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MEALS FOR MILLIONS/FREEDOM FROM HUNGER FOUNDATION

Matching Grant

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FIRST ANNUAL REPORT

TO

THE AGENCY FOR INTERNATIONAL DEVELOPMENT

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Meals for Millions/Freedom From
Hunger Foundation
P. O. Box 2000
Davis, California 95617

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INTRODUCTION

Meals for Millions/Freedom from Hunger Foundation received approval of its Matching Grant request of \$1,850,000 over a three year period through a grant agreement which became effective February 19, 1982. Implementation of the program described in the Matching Grant proposal was initiated in January 1982. Since then Meals for Millions has made good progress towards the achievement of the goal, purpose and outputs projected. Five Applied Nutrition programs are now in operation and three more are in various stages of feasibility and development.

This report briefly describes each country program and the activities being carried out. More detailed descriptions and documentation of the various activities will be appended to this report. A review of the status and progress towards achieving the indicators listed in the logical framework will be presented. Included in the report is a financial review showing the relative expenditures and the match of private funds to AID funds.

1982 was a very busy and productive year for Meals for Millions. In addition to carrying out its program plans and obligations, Meals for Millions undertook a major capital campaign to finance the construction of a new international center (headquarters) building in Davis, California. On September 15th the majority of the staff and their families moved to Davis from Santa Monica and Meals for Millions set up temporary headquarters in Davis. The new building will be completed and ready to move into by February 15, 1983. The capital campaign is completely separate from program fundraising.

One of the reasons for moving to Davis was that our pilot plant in Santa Monica, built for the relief program, no longer served our expanding program nor the focus on self-help development. A different kind of facility, closely associated with a national center of agricultural and nutrition research and education (University of California, Davis) became a high priority so that we could continue to respond to developing communities around the world.

THE MEALS FOR MILLIONS PROGRAM

Meals for Millions/Freedom from Hunger Foundation seeks to:

- strengthen the capabilities of people in developing communities to solve their own food and nutrition problems;
- to 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.

The Foundation works to achieve these goals through:

Applied Nutrition Programs
Food and Nutrition Training
Food Technology Transfer
Information Dissemination

Applied Nutrition Programs (ANP) are the framework for the Foundation's overall program. They are comprehensive, interrelated educational activities whose purpose is to improve the nutritional status of local populations, particularly mothers and children. Their guiding principles are coordination among different agencies and institutions and the active participation of the people themselves. Family members are brought into the program through schools, health centers, clubs and community organizations. National food and nutrition policies are linked with field activities at regional, community and family levels through coordination of the available human and material resources.

Through these long term programs, we assist communities and individuals to recognize and solve their own food and nutrition problems. An important aim of our ANP programs is to establish a self-sustaining process which will continue once we withdraw our support.

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
- Stage 5. Expanding the program to other communities.

PURPOSE AND IMPLEMENTATION OF MFM MATCHING GRANT

Program Goal

To strengthen the capabilities of developing communities to solve their own food and nutrition problems.

Program Purpose

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.

To achieve this goal and this purpose, MFM/FFH will:

1. Consolidate its present activities in each country, as appropriate, into an Applied Nutrition Program (ANP).
2. Expand those ANPs which are already established in Ecuador and Honduras. Korea will be phased out.
3. Develop new ANPs in Antigua, Sierra Leone and Thailand during 1982, and Kenya, St. Kitts and/or other carefully selected Caribbean Islands, and Nepal during the following two years, 1983-84.
4. Provide intensive nutrition education to the communities and community level workers included under each ANP as the need is determined.
5. Design and develop training courses and workshops to respond to the needs of the community level workers and beneficiaries involved in ANPs.

6. Develop a participatory educational strategy for nutrition education for community level food technology.
7. Provide food technology assistance to the communities included under each ANP in response to assessed needs.
8. Continue to develop and test appropriate food technology transfer techniques.
9. Develop and expand the activities of the MFM Resource Center, which is responsible for collecting, documenting and disseminating information on nutrition education, small-scale food production, processing and preservation.
10. Provide support to those on-going project activities that cannot be appropriately included in an Applied Nutrition Program.

AFRICA

Africa is the most recent area of involvement for MFM. Our first overseas food and nutrition training program began in Sierra Leone in 1980. The program's final evaluation was held in March 1982, and we are now developing an ANP in the northern province. We learned a great deal from this program. We learned that on-site visits are needed to interview prospective participants in order to insure selection of participants whose responsibilities include community level project development. These visits are also necessary for accurately assessing training needs. It is very important to actively involve at all stages the supervisors of those who will be trained to insure their support when participants begin applying what they have learned. When participants are expected to develop follow-up projects, project design skills should be taught. Finally, after the training is held, a full time staff person is needed in the country to provide support to follow-up projects. We incorporated this knowledge into our Kenya Training Program which is one of our most successful. The Kenya Training Program will conclude in 1983, and the staff are making plans for a Kenya Applied Nutrition Program.

SIERRA LEONE APPLIED NUTRITION PROGRAM

During 1982, Sierra Leone staff completed a feasibility study, and planning for an ANP. Safroko Limba Chiefdom, one of 13 chiefdoms which comprise the Bombali District in the northern province, was chosen as the program site. The health and nutrition problems of the northern province are very serious; an estimated 32.7% of the children are malnourished. The government of Sierra Leone, aware of the need to strengthen the nations health and nutrition service, established a task force to design a primary health care program for the country. In Bombali the government is working with a local private organization, the Bombali District Primary Health Care Program. Four Bombali program staff members attended a one week nutrition course held by a MFM training program participant, as one of her follow-up activities. The Bombali Program director was impressed with the MFM nutrition approach and requested our assistance in strengthening this component of the program. A successful model project would result in replication throughout the country.

