of written materials.

United State Government

P.L. 480 food commodities

World Neighbors (U.S.A)

Information and materials on improved agricultural techniques.

## APPENDIX G

### ITINERARY OF THE EVALUATION

|             |                                                                      |
|-------------|----------------------------------------------------------------------|
| 19 May 1983 | Initial meeting at AID/FVA with Mr. Redder and MSH                   |
| 28 June     | Visit to MFM/FFH home office in Davis, California                    |
| 17-19 July  | Tegucigalpa, Honduras (MFM, Ministry of Health, and USAID/H offices) |
| 20-23 July  | Juticalpa (Health Region No. 7) and Zopilotepe program area          |
| 24-26 July  | Tegucigalpa, Honduras                                                |
| 27-28 July  | Zopilotepe and Juticalpa, Olancho                                    |
| 29-30 July  | Tegucigalpa, Honduras                                                |
| 23 August   | Debriefing with MSH and AID in Washington, DC                        |