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# The Philippine Nutrition Program

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## THE PHILIPPINE NUTRITION PROGRAM 1975 – 1976

### INTRODUCTION

In July, 1974 a National Nutrition Council was created under the Office of the President by virtue of Presidential Decree 491. The same decree gave the National Nutrition Council the responsibility of coordinating all nutrition programs in the country and of preparing a national nutrition plan.

Occurring simultaneously with this development, was the establishment of the Nutrition Center of the Philippines (NCP) by the First Lady, Mrs. Imelda Romualdez Marcos. The center represents the integrated nutrition effort of the private sector in support of the government nutrition program.

Prior to the creation of the National Nutrition Council, the task of nutrition program coordination was assigned to NFAC by Executive Order 285 issued in January 1971. A 4-Year National Nutrition Program was prepared as a result thereof and implemented during the same year giving emphasis to the "Team" approach in program planning and implementation. As such, the program required a multi-agency participation involving both the government and private sector, namely: Department of Health, Department of Agriculture (BAEx, BAI, BPI), Department of Natural Resources (Bureau of Fisheries and Aquatic Resources), Department of Education and Culture, Department of Social Welfare, Department of Local Government and Community Development, National Science Development Board, (PNRC) Philippine National Red Cross, Nutrition Foundation of the Philippines, Philippine Business for Social Progress, NASSA-Catholic Relief Services, National Council of Churches in the Philippines (DSD), Peace Corps/Philippines, National Media Production Center, Kilusan Ng Wastong Pagkain, Cooperative for American Relief Everywhere, United States Aid for International Development, United Nation's Emergency Children's Fund, World Health Organization and the Food and Agriculture Organization.

Purposely aimed at the achievement of better nutrition among our population, the program's major thrust was to provide rural families, particularly those with malnourished children, with some basic health and nutrition services through structural organizations established at national, provincial, and barangay levels.

The magnitude of malnutrition problem in the country which affects millions of our people particularly, the infants, preschool and schoolchildren, the pregnant women and nursing mothers, is of serious national concern.

Based on the projected population of 0-6 year old children, a total of about 3.5 M are either moderately or severely malnourished. About the same number of schoolchildren likewise suffer from malnutrition. Mortality statistics further show that 50% of all deaths registered annually are of children less than 5 years old and that, one out of every two deaths among these children is attributed to diseases aggravated by malnutrition.

In an average municipality with 21,000 population, about 4,000 children are below 6 years and of this, only 15 to 20 percent are above FNRC standards for weight. Using weight as a criterion, about 5% or 200 children are suffering from 3rd degree malnutrition and some 1,160 from 2nd degree.

It is therefore along these concerns that the National Nutrition Council (NNC) will continue to coordinate and to implement with greater intensity the Philippine Nutrition Program (PNP).

Presently, a broader and more comprehensive nutrition plan to reach a wider target outreach is being formulated. In anticipation of this, an interim program has been designed which outlines program directions and targets for the fiscal year 1975 - 1976.

## II. OBJECTIVES:

General: To improve the nutritional status of the population particularly, the vulnerable groups (infants, pre-schoolers, pregnant women, nursing mothers and school-children).

**Specific:**

By the end of FY 1976 in impact areas:

1. To reduce incidence of 3rd degree malnutrition among infants and preschoolers by at least 25% and mortality, not to exceed 25%;
2. To decrease prevalence of 2nd degree malnourished cases among infants and preschoolers by at least 10%;
3. To improve nutrition status of at least 40% of schoolchildren suffering from malnutrition;
4. To motivate 50% of the pregnant and nursing mothers to adapt desired nutrition, health, family planning practices, and food production techniques;
5. To identify and treat cases of vitamin A deficiency and anemia;
6. To promote nutrition among all families such that no more than 50% of infants and preschool children of normal weight become malnourished.

**III. STRATEGIES:**

1. Establishing organizational structures at regional, provincial, municipal and barangay levels to coordinate and facilitate program implementation and monitoring of activities.
2. Conducting nutrition training activities for various categories of personnel at different levels.
3. Locating the malnourished in the community.
4. Formulating and implementing appropriate nutrition interventions aimed to cure and prevent malnutrition of vulnerable groups.
5. Identifying agencies involved and their responsibilities; the inputs required and sources.

#### **IV. ACTIVITIES AND TARGETS:**

##### **A. *Establishing Organizational Structures***

One of the strategies for program implementation is the setting up of organizational structures at various levels of operation.

At the National Level is the National Nutrition Council, which is the nerve center for planning and coordinating the Philippine Nutrition Program, and the Nutrition Center of the Philippines, which harnesses private support to the program.