Following selection of the ANP site, detailed program planning was undertaken with the appropriate government and non-government agencies including: the Ministries of Health, Education, Agriculture, Social Welfare, and Development and Economic Planning, CARE, Canadian University Services Overseas, the AID Mission ACRE Project, Foster Parents Plan and IADP, a World Bank funded integrated development program. Staff prepared a program plan (Appendix 1) outlining the program. Program objectives are to:

1. Develop and conduct a survey of the nutritional problems, and gather nutritional status/baseline data.
2. Develop health/nutrition education and training materials.
3. Organize health/nutrition training courses.
4. Implement nutrition oriented community development projects based on community identified problems.
5. Teach health/nutrition through functional adult literacy.
6. Strengthen the capabilities of communities to carry out self-help projects through existing groups and the formation of new groups.
7. Coordinate development activities in conjunction with the Bombali District Primary Care Program working committee.

With the overall program outlined, orientation seminars to explain the ANP concept and integrate the relevant organizations into the program were conducted at the national, provincial, district and chiefdom levels. Officials at all levels expressed their support for the program (Appendix 2). Two new staff members, an ANP Coordinator and a Community Development Organizer, were hired to implement the ANP.

With assistance from several government and non-government agencies, staff developed a baseline survey (Appendix 3). The survey was designed to identify needs and problems in the community. Together with staff from the Bombali Program, MFM held a 1 week course to train 12 school teachers and health workers to administer the survey. They conducted the survey in 103 households in 4 chiefdom sections reaching 15% of the population. The baseline data gathered will be compiled and analyzed early in 1983, and specific activities planned based on the results.

KENYA PROGRAM

Together, MFM and the Kenya Freedom From Hunger Council (KFFHC), developed a two year, six phase food and nutrition training program encompassing needs assessment, participant selection, course planning, the training itself, follow-up activities and evaluation. The program is now in the follow-up phase. All 25 course participants have initiated projects, some of them collaborative. There are 2 beekeeping, 12 vegetable gardens, both communal and backyard, 4 rabbit raising, 1 fishery and 2 poultry projects. Over 500 community members are involved, the majority women. Projects are designed around specific nutritional problems such as vitamin deficiencies or need for protein. Each project involves an organized group that existed prior to the mini-project, or was organized for that purpose. Follow-up included visits by the MFM Program Assistant, Mary Adiedo, who has helped course participants with project planning, monitoring and evaluation. They have also received funds and material. In addition, two 1 week long follow-up planning and evaluation workshops were held with assistance from Director of Training, Joanne Burke. The first assessed the impact of the original training on participants' activities and taught recordkeeping and monitoring skills (Appendix 4). The second workshop covered evaluation, what it is, and how and why to do it.

They learned nutrition assessment techniques and tested them in the community. They also learned new ways to give nutrition information through games and songs. The final evaluation of the Kenya Food and Nutrition Training Program is scheduled for May 1983. We are discussing the possibility of continued collaboration with KFFHC in support of selected mini-projects. (For detailed information on the Kenya, Sierra Leone and St. Kitts training program see Appendix 5).

The Kenya ANP which grows out of the training program, is progressing. At the chosen site in the Nyanza province of western Kenya, we will be working with the Saradidi Rural Health Center, a community based primary health care program where 2 training program participants work. Forty percent of the children in the program area are moderately malnourished; 3-4% are severely malnourished. With the selection of the ANP site, initial program planning was begun. Meetings have been held with government and non-government agencies to outline the ANP concept and to coordinate the ANP with other development activities.

ASIA

Many changes have occurred in our Asia programs. The Thailand ANP has just begun, while the Korea program is beginning to phase out. An independent organization, the MFM/Korea Association, was established and an Executive Director appointed in May 1982. The Association assumed responsibility for nutrition education activities in June, and plans to assume management of the food plant in March 1983. Our Indian programs have also been completed. The Leaf Protein Project in Aurangabad was discontinued in June because of problems created by the lack of local management. Our contract with the Soya Production and Research Association (SPRA) was also completed in June. SPRA continues to research and demonstrate the Village Texturizer for use in small businesses. A local person was trained to use the Village Texturizer and has successfully demonstrated its economic feasibility in nearby villages.

In November, our Vice President for Program, Richard Redder, and the Asia Regional Director, John Seo, made a preliminary trip to Nepal to explore the possibility of an ANP. They met with representatives of both government and non-government agencies. The Ministry of Agriculture is now drafting a proposal

for a joint village agriculture project which we will review and develop further. Prior to this visit, MFM had received a request from the Ministry of Agriculture to provide the Ministry with technical assistance in developing a model rural village food production project.

THAILAND APPLIED NUTRITION PROGRAM

The Thailand ANP is a joint program of the Thai Ministry of Health and Meals for Millions. It aims to organize and implement a system of nutrition education for the total population of Ngao and Sob Prab Districts, and to provide technical and material assistance to community projects linked to solving nutrition related problems. As outlined in the program plan (Appendix 6), program objectives are to:

1. Establish an integrated nutrition program model using a participatory community approach.
2. Develop and adapt a model suitable for replication nationwide.
3. Work with national government and provincial health officers to raise awareness of the importance of nutrition to economic development.
4. Organize and work with communities to develop and implement health and nutrition related projects.

The first six months of this ANP, which began in July, have been busy and productive. Six staff members were hired; two of whom, the Senior Nutritionist and the Community Development Specialist, are on loan from the government. In addition, the government is paying 40% of staff salaries and has helpfully provided office space, furniture and transport.

John Seo spent two weeks with staff reviewing the project plan, translating the plan into Thai and setting up accounting and reporting systems. They discussed office management, coordination of activities with non-government organizations and revised the first year activity schedule.

The staff then received 2 weeks of orientation training led by Joanne Burke Director of Training and Kathryn W. Shack, Nutrition Planner. The first week focused on the MFM program philosophy and approach, and participatory development. During the second week, 6 government health workers joined the group to review, refine and field test the baseline survey (Appendix 7).