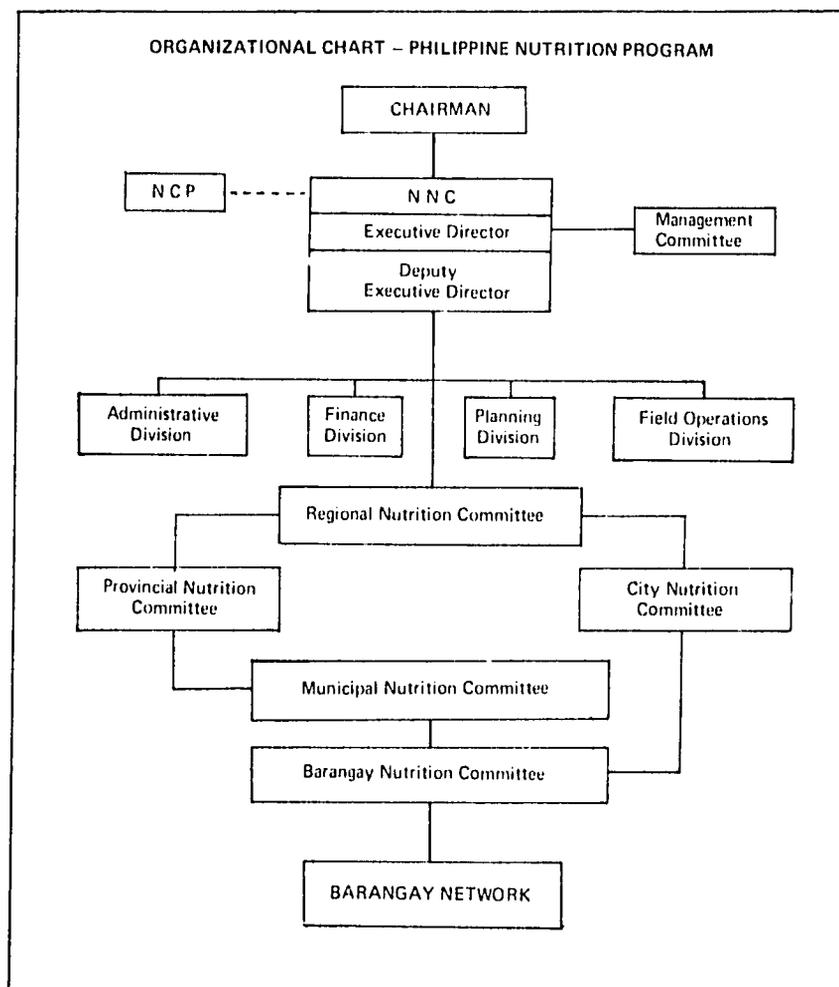
At the Regional Level is a Regional Nutrition Committee. One Regional Nutrition Committee is created in each of the eleven regions within the framework of the Regional Development Council. A chairman is elected by and from among the members. The RNC coordinates the implementation of the Regional Nutrition Plan and resolves problems with whatever resources are available.

A Provincial Nutrition Committee is created in each province within the framework of the Provincial Development Council. It operates and functions under the Office of the Provincial Governor who acts as the Chairman of the PNC. He is assisted by the Provincial Action Officer who coordinates implementation of the Nutrition Program in the different municipalities within the province and initiates activities that will promote harmonious working relationship among the various cooperators in the program.

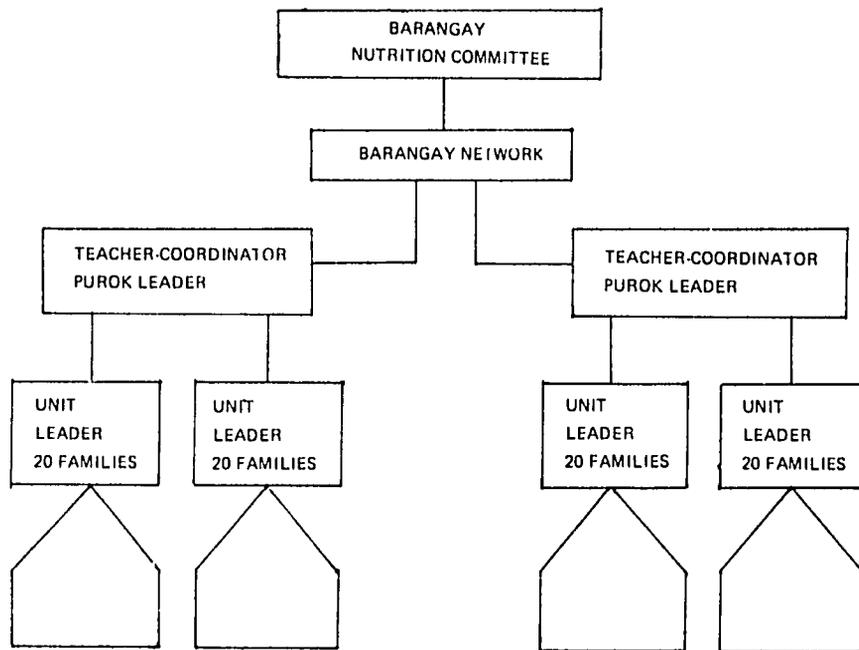
A City/Municipal Nutrition Committee is created in each municipality. The Mayor is the Chairman of the City/Municipal Nutrition Committee. With the approval of the provincial agency head concerned, he may appoint an Action Officer to assist him. The main function of the City/Municipal Nutrition Committee is to formulate, implement and evaluate a City/Municipal Nutrition Action Program, in accordance with the policies set up by the National Nutrition Council.

A Barangay Nutrition Committee (BNC) is created in every Barangay. The BNC assumes the responsibility of implementing and coordinating the nutrition program at the barangay level. It

organizes the barangay network which is composed of the teacher-coordinator, purok and unit leaders, and the families under each unit leader. The function of the Barangay Network is to serve as a delivery system for commodities and information materials, and to conduct surveillance of public health problems and other nutrition related activities. It is the link of nutrition agencies and the Program target audiences. (Further details on these structures are discussed in the Administrator's Manual.)



**BARANGAY NETWORK**  
**ORGANIZATIONAL SET-UP FOR**  
**COMMUNITY NUTRITION SURVEILLANCE SCHEME**



**B. *Nutrition Training***

Nutrition Training strategy aims to equip trainers and those who will be directly involved in the implementation of the program with knowledge on the new directions of the PNP. This will be undertaken at the national, regional, provincial, municipal and barangay levels.

At the national level, training officers and selected supervisors of agencies involved in the PNP will be trained.

After the national training, participants will be grouped into regional training teams of 5 to 6 members each. Each team will be further subdivided into smaller teams which will conduct simultaneous trainings and orientation on the nutrition program for provincial program staff and the Regional heads of offices.

Participants to the provincial training will be formed into provincial teams which will likewise be broken down into smaller groups to conduct simultaneous trainings of municipal personnel within the province.

Municipal training teams which will be formed from the participants of the provincial trainings will, in turn, conduct simultaneous trainings for barangay personnel.

Trained Barangay trainers, on the other hand, will likewise be formed into Barangay training teams who will simultaneously organize and conduct purok trainings for purok leaders, unit leaders and volunteers.

**TIMETABLE OF TRAINING COVERAGE  
FOR FY 1975 – 1976**

Month	Number of Province	Number of Municipalities	Number of Barangay
August '75	33		
September	30	33	
October	9	63	33
November	4	71	96
December		76	167
January '76		74	243
February		73	317
March		72	390
April		71	462
May		67	533
June		66	600
<b>TOTAL</b>	<b>76</b>	<b>666</b>	<b>2,841</b>

Annex I Describes the training designs of the various trainings at different levels.

**Other Trainings:**

1. Echo trainings to be conducted by the training participants for their respective agency personnel. This is to enhance the role of each agency cooperator to the nutrition program.
2. Training on nutrition planning for national and regional planners.
3. Seminars and workshops on specific subject areas on nutrition for professional development of program cooperators.

Technical and funding assistance for these activities will be provided by the UN agencies (WHO, FAO, UNICEF) and the USAID.

C. *Locating the Malnourished in the Community*

This activity is to be carried out through a weight survey known as "OPERATION TIMBANG" (OPT) by the OPT weighing team in the Barangay Network using clinical scales. See Annex 2. Targets of the OPT are children under 6 years. Its objectives are to:

1. locate families with malnourished preschool children;
2. identify children needing immediate assistance;
3. determine priority areas for program implementation.

Operation Timbang shall be conducted in all regions of the country including the Greater Manila Area. It will be preceded by a series of orientation and trainings to be conducted at different geographic levels on the new directions of the Philippine Nutrition Program, the mechanics of organizing the Barangay Network, preparation of spot maps, and the use of weighing scales for data collection, recording and reporting. Details of OPT are outlined in the OPT guidelines.

OPT is envisioned to cover within FY 1975 30-60% of total barangays in each province within each region. The project will be participated in by the Department of Health, Nutrition Foundation of the Philippines, and Department of Education and Culture; the voluntary agencies such as the Catholic Relief; the Project Tulungan and the Bureau of Agriculture Extension, through their Targeted Maternal and Child Health Program.