The survey was translated into Thai and tested in 30 households in two villages. Seventy-nine teachers and thirty-four government extension workers were taught to administer the survey and they completed the survey of 890 households in September. They have also taken anthropometric measurements and completed a dietary survey. Analysis of the baseline survey data (Appendix 8) indicates that 47% of the children in Ngao and Sob Prab Districts are malnourished. Mother's infant feeding practices revealed the need for information on proper weaning foods. The people are poor, and over 70% of their income goes to buy food. Government services are available, but are lacking in quality and quantity. There also appears to be a need for improved agricultural practices. This data is being used to design specific projects.

In addition, training was given to the Trainer's Task Force, a group of 12 decision makers from various government departments who are key to our ability to organize activities throughout the districts. The training, which was carried out by a team from MFM and the provincial health offices, stressed awareness raising, problem identification and project planning and management.

The Village Texturizer is in use in Thailand producing snacks for children in 11 child nutrition centers in Lampang Province. MFM's Director of Technology, Glenn Patterson, helped formulate nutritious recipes using local foods. He has sent revised and simplified Village Texturizer plans to SVITA, a local appropriate technology organization. They will review the plans to see if they are easily understandable, and also get cost estimates for local fabrication. Technical assistance to Thai staff includes information sent on iceless coolers, Tofu making, storage for left over food and duck raising. We have also located Thai's who can provide assistance in these areas.

LATIN AMERICA/CARIBBEAN APPLIED NUTRITION PROGRAMS

Our two oldest ANP's, Ecuador and Honduras, have varied and exciting programs. Although it is only one year old, the Antigua ANP has many projects started. These programs clearly demonstrate how local situations shape the development of an ANP. The drought in Ecuador has forced the farmers to find new ways to make a living. With help from MFM they are now growing vegetables, raising chickens and starting bakeries. MFM is also continuing the search for new sources of water which is essential to the future of this area.

The Honduras program has developed in close cooperation with the Ministry of Health, resulting in a strong focus on health and nutrition activities, which were badly needed in this isolated rural community. In Antigua, the problem is clear, 80% of the food on this fertile island is imported. We are helping to revive agriculture through community gardens, technical training, beekeeping and other activities.

HONDURAS APPLIED NUTRITION PROGRAM

This four and one-half year old ANP operates in an area of influence encompassing 9 villages in the Department of Olancho. Six national staff members work with approximately 4,000 community members. Major program objectives include:

1. Coordination of development activities in the area through a Coordinating Committee composed of government and private agencies.
2. Clinical control of 0-5 year old children and pregnant mothers.
3. Provision of nutrition and health education to mothers with 2nd and 3rd degree malnourished children.
4. Provision of training in management and administration of groups and projects.
5. Provision of agricultural training.
6. Implementation of self-help income generating projects.

A wide range of activities were carried out in this program.

Nutrition Education Our staff offer nutrition and health classes to 13 groups of mothers, children and pregnant women at the rural health center. Over 300 malnourished children and 279 women receive PL 480 foods*, nutrition education, medical care and monitoring during monthly visits. Staff also do follow-up home visits. Outside the center, community promoters work with community women's groups providing nutrition and health education. Workshops are offered on topics such as food preparation, making kitchen utensils and sanitation. Community promoters visit homes to see if women are using what they have learned, and to detect malnourished children not seen at the health center. In the model house program, women from the nutrition and health classes

*PL 480 foods from CARE are distributed at the rural health center. MFM coordinates distribution with its nutrition education and child growth monitoring activities.

designate a demonstration house where new ideas are tried. This year health center records, forms used and data collection techniques were analyzed and this information used to improve services.

Self-Help/Income Generating Projects Fifty home gardens and nine community gardens are flourishing with help from the agronomist hired this year. There are over 500 direct and indirect beneficiaries of these gardens. Produce is mainly for home consumption, but surplus is marketed. Three major community water systems were constructed through a program administered by the Ministry of Health and CARE; MFM helped community groups with coordination of resources and funds. In addition, the European community has donated funds for development and expansion of latrine and water well projects in the Department of Olancho under the direction of the Ministry of Health. We are assisting through promotional work with the communities. We are also carrying out an internal parasite program in coordination with the Ministry of Health. Other projects include:

- Raising earthworms for distribution to gardeners.
- Fish farming, 2 projects implemented.
- Rabbit raising, a workshop was held with the Ministry of Agriculture, and 2 female and 1 male rabbit donated by the Heifer project. All workshop graduates will receive a pair of rabbits.
- Soap making and jam and jelly making for sale.

Training MFM and the town of Zopilotepe have built a training center near the health center with assistance from the Ministry of Health and the Ministry of Social Welfare. The center will be used by all 9 communities participating in the ANP. It is used for nutrition and health classes and workshops on a variety of topics. An outside demonstration area includes a garden for agricultural training, a rabbit pen and earthworms. Training held this year includes:

- 2 workshops on environmental issues (soil conservation, contour planting, crop rotation, and reforestation) were held with CODEL. These techniques are being adopted by the villagers.
- 1 agricultural workshop, held 2 hours a day, 4 times a week for 6 weeks, trained 6 villagers to act as resource persons for their respective communities.

- 1 rabbit raising workshop held with the Ministry of Natural Resources.
- 1 workshop on management and administration of projects held with local government agency.
- 2 workshops on organic gardening held.

Technology Transfer The program is investigating a variety of areas with assistance from the Davis office. Twenty small grain silos were built and distributed to various community members. Peace Corps volunteers have experimented locally with solar dryers. The Director of Technology is helping to develop feed formulations for chickens and swine using local ingredients, and designing a pasta press for local use. He is also helping to develop a marketing strategy for garden produce.

Program Director, Zoila Alvarez, completed a comprehensive review of all ANP activities for the period 1979-1982 which is included as Appendix 9. This review covers all aspects of the Applied Nutrition program since its inception, with special attention given to nutrition problems and MFM's response to these problems. A control group of 100 children was monitored for a period of four years. Among the group monitored were children with normal nutritional status as well as the malnourished. About 400 children were treated and records on their nutritional status were kept at the clinic. The following observations were made on the 100 children monitored.