Together with the OPT, an ocular survey of preschool children shall be made by the RHU personnel. The most common signs and symptoms to look for are: thin muscles and no fat under the skin; wrinkled skin in the arms, thigh and buttocks; prominent ribs, shoulder bones and wing bone and severely underweight for marasmus cases; swelling of feet, face and legs; growth failure, low weight for age and weak wasted muscles; psychological changes like misery and irritability; dry hair, sparse and easily pluckable; pigmented and flaky skin for kwashiorkor cases; night blindness and other discernible signs (dry cornea, conjunctiva, ulcer of smoky cornea) for Vitamin A deficiency; pale conjunctiva (lower eyelid), lips and nailbeds for nutritional anemia, if there is no Hb meter.

#### D. *Nutrition Interventions*

The attainment of the program's objectives hinges largely on the efficient delivery of a "package" or nutrition interventions, namely: food assistance, food production, nutrition information and education, health protection, and family planning. Support activities on training, research and those that will augment family income will likewise be encouraged to promote efficient attainment of program goals.

The concept of a "package" approach to nutritional improvement is based on the interlinking of these various activities for total human development. Necessarily, it requires multi-agency participation.

##### 1. *Food Production*

This intervention scheme shall be the immediate concern of the planners and organizers of a municipal nutrition program.

The scheme has 2 aspects:

- a. The establishment of at least one village type food "shop" in each municipality for the production of nutritious food supplements, and
- b. The production of selected crops in the homes, school and community. Livestock, poultry and fish production should be included where it is feasible.

The production of nutritious food supplements will be implemented in two phases:

Phase 1. Meeting the emergency requirements of the food assistance intervention scheme.

This requires:

- a. procurement of cheap, locally available foods which are high sources of calories (e.g. rice, corn, camote, banana, fats and oils) and of protein (e.g. small fishes, shrimps and beans).
- b. Grinding and
- c. Packaging

To get this project started an initial capital will have to be made available. This may be obtained through fund solicitations from private individuals and organizations in addition to municipal government contributions for purchase of local food supplies. The fund campaign will be initiated by the Municipal Mayor. Labor may be provided by the mothers of children beneficiaries themselves and/or members of the RIC, YCAP, Kabataang Barangay, or similar groups of 3 or 4 on rotation basis. The basic equipment to be used may also be obtained from donations.

The production requirements and delivery scheme for this intervention is described in detail in Annex 3.

Initially, the volume of production will be determined by the requirements of rehabilitating all 3rd degree malnourished in the community. If the initial venture is successful, negotiations for Rural Bank Credits could later on be made. This will help enable the project to expand its production to likewise reach the 2nd degree malnourished cases.

Phase 2. Increasing food supply to meet nutritional requirements of population and augment family income. For this purpose the services of agriculture personnel in the area should be sought. At the same time, coordination should be made with local planners of the "Gulayan Sa Kalusugan" and the Green Revolution Project. Various activities that may be undertaken include:

- a. establishment of a community and a school vegetable nursery in each municipality or district to insure each barangay/school in the municipality a continuous supply of seeds and seedlings.
- b. cultivation of an adequate area of land planted to mungo, mung bean, cowpea, camote, banana and/or peanuts to meet food assistance intervention requirements and eventually, the food needs of the population.
- c. establishment of a barangay nursery in each barangay in order to insure seed and seedling supply for participating households.

- d. encouragement of total household participation in home food production projects. Production of calories and protein sources is given priority. The project however, should at the same time be designed to provide variety in the family meals as well as augment family income.

In areas where food sufficiency is not likely to be attained, assistance should be sought to promote activities that will help generate income for the families and enable them to procure needed foods.

- e. cultivation of a school lot planted to cowpeas, mung beans or mongo, camote and leafy and yellow vegetables to meet requirements for a supplemental school lunch program. Selected agriculture schools under the Green Revolution Program should be tapped to facilitate attainment of objectives of school nutrition program.

Annex 4 shows the guidelines for backyard, school, and community gardens.

## 2. *Food Assistance*

The food assistance intervention scheme aims to reach all 3rd degree malnourished cases in the municipality by providing them a food supplement that will supply about 1/2 of the day's allowance for calories and protein. Aimed both as an emergency and preventive measure, it requires the pooling of local resources and more so, the cooperation of the concerned families themselves.

The food assistance may come from any of the following sources:

- a. The family resource which means that the families themselves should give priority to both the infants and the severely malnourished children so that they get an adequate share of the high calorie-protein food from the family meals; and/or

If the family resources would allow, the establishment of a family "food shop" should be encouraged. The food shop will produce ground munggo

or any dried bean from the family's harvest, or small shrimps or fish that may be procured from the locality. The ground food may be cooked with "lugao" and little oil and served to the weaning and the severely malnourished child.

b. Local Government Assistance Scheme

This involves the production or processing, promotion and distribution of a food supplement, the nutri-pak, for a severely malnourished child under 6 years identified through Operation Timbang. Nutri-Pak is scientifically designed to satisfy about 1/2 of the daily calories and protein needs of a child. Packed in polyethylene, nutri-pak consists of local foods such as powdered mini-shrimps, dilis, monggo together with ground rice which can be easily procured or prepared by a municipal processing or production shop in varying formulas given in Annex 3.

Funds for this may come from development funds of the municipalities and/or possible contribution from Private sectors.

c. Foreign Donated Commodities

Another source for food assistance is the Food for Peace Commodities such as the corn-soya blend, nonfat dried milk and rolled oats. At the provincial level, these commodities may be obtained from the Social Action Director of the Diocese. It is therefore important that the PNC and Diocesan nutritionists maintain a closer link in order that immediate steps could be taken to deliver these commodities to the target population. (Please refer to guidelines on the use of food commodities.)

Together with the food assistance intervention scheme is the provision of basic health services by the RHU personnel to assess the children's health status and treat them for associated diseases. It is important that the parents of children recipients of food assistance are

made to understand that the measure is merely an *emergency* and *temporary* measure to relieve the acute condition of the child, and that maintaining the child's nutritional improvement is their responsibility.

### 3. Health Protection

An equally important intervention scheme is the delivery of a "package" of health services to the population.

The scheme which relies heavily on the health personnel consists primarily of two things: (1) medical treatment provided to the severely malnourished children for associated diseases either through the provincial hospital malwards, the medicare clinics, the RHU based untre-units or home care services; and, (2) institution of appropriate measures to increase resistance to illnesses. The latter largely concerns among others with provision of (a) an immunization program to control the incidence and spread of disease; (b) dietary and medical advice to mothers of malnourished children and to pregnant and nursing women; and, (c) health, nutrition and child care education.

The provision of such services will be a cooperative responsibility of the Department of Health and the Philippine Medical Association in coordination with other organizations.

Program goals for 1975-1976 include the establishment of fifty two (52) malwards by the Department of Health in fifty-two provinces in addition to the twenty one (21) already established malwards under the nutrition program and to the twenty five (25) already established in private hospitals initiated by the PMA and the Nutrition Center of the Philippines.

#### Nutrition Information and Education

The Nutrition Information and Education (NIE) intervention is aimed to increase the level of awareness and knowledge about nutrition among our people, particularly, the mothers of affected children and subsequently influence their attitudes towards the adoption of desirable nutrition practices.

The NIE program will be carried out through a combination of approaches, namely:

- a. Nutrition education in the schools.
  - b. Nutrition education through integration of nutrition in the functions of various agencies.
  - c. Utilization of mass media which includes development and distribution of printed and broadcast information materials.
- a. Nutrition education in the schools will be provided to the school population from kindergarten and elementary schoolchildren to college students through the integration of nutrition in the various school subjects. The DEC will continually review school curriculum to strengthen its nutrition component, develop teaching guides, unit texts, teaching aids and other materials for the use of classroom teachers.
  - b. Nutrition education through integration of nutrition teaching in the functions of different agencies such as DOH, DEC, DSW, DA, DAR, DLGCD, CRS, and others. These will include utilization of various teaching opportunities such as clinics, home visits, barangay assemblies, PTA, RIC, and similar meetings.  
Organized classes for homemakers, farmers, and youths serve as potential channels for nutrition education. Basic nutrition messages that will be given include: breast feeding, care for the sick child, food needs of pregnant and nursing mothers and the family, family planning, food production, sanitation, determination of nutritional status and the importance of progress weighing of children beneficiaries of supplemental feeding project. There will likewise be intensive efforts on improving weaning practices since all available evidence suggest that malnutrition occurs during this critical period.
  - c. Utilization of mass media  
As a means of reaching greater number of people and

facilitating the spread of correct information on better nutrition, maximum use of the mass media (film, radio, TV, print) will be explored and systematically done to synchronize campaign with those used in the various direct teaching activities.

A necessary support to personal contact approach are the various forms of printed manuals such as leaflets, pamphlets, posters, and broadcast materials like jingles, mini-dramas, containing simple but easy to understand messages on nutrition and other related information.

Development of these will be a cooperative endeavor of the various implementing agencies such as the FNRC (NSDB), DEC, BAE, DSW, DOH, NCP, NMPC, NFP, and others following the NIE guidelines in annex 5. NMPC, NFP, and others following the NIE guidelines in annex 5.