Upon analyzing the list of the 100 children, it was found that the majority of the malnourished were over the age of 18 months.

The single most important reason for the normal levels of the children between 0-18 months was breastfeeding. While the child received breastmilk as his/her major intake, physical development continued to remain normal. When the mother could no longer breastfeed or discontinued doing so, the child almost immediately lost weight and quickly entered a malnutrition stage. It was seen that the quality and quantity of food given the child after weaning was most times unacceptable and therefore conducive to encouraging malnutrition.

It was further observed that when children tended to remain at one level of malnourishment over a long period of time, factors other than food intake acted to influence the situation. Often times internal infections or diarrhea related illnesses affected the child's status on a continuing basis.

Another determination influencing nutritional levels resulted from early child malnutrition. Often times the mothers themselves were found to be in a malnourished state during pregnancy. At the time of birth, a lack of breastmilk and the poor health status of the mother severely affected the newborn.

It is important to note here that in Honduras, the method for classifying the nutritional status of the children is based almost exclusively upon the Gomez scale (weight for age). Many of the children who are monitored by this classification often fall into the 1st degree level of malnutrition and remain there. Examining these children beyond the graph control showed that most were quite normal physically, and had a healthy appearance. Why then the discrepancy?

The MFM/FFH staff nutritionist reviewed the findings and after careful analysis determined the following:

- Mothers often do not keep an accurate record of the date of birth. Therefore, using the Gomez classification of weight for age resulted in erroneously assigned nutrition levels.
- The Gomez scale was developed for use in countries other than Honduras. Children, short in stature as a normal occurrence, were classified as malnourished even though they were in all other aspects healthy.

As a result of the above findings, the program has now instituted a height for weight monitoring system based upon a graph designed by Save the Children of England. Although the use of the graph is now being evaluated (both at the health center and community level) all indications are that it is an accurate and simple guide for classifying the nutritional levels of the children. Too, mothers have been made aware of the importance of registering the exact birth date of their children and this has permitted classifications to continue to take place using weight for age.

The 0-2 year old children are the highest risk group in that severe malnourishment during this time not only retards physical development, but also causes problems in mental growth as well. It was found that many of these were children of single parents that had a precarious and uncertain future. Quality foods are simply not available because of the economic situation. Often, single parent families are further affected by a large number of siblings.

The data also reflects that more than 50 percent of the children maintained "normal status" during the four year period. This is significant in light of the nutritional statistics country wide. MFM staff will continue to monitor program beneficiaries' progress for further positive conclusions.

It would appear, however, that the ANP has had and is continuing to have a significant impact on improving nutritional levels.

Below is a summary of the statistical results:

SUMMARY				
Year	Degree of Malnutrition			
	<u>N</u>	<u>I</u>	<u>II</u>	<u>III</u>
1979	64	26	10	0
1980	61	27	12	0
1981	75	19	5	1
1982	79	18	3	0

The efforts and emphasis of the program has been prevention, but it is recognized that the improvement of the nutritional status is equally important.

The nutritional problems and the causes of these problems in Honduras have been identified. Nevertheless, a defined strategy does not exist among any other insititutions that can help resolve them. The main objective is to define on a community level, the most effective work strategy that can also be considered by other agencies and/or government agencies. This strategy will not only consist of a design, but also a replicable program based on a practical and proven method.

ECUADOR APPLIED NUTRITION PROGRAM

The Ecuador ANP concentrates on an integrated approach to improving the food and nutrition status of the most vulnerable groups. Four national staff members carry out program activities in fifteen Santa Elena Peninsula communities encompassing approximately 6,000 people. Program aims include:

1. Coordination of development activities with the Inter-Institutional Council.

2. Implementation of income generating projects.
3. Provision of agricultural technical assistance.
4. Provision of nutrition education to mothers.
5. Development of a water resource program.
6. Clinical control of 0-5 year old children to include at least 50% of the target group.

The program has just finished its fourth year, and a recently completed outside evaluation (Appendix 10) indicates that it is meeting its goals admirably. Program activities have increased dramatically this year in several areas:

Agriculture The staff works with 61 farmers in 11 communities helping them grow vegetables in semi-arid conditions. The staff agronomist makes bi-weekly visits providing information on modern agricultural techniques. They have also held 3 training workshops with the Ministry of Agriculture. Their joint efforts resulted in a profitable harvest, the first in a lifetime for some farmers. Fifty-three farmers increased their incomes 20-25%. The chart on page 14A shows 1982 production levels.

Poultry Raising This activity began with 1 project and 200 chickens. In 1982 over 20,000 chickens were raised in 23 project sites resulting in a 10-20 % increase in farmer income, see economic sheet on page 14B. The farmers raise 200-300 each in eight week cycles. They have received technical assistance and training including a workshop conducted jointly with the Ministry of Agriculture. In order to participate in the program, farmers must build a Ministry of Agriculture approved chicken coop. As a result of the large number of projects, the farmers have formed a Poultry Association, and are seeking legal status.

Nutrition Education MFM provides nutrition education courses, pre-natal assistance, family planning, and height/weight monitoring for children 0-5 to 179 women and 190 children in eight rural communities. Thirty home gardens and 3 community gardens are cultivated primarily by community women with technical assistance from MFM. The gardens provide food for families, and income from sale of surplus. Staff nutritionist, Carolina Cambe de Reyes, visited our Honduran AMP for an intensive 3 week training course with the Honduran staff. A Peace Corps nutritionist has recently been assigned to the program.