#### 5. Family Planning

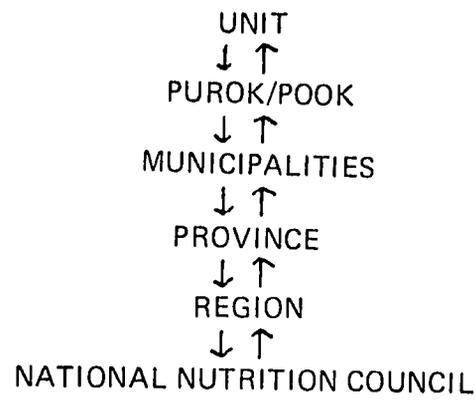
Family planning as an integral part of the nutrition program includes providing the parents, particularly of malnourished children, with some basic concepts on family planning and its relationship with nutrition. Information on this will be integrated in relevant educational activities for homemakers and on informational materials to be developed cooperatively by the POPCOM and the National Nutrition Council. At the municipal and barangay levels, the nutrition worker's role would be to assist in locating family planning acceptors through established barangay monitoring systems and to facilitate referrals to family planning workers.

Guidelines for integrated nutrition and family planning education outlines in detail subject areas to be emphasized.

#### E. Monitoring, Reporting and Evaluation

The monitoring system under the PNP is one which defines the mechanism through which information from the lower structural levels is transmitted to the NNC and vice versa.

The PNP organizational structure for monitoring system, is as follows:



Information that will be transmitted from one level to another will come in the following forms:

1. Reports

Progress Reports are of 2 types:

- a. Progress reports on OPT to be accomplished by the teacher-coordinator and submitted to the RHU which reviews and certifies accuracy of the weight data. Certified reports are sent by the RHU to the NNC which feeds these to the computer system. Results of weight data goes back to the NNC copy furnished the DOH and the PNC.
- b. Monthly progress report of accomplishment on the various nutrition interventions.

Consolidated pook/purok monthly progress reports will be submitted by the BNC to the CAO/MAO who in turn consolidates Barangay reports into a Municipal report to the Governor, through the PAO, who together with PAC consolidates the municipal report into a Provincial report. The Governor transmits provincial report to NNC copy furnished the RNC.

## 2. Meetings

Periodic meetings which may be of monthly, bimonthly, quarterly or at even more frequent intervals will be undertaken at each organizational level in order to promote greater involvement among its members and thereby facilitate program implementation. Such meetings will be among the members of the committee, the program staff at provincial and municipal levels, and the Program Staff with the technicians involved in the program. Matters to be discussed during said meetings will be those relevant to status of implementation, agency commitments to the program and how these are met, and problems on program implementation. It will be an established procedure that only those problems that are beyond solution at the local level should be elevated at the national level.

## 3. Evaluation

Evaluation of the progress of program implementation is done through 2 approaches: internal evaluation and external evaluation.

Internal evaluation will be carried out by the National Nutrition Council staff and the INTACT members through periodic field visits and meetings with the Provincial Program Staff. During such meetings, field observations and problems on coordination and implementation will be discussed. Solutions to problems will be threshed out and only those requiring higher level decisions will be brought to the Council. A minimum of two (2) visits per province per year will be made by a joint visiting team of NNC and INTACT.

At the regional level, periodic field evaluation will be done by the Regional Action Officer. At the provincial level, the Provincial Governor together with the Provincial Action Officer and the Program Area Coordinator will conduct frequent evaluation of progress of program implementation. This will be done through interviews with family cooperators and meeting with program personnel. The program staff at each level shall

aim to make frequent field visits so as to maintain interest of program cooperators.

External evaluation, on the other hand, will be provided through a year-end audit surveys by professional research groups contracted by the National Nutrition Council to determine whether the Program is achieving its objective. Such audit surveys will be so designed, such that, the policies, strategies, and projects of the Program are measured in terms of their effectiveness in the attainment of the objectives of the Philippine Nutrition Program. Such evaluation will be undertaken in April-June, 1975.

F. Food and Nutrition Research

Corollary to establishing a sound nutrition program is the conduct of relevant activities on basic and applied research in food and nutrition with more emphasis on the latter and on the utilization of findings.

Among the agencies which presently undertake research activities on food and nutrition are FNRC (NSDB), UP-IPH, UPHE, UPLB, BPI, BF, PWU, PCAR, and several food companies in the private sector.

In order to achieve greater impact, alignment of research activities with the objectives of the Philippine Nutrition Program will be encouraged. Such research undertakings will be along a continuing effort to develop and test standards and/or approaches for their practicability and effectiveness in order to give directions for planning nutrition intervention schemes. Among these will be the development of standards for detecting and gauging the type and extent of the malnutrition problem; production and conduct of acceptability tests of low-cost high calorie-protein food formulations; field testing of a monitoring and delivery system and other similar areas of research that will help increase efficiency in the attainment of program goals.

The FNRC will take the lead in the conduct of these research activities and at the same time, through the Food Nutrition Research Committee, conduct a periodic evaluation of research needs and establish research priorities.