HORTICULTURE ECONOMIC SHEET

Gross Earnings

<u>Product</u>	<u>No. Hectares</u>	<u>Price Per Product</u>	<u>Yield</u>	<u>Earnings</u>
Tomatoes	63	S/. 180 per carton	1,500 per hectare	S/. 1,701,000
Peppers	26	S/. 1,400 per sack	400 sacks/hectare	4,160,000
Cucumbers	5	S/. 15 per dozen	3,000 doz/hectare	225,000
Melons	4	S/. 12 each	30,000 per/hectare	1,440,000
Watermelons	5	S/. 40 each	4,000 per/hectare	800,000
Onions	2	3.000 per 100 lb sack		<u>180,000</u>
				S/. 8,506,000

Costs

Total seeds, water, fertilizers, pesticides, land clearing, day laborers transportation estimated by MFM to be S/. 50,000 per hectare.

Excludes labor of project families S/. 50,000 x 105 hectares S/. 5,250,000

NET EARNING S/. 3,256,000

70 rural families in project

Net earning per family per year S/. 46,514

Estimated home consumption is S/. 10,000 per year S/. 10,000

Total real earning per family S/. 56,514

POULTRY RAISING ECONOMIC SHEET

COST

300 chicks at S/. 12	S/. 3,600
20 sacks of balanced food at S/. 470 per sack	9,400
Medications per 300 chicks	2,000
Miscellaneous	1,000
Pen, feed troughs mortgaged out over 5 year period	<u>1,000</u>
	S/. 17,000
300 chicks bought	300
10% chicks lost by death and home consumption	<u>30</u>
	270

EARNINGS

270 chickens sold at S/. 25 per Lb. x 4.3 Lbs average	S/. 29,035
Costs	<u>17,000</u>
	S/. 12,025
Gestation period is eight weeks	
Farmers have 5 cycles of chickens	
per year S/. 12,025 x 5 =	S/. 60,125 per year
Home consumption of 25 chickens at S/. 108	2,700
Neighborhood sales or contribution 25 chickens at S/. 108	<u>2,700</u>
Real earnings per year	S/. 65,525

Rural Infrastructure AGRUPENSE, a cooperative of 61 farmers organized with our assistance, continues to be strong. A second cooperative of 23 poultry farmers has also developed. MFM provided a loan to build an oven in one community and started a cottage baking industry. Now five more ovens have been built without loans. We have also extended credit for a low-cost housing project. The five year drought makes the search for water resources imperative. MFM has helped community members hand dig wells for potable water and small scale irrigation. We are working with the Water and Sanitation for Health Project, WASH, to find a larger solution. With the information from a recently completed hydrogeological survey, we are writing proposals and investigating funding sources for a large scale well digging project. The Ministry of Agriculture and Farmer's Social Security are interested in collaborating on this project. Coordination with both government and private agencies on the peninsula continues to be a priority.

Small Grants and Loans A fund of US \$12,000, 90% for revolving loans and 10% for grants, supports all projects. The revolving loan program has a unique and highly successful design. In order to participate, farmers must fulfill certain requirements. Depending on what the loan is for, they may be required to prepare land for planting, build a chicken coop, or purchase matching equipment. Once he has put in his share, the farmer is not given the money directly, instead a MFM staff person writes out a "prescription" for animal feed, seeds, fertilizer, or whatever is needed. Using this prescription, the farmer purchases the items from one of four distributors in Santa Elena. Ninety-nine percent of all loans are re-paid, an outstanding record.

Technology Transfer In addition to the technical assistance provided in agriculture and poultry raising, MFM is introducing other technologies into the area. In collaboration with the Ministry of Education, a model solar oven was built and has been introduced into the schools. Seven teachers volunteered to learn how to build the oven, and teach it to their colleagues. Research is going on with assistance from the Director of Technology and the Resource Center in Davis on solar stills, chicken feed formulations, the feasibility of incubating chicken eggs locally, and hydroponics.

ANTIGUA APPLIED NUTRITION PROGRAM

The Antigua ANP, which has been operating for one year, employs five national staff members who provide technical expertise, training and material support to 9 communities. Major program objectives include:

1. Development of community and school gardens, orchards and small animal projects.
2. Introduction and development of nutrition and health education classes at clinics, schools and in the community.
3. Implementation of agricultural training programs.
4. Organization of community self-help groups.
5. Provision of agricultural technical assistance.
6. Provision of a tractor and development of agricultural tools loan plan.
7. Introduction of appropriate food technologies.
8. Follow-up and support to participants involved in MFM food and nutrition training courses.

During its short existence, this program has developed a wide range of activities.

Agriculture Demonstration gardens have been started at five health clinics and six primary schools. Two large community gardens are producing income for the gardeners; production records are kept at the site. MFM supplies financial and technical assistance, seeds, fertilizer, pesticides and fencing. In January, a five day horticultural workshop taught by MFM Southwest Program horticulturalist, Jane Nyhuis, was attended by 40 people. The Foundation rototiller is available for use by all gardeners, and we also help farmers find markets for their produce.

Beekeeping Bees are essential to agriculture. Together with a Peace Corps volunteer we have held two beekeeping workshops to help revive beekeeping on the island. Program Director, Ruth Spencer, attended a Development Beekeeping seminar where she learned techniques of use in her program. There are now over 55 hives being cared for by 20 people. They have formed a Beekeeper's Association which meets regularly to share experiences and plan activities.

Fish Farming Another Peace Corps volunteer prepared a study on the potential for fresh water fish farming in Antigua. His recommendations were positive and plans are being made to offer a workshop for interested persons.

Nutrition Education Two nutritionists, one staff and one Peace Corps volunteer, teach nutrition classes at rural clinics and primary schools. Over 700 mothers have been taught, and height and weight measurements are taken monthly on over 150 children. The nutritionists also make individual home visits.

Institution Building Thirty program participants have, with our help, formed the Cooperative Farmers Association, a legally recognized cooperative. They received a \$47,000 grant from the InterAmerican Foundation for agricultural projects. MFM provides technical assistance to the group, and helps coordinate activities. The Beekeeping Association is another group formed with our assistance. Barclay's Bank has given MFM an interest free loan of EC 43,000 for use as a revolving loan fund in the Antigua ANP. Borrowers will pay a small interest charge which will be used to support the program.

Baseline Survey Kathryn Shack, MFM Nutrition Planner, conducted a workshop for the 14 community people who will carry out the survey. They learned interviewing and nutritional assessment skills and field tested the survey. The survey has been conducted, results have just been tabulated, and are being analyzed. This information will be used for program planning and evaluation.

Appropriate Technology A variety of technologies have been introduced in this program. Solar ovens and dryers are demonstrated throughout this and other islands; a solar dryer is used to dry seeds for the gardens. Under an agreement with the Women and Development Group, WAND, Ruth Spencer and Ridley Prince, a participant in the 1980 training course, have held workshops on solar drying in Antigua and on other islands. Ms. Spencer recently completed an evaluation of solar drying activities in Antigua, Dominica, St. Lucia and St. Vincent. She is also preparing a solar drying manual with help from our Director of Technology. It is apparent that these technologies have found fertile ground in the Caribbean. Our workshops have generated much interest and activity. Fruits which in the past went to waste, are now dried for later use. One enterprising entrepreneur has orders for 5 solar ovens

of his own design, and farmers in St. Vincent are drying peanuts, one of their primary income crops, in solar dryers.

Beekeeping techniques and equipment taught at two workshops have revived beekeeping in Antigua. One island group is making an income by producing and selling chalk and soap, technologies learned with MFM assistance. A donated windmill is generating electricity at one community garden site. Farmers have learned modern agricultural techniques through MFM workshops and technical assistance. (Photos of all aspects on the Antigua ANP are included in Appendix 11).

ST. KITTS

Follow-up activities consisting of visits by Ms. Spencer, help in conducting workshops, locating resources and developing proposals, continues with the participants of the 1981 St. Kitts training course. A May evaluation meeting in St. Kitts brought together 11 of the original group of 18 to discuss how they had used the training and any problems they had encountered. Their activities include nutrition education, food preparation and preservation techniques, solar drying, gardening, and solar cooking projects. Plans are being made for an ANP; we have already received a letter from the Minister of Health, Education and Welfare inviting us to do a joint feasibility study in St. Kitts.

TECHNICAL SERVICES

The varied activities of our productive ANP's require much support from home office technical staff. The Director of Training has assisted field staff plan and carry out training workshops on a variety of topics. The Nutrition Planner has provided expertise in nutrition education and nutrition assessment to all programs. Working together, the Directors of Technology and the Resource Center provided needed technical information and expertise. These technical services are essential to the program.

FOOD TECHNOLOGY TRANSFER

Director of Technology, Dr. Glenn Patterson, is researching use of solar stills to provide water in Ecuador. After contacting several organizations, he drew up a list of questions that need to be answered by Ecuadorian staff. This information will help determine the feasibility of such a project.

Plans for small solar stills are available, and further activity depends on the hydrogeological survey results. With the great increase in chicken raising, farmers have expressed an interest in incubating chicken eggs. Dr. Patterson is exploring the various alternatives. Hydroponic gardening is another possibility for the peninsula; a consulting firm is interested in doing a feasibility study.

Both the Ecuador and Honduras program staff have requested information on feed formulations for poultry and swine using local ingredients. This would reduce costs by replacing expensive imported feeds. Pasta, another expensive imported item, is a staple food in Honduras. We are exploring the possibility of making a simple, inexpensive pasta press for village use. Development of a marketing strategy for produce is a priority in Honduras; research has begun. Finally, a donated rototiller, much needed in Honduras, came with only an English language instruction manual. We are working on a Spanish translation which villagers can use.

Work continues on the Village Texturizer. Design changes which make it less expensive and easier to build were made with volunteer help from a retired engineer. These changes are being incorporated into a revised manual. Dr. Patterson recently completed the first draft of a Puffing Machine operations manual. The Korean Advanced Institute of Science and Technology (KAIST) reviewed the draft, and their suggestions are being incorporated into the final draft.

In March, Dr. Patterson demonstrated the Village Texturizer at a Women in Development workshop held in Washington, D.C. He was also invited to provide technical and planning expertise to Esperanca's Brazilian program staff at their annual meeting.

During this year, visits were made to:

- The U.S. Salinity Laboratory to investigate the possibility of using salt water for irrigation.
- Aquatic Fish Farms of Arizona to investigate fish farming.
- The U.S. Water Conservation Laboratory to discuss water catchments, irrigation methods, and drought resistant plants.
- Equity Policy Center to discuss their Street Foods Project

- VITA to discuss the revised Village Texturizer manual.
- BRACE Research Institute to talk about their solar stills experience, and review their other technologies.

In addition to these program activities, three Nigerian college students used the pilot plant and Resource Center to research and test solar dryers over the summer. A comprehensive review of MFM technology transfer activities shows the wide range of our program (Appendix 12).

RESOURCE CENTER

The Resource Center provides staff with the information they need to successfully carry on programs, and in turn these programs generate information which the Resource Center documents and disseminates. A specialized collection of small-scale food technology and nutrition material gathered around the world serves MFM staff and programs in their efforts to solve food and nutrition problems. The recent move to Davis has caused more disruption in Resource Center activities than in other programs. However, much has been accomplished. Two hundred sixty five books and reports were added to the collection, and 183 information requests answered. We produced one issue of our newsletter, Connections (Appendix 13); the second issue is in production. An in-house quarterly newsletter was started to keep our far-flung staff informed of each other's activities.

The Resource Center Director, Patricia Butzer Larson, worked closely with Dr. Patterson researching information on all the topics mentioned above. She has also assisted with the Puffing Machine and Village Texturizer manual drafts, and worked on the Caribbean Solar Drying Manual. The Resource Center acquisitions list keeps program staff aware of publications which may be useful to them, and material was sent to all programs this year. Finally, the first case study/evaluation was completed on the Ecuador Applied Nutrition Program.