V. AGENCY RESOURCES MADE AVAILABLE TO THE PNP (1975-1976)

A. Personnel

	FNRC (NSDB)	NFP	PBSP	DAR	BPS	DOH	DSW	DSD	BAEx	CRS	NCP	NNC
1. NATIONAL	226	36	12	3	17	12	6	4	4	5	51	75
2. REGIONAL		8		11		11	13		11	9		
3. PROVINCIAL				40	45	52	133	5	150	55		
4. MUNICIPAL				120			2,559		1,300			

B. Budget

AGENCY	AMOUNT	GEN. APPRO.	SOURCES OF FUND SPECIAL PROJECT	GRANTS	FOREIGN ASSISTANCE IN KIND	
					DONOR AGENCY	REC'D THROUGH NNC
1. DAR	1,692,576	P1,692,576				
2. BPS	1,622,432.70	1,622,432.70			UNICEF	Supplies & Equipment
3. FNRC (NSDB)	6,228,620.00	5,143,000.00	1,085,620.00		UNICEF IDRC USAID ASEAN	
4. NFP	1,009,360.00			PCSO 1,009,360		
5. BAEx	8,952,650	8,952,650	P140,000.00	USAID		
6. DOH		2,164,840	1,908,400			
7. DSW		5,984,000				
8. CRS	927,292.88	538,178.86	356,821.14	39,292.88	CRS-2,400,000 lbs.	
9. NCP	1,448,852			1,448,852		
10. NNC	10,000,000			USAID UNICEF		

## **TRAINING ON THE PHILIPPINE NUTRITION PROGRAM**

### **I. INTRODUCTION**

The thrust of the Philippine Nutrition Program is a broader people participation and efficient implementation on the grassroots level. Initially, however, key people will be trained to equip them with necessary skills to make the program going. They will participate in a training program conducted by the National Nutrition Council with the following as their guiding principles:

1. Clearer understanding of the organization and functions of the National Nutrition Council from the national to the barangay level, and
2. Clearer understanding of nutrition intervention schemes so that these can be successfully implemented in the municipality.

Besides intensifying program implementation, training would develop among trainers, on a national scale, unity in thinking and approach and would equip them with knowledge on the new directions of the Philippine Nutrition Program.

The training program will be undertaken on the national, regional, provincial, municipal and barangay levels.

### **II. LEVELS OF TRAINING**

#### **A. National Training**

A four day training will be conducted involving training officers and selected supervisors of agencies implementing the PNP. Participants shall include:

- Inter-Agency Action Group (INTACT) Members
- Regional Action Officers (RAO)
- Regional Training Officers (RTO) – DOH
- Senior Dietary Nutritionists – DOH
- Nutritionists – NFP –
- Training Officers of other cooperating agencies.

There will be 85 participants who will be trained in groups of 30-40. Partici-

participants in the national training will form regional training teams of 5-6 members each. The team shall:

- a. assess the status of organization of Regional Nutrition Committee (RNC) and Provincial Nutrition Committee (PNC) for proper referral and/or action.
- b. plan with the RNC the training activity for the provinces within the region.
- c. orient the members of the RNC and PNC on the new directions of the Philippine Nutrition Program.
- d. plan and implement with the PNC, within the region, the training in nutrition for the provincial program staff.
- e. conduct follow-up of training activities of provincial trainers.

#### **B. Regional Orientation**

A one-day orientation for regional participants will be conducted in each region by the Regional Training Teams in coordination with the RAO. Regional participants shall include:

- Governors of the provinces within the region.
- RNC members and/or
  - Regional Directors of Dept. of Education and Culture (DEC)
  - Regional Directors of Bureau of Agricultural Extension (BAE)
  - Regional Directors of Bureau of Plant Industry (BPI)
  - Regional Directors of Bureau of Animal Industry (BAI)
  - Regional Directors of Dept. of Local Governments and Community Development (DLGCD)
  - Regional Directors of Dept. of Agrarian Reform (DAR)
  - Regional Directors of Department of Social Welfare (DSW)
  - Regional Directors of Department of Health (DOH)
  - Regional Directors of National Economic and Development Authority (NEDA)

#### **C. Provincial Training**

A four-day training activity will be organized by the Regional Action Officer (RAO) in coordination with the PNC through its Provincial Action Coor-

dinators (PACs) and Provincial Action Officer (PAO). This will be conducted by the Regional Training Teams. (The one-day orientation for regional heads of offices and governors of the provinces within the region may be incorporated in the provincial training.) There shall be 8 participants per province. These include:

- PNC members and/or
  - DEC, Division Supervisor of HE or his/her representative
  - Provincial Health Office
    - Provincial Health Officer or Provincial Nutritionist
  - Bureau of Agricultural Extension
    - PHMT or PA
  - Bureau of Plant Industry
    - Provincial Plant and Pest Control Officer
  - Bureau of Agrarian Reform
    - Agrarian Reform Specialist
  - Department of Local Government & Community Development
    - Provincial Development Officer
  - Department of Social Welfare
    - Provincial Social Welfare Administrator

Provincial training participants will be formed into provincial training teams. The training team shall:

- a. assess the status of organization of Municipal Nutrition Committee within the province for proper referral and/or action.
- b. orient the members of the MNC on the new direction of PNP.
- c. plan training for the members of municipal nutrition committees within the province.
- d. conduct and supervise training in the municipalities.