SUMMARY OF PROGRAM STATUS AND INDICATORS

During the past year, Meals for Millions has made significant progress towards the goal, purpose and outputs as stated in its proposal. Program evaluations have taken place in Ecuador and Honduras and these evaluations indicate good progress toward institutionalization of program activities.

At the goal level we see an improved nutritional status emerging among the 0-5 age group in our Honduras program; increased food production in Antigua and Ecuador which translates to increased self-sufficiency. It is too early to make any valid conclusions on these or our other more recently implemented projects in relation to the stated goal.

The purpose of this program 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.

We believe that with the three new Applied Nutrition programs developed and implemented this past year that we are making good progress towards achieving this purpose. Two, and probably three more are scheduled for development in 1983. Within each Applied Nutrition Program excellent progress is being made towards their goals, purposes and outputs. We are receiving good collaboration from the local government agencies, other PVOs in the program areas, and from the people in the communities where we are working.

In regard to the purpose indicators, all of the programs have been designed for replicability, local participation in planning and evaluation and local institutionalization. Local participation is excellent and community level workers are being trained. Each program also has a combination of nutrition education, income raising projects and community development activities designed to improve nutritional status. It is too early to measure any of these indicators.

At the outputs level we have developed, designed and begun the implementation of three Applied Nutrition programs in Antigua, Thailand and Sierra Leone. In all three the baseline surveys and needs assessments have been completed.

In Antigua significant progress has been made in small scale food production through the development of community and school gardens, fruit orchards and small animal projects. There are now sixty men and women working approximately eighteen acres of land in two separate community plots. About 20 different kinds of vegetables are being grown. Beekeeping has been introduced to improve polination of plants for seed production and to provide income, and a farmer's cooperative has been formed among the people involved in beekeeping and horticulture production. To fit with needs identified in the nutrition survey, we are designing a comprehensive nutrition education and monitoring component which will be implemented in 1983.

In Ecuador the program has been expanded from nine to fifteen communities. More than 50 projects in food production are being implemented. We are restructuring our nutrition education component in relation to the findings and recommendations of the evaluation. A major well drilling project for the project area is in the design stage and we are expecting the Ministry of Agriculture to take on a large share of the cost.

The program in Honduras has greatly expanded its number of small scale development projects. About 50 home gardens were planted this year in addition to rabbit projects, latrine projects and fish projects. Three major community potable water projects were completed and a training center was constructed. In October an evaluation of the 0-5 year children in the nutrition education and monitoring project was completed. A training course for 15 agricultural leaders from the communities was held for six weeks starting in June. Regularly scheduled training courses are held at the training center. Other courses are: rabbit raising (4 week course), breeding earthworms for conditioning of soil in gardens, fruit tree culture and intensive gardening.

A summary of the outputs follows:

Applied Nutrition Programs (progress to date)

3 baseline surveys completed for 3 new ANPs

3 needs assessments completed in ANP target groups

1 major nutrition education project is designed and
.being implemented

Expansion in Ecuador from 9 to 15 communities

Training

Training courses for community workers

Africa	2
Latin America/Caribbean	2
Asia/Pacific	1

- In Kenya 100% of the participants in the training course have become involved in developing nutrition oriented community development projects. In St. Kitts only 30% have become involved.
- Over 25 nutrition related projects have been implemented as a result of skills learned in these training courses.

Technology Transfer

- Solar dryers, solar cookers and the food texturizer are in use in three of our programs. A simple pasta making machine is being designed. Smokeless stoves, iceless cookers, and grain storage bins have been introduced successfully in several projects in Kenya. In Antigua solar dryers, solar cookers, soap making and chalk making are being used to a significant extent.
- Technical assistance has been provided to our Ecuador program by WASH through a hydrogeological study of the program area and the MFM Director of Technology has provided information on how to build and maintain small solar stills.
- A small garden tractor has been provided for the Antigua garden program, and a rototiller has been provided to the Honduras garden program. Both are appropriate technologies for their respective areas.

Resource Center

- Requests for information on various technologies to which MFM is able to respond have increased to 183 during the past year.

Outputs:

APPLIED NUTRITION PROGRAMS (ANPs)

- Baseline surveys for new ANPs
- Needs assessments of target groups
- Nutrition education projects
- Small development projects
- On-going ANPs expanded

FOOD AND NUTRITION TRAINING

- Training courses for community workers in ANPs
- Follow-up training
- Training manual developed

FOOD TECHNOLOGY TRANSFER PROJECTS

- Appropriate food technologies identified, evaluated, and tested for target groups
- Technical assistance provided to ANP target groups and institution in program areas
- Documentation of appropriate food technologies

RESOURCE CENTER ACTIVITIES EXPANDED

- Dissemination of program information
- Publication of program case studies
- Publication of Newsletter
- Publication of technical bulletins
- Publication of training manual

Magnitude of Outputs:

APPLIED NUTRITION PROGRAMS

- Baseline surveys completed for three new ANPs
- One needs assessment completed in ANP target groups year one, and two completed in years two and three
- At least two major nutrition education projects are designed and implemented during three years
- 35-40 small-scale development projects in food production are implemented
- On-going ANPs in Ecuador and Honduras are expanded to include all of the villages in program target areas

TRAINING

- A minimum of 10 training courses for community workers are designed and implemented

	No. of Training Courses		
	1982	1983	1984
Africa	2-4	2	1-2
Latin America/Caribbean	1-4	2	1-2
Asia/Pacific	3	1	1-2

- 80% of participants successfully completing training courses
- 30% of participants in training courses later become involved in developing nutrition-oriented development projects
- 20 nutrition related projects implemented as a result of skills learned in training

FOOD TECHNOLOGY TRANSFER

- A minimum of 10-15 different appropriate food technologies are successfully being utilized by developing groups in the target areas by the end of 3 years
- 3 new appropriate food technologies are identified, tested and adopted during 3 years
- Number of requests for short-term technical assistance responded to satisfactorily increased from 10 to 20 per year

RESOURCE CENTER

- Number of requests received for information on appropriate food technology to which MFA/FIH is able to respond increased from 100 to 200
- Case study documentation and evaluation of Ecuador, Honduras and Korea programs
- Newsletter on food and nutrition published (2 each year)
- Technical bulletins on appropriate food technologies (2-4 each year)
- Training manual "how to" published

BASELINE SURVEY REPORTS

PROJECT REPORTS

REPORTS ON TRAINING COURSES AND WORKSHOPS

MONTHLY PROGRAM ACTIVITIES REPORTS

FIELD TRIP/ON-SITE VISITS

EVALUATION REPORTS

TECHNICAL DOCUMENTS WRITTEN AND PUBLISHED

RESOURCE CENTER DOCUMENTATION

PUBLICATIONS

QUARTERLY PROGRAM REVIEWS

CASE STUDIES IN EXISTENCE

Assumptions for achieving outputs:

TRAINING, FOOD TECHNOLOGY AND ANPs ARE RELEVANT, EFFECTIVE AND CULTURALLY APPROPRIATE

PARTICIPANTS SELECTED FOR TRAINING REMAIN IN POSITIONS AND AREAS WHERE THEY COULD INFLUENCE AND EFFECT CHANGE

COOPERATION OF LOCAL AGENCIES IS POSSIBLE

- A case study evaluation of our Ecuador program has been completed.
- 1 newsletter published and one ready for publication in January.
- 1 technical bulletin on solar drying and 1 on the puffing machine have been prepared for publication.

During the first year of the Matching Grant, we have followed our activity schedule quite closely and are therefore on target with our implementation plans.

At the inputs level we have been very successful in raising the private funds needed to match the A.I.D. grant funds received (see financial report) in spite of the economic depression this country is experiencing.

Our staffing has increased in the field as new programs have been developed and as on-going programs have expanded in geographic coverage and in increased activities.

We have experienced no particular problems in relation to funding and staffing during the first year of the grant.

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>Program Goal:</p> <p>TO STRENGTHEN THE CAPABILITIES OF DEVELOPING COMMUNITIES TO SOLVE THEIR OWN FOOD AND NUTRITION PROBLEMS.</p>	<p>Measures of Goal 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 BY INTERNATIONAL AGENCIES</p> <p>GOVERNMENT STATISTICS</p> <p>CENSUS 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 VIABLE</p> <p>NO MAJOR CIVIL CONFLICTS IN PROGRAM AREA</p> <p>CLIMATIC CONDITIONS DO NOT CHANGE RADICALLY</p> <p>NO DRASTIC CHANGE IN POPULATION DENSITY</p>
<p>Program Purpose:</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 COMMUNITIES SUPPORT AND ADAPT (INSTITUTIONALIZE) MFM/FFH APPROACH TO ASSISTING DEVELOPING GROUPS WITHIN 3-8 YEARS</p> <p>APPLIED NUTRITION PROJECTS WILL BE SELF-SUSTAINING AFTER PILOT IMPLEMENTATION - 3-8 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 TOGETHER</p> <p>LOCAL GOVERNMENTS ALLOW DEVELOPMENT INITIATIVES AT COMMUNITY LEVEL</p> <p>NATURAL LEADERS EXIST IN DEVELOPING COMMUNITIES</p> <p>PARTICIPATION OF COMMUNITY GROUPS IS ACTIVE NOT PASSIVE</p>

Inputs:

FUNDS FOR TRAINING AND EDUCATIONAL COURSES

FUNDS FOR LOCAL AND INTERNATIONAL TRAVEL

FUNDS FOR PROJECT SUPPORT

LOCAL PARTICIPATION

CONSULTANTS

PROGRAM MANAGEMENT STAFF

- Program Director
- Associate Program Director
- Regional Director Africa
- Regional Director Asia
- Regional Director Latin America/Caribbean

TECHNICAL STAFF

- Director of Training
- Nutritionist
- Director of Food Technology
- Food Technology Specialist
- Director of Resource Center
- Information Specialist
- Program Assistant

SUPPORT STAFF

PROJECT FIELD STAFF

Implementation Target (Budget) (\$000)

	<u>1982</u>	<u>1983</u>	<u>1984</u>
A.I.D. MATCHING GRANT	500	600	750
OTHER GOVERNMENT	180	175	270
MFM/FFH	915	1,117	1,273
<u>TOTAL</u>	<u>1,595</u>	<u>1,892</u>	<u>2,293</u>

FINANCIAL REPORTS

FIELD OFFICE REPORTS

ANNUAL AUDIT

PERSONNEL REPORTS

Assumptions for providing inputs:

FUNDS ARE AVAILABLE WHEN NEEDED

QUALIFIED PERSONNEL AVAILABLE AS PROGRAM

NO MAJOR SHIFT IN INFLATION OR OTHER ECONOMICS

ADEQUATE COORDINATION OF PERSONNEL AND ACTIVITIES IS MAINTAINED

BUDGET LEVEL PROJECTED IS ADEQUATE TO ME ALL ACTIVITIES AND CONTINGENCIES

APPENDICES

1. Sierra Leone Proposal
2. Sierra Leone National Orientation Seminar Report
3. Sierra Leone Baseline Survey
4. Kenya Training Course Follow-up Workshop Report
5. Community Food and Nutrition Training Project Paper
6. Thailand Proposal
7. Thailand Baseline Survey
8. Analysis of Baseline Data, Thailand
9. Honduras, A Review of the Applied Nutrition Program 1979-82
10. Applied Nutrition Program, Ecuador. Meals for Million's Program Impacts and Lessons Learned
11. Antigua Picture Story
12. Appropriate Technology Transfer
13. Connections Vol. 2 No. 1