#### **D. Municipal Training**

This is a four-day course which shall be organized and conducted by the provincial training teams. The PAO, PAC and Chairman of the NNC shall be responsible for coordinating this activity. A one-day orientation for mayors may be incorporated in the municipal training. There shall be eight (8) participants per municipality. Participants shall come from:

- Municipal Nutrition Committee (MNC) members and/or
  - BAE worker, the HMT or FMT

- DLGCD, the Community Development Worker
- DEC, the District Supervisor
- DAR, the Technologist
- RHU, the MHO or RN

Municipal training teams will be formed out of the training participants. They will in turn, conduct trainings for barangay personnel. The team shall:

- a. assess the status of organization of Barangay Nutrition Committee for proper referral and/or action.
- b. orient the members of the BNC on the new directions of the PNP.
- c. plan training for the members of the BNC.
- d. conduct and supervise training on the Barangay Level in coordination with the MAO.

#### **E. Barangay Training**

This is a four-day training to be participated by selected members of Barangay Nutrition Committee (BNC). A one-day orientation course for barangay chairman may be incorporated in the barangay training. This activity will be coordinated by the PAC and the MAO. There shall be at least two (2) participants per barangay. The participants trained on this level shall form Barangay training teams who, in turn, will organize and conduct training for purok, unit leaders and volunteers.

## **FLOW CHART FOR TRAINING ON PHILIPPINE NUTRITION PROGRAM**

### **National Training**

Four-day training of selected supervisors and training officers of agencies involved in Philippine Nutrition Program. (To be coordinated by NNC). Participants trained will constitute the regional training team (RTT).

### **Regional Training**

One-day orientation on Philippine Nutrition Program for Regional Nutrition Committee chairmen and/or regional heads of offices and governors of provinces within the region (To be coordinated by the Regional Action Office). Regional Training Team will serve as trainers/resource persons.

### **Provincial Training**

- One-day orientation for provincial heads of agencies
- Four-day seminar for provincial program staff (To be coordinated by the Provincial Action Office, Regional Action Coordinators and Regional Action Office).
- Regional training teams will serve as trainers/resource persons.

### **Municipal Training**

- One-day orientation for mayors/chairmen of Municipal Nutrition Committee
- Four-day seminar for municipal program staff. (To be coordinated by Provincial Action Coordinators and Municipal Action Office).
- Provincial training teams will serve as trainers/resource persons.

### **Barangay Training**

- One-day orientation for Barangay heads/chairmen of Barangay Nutrition Committee
- Four-day seminar for members of BNC. (To be coordinated by Municipal Action Office & PAC).
- Municipal training teams will serve as trainers/resource persons.

### USING THE BAR SCALE FOR FIELD WEIGHING OF PRE-SCHOOL CHILDREN

Operation Timbang (OPT) is currently being conducted nationwide on the barangay level. It aims to weigh 0-71-month old pre-school children and to screen them broadly into levels of undernutrition. The results from OPT would help the municipality to determine, locate and identify families with malnourished children so that they could be given emergency and proper medical treatment and food assistance. The results would also serve as the basis for planning and implementing the local nutrition program.

Unfortunately, problems have arisen which tend to impede the OPT in many municipalities. The most pressing one is that the recommended clinical (Detecto Health-O-Matic) scale is hardly available in the municipality. If it is available, it is so costly (about \$68) that the municipality cannot afford to buy with its limited budget. Most often, these municipalities opt to wait hoping that the needed clinical scales would be provided by the national agencies involved in the operation. Thus OPT could not be conducted -- and the entire local nutrition program is not activated.

While the national agencies recognize the problem and while some measures are being done to solve it, it is highly recommended that municipal nutrition committees on their own should seek an alternative to the clinical scale. For instance, they can use, with some innovations, the locally manufactured bar scale. Commonly called "espada," the bar scale with a capacity of 20 kg. and with 0.1 kilogram markings costs P48 in the retail market.

A crib, however, has to be made where an infant could be made to lie down or an older child could sit upon with reasonable ease. About 14" x 16" in size, the crib is made of abaca sack cloth, iron bar, cord and brass rings as illustrated in Figure 1. Its weight should not exceed 1 kg.

Below are instructions on how to use the bar scale (see Figure 1):

1. Correct the scale reading for the weight of the crib by remarking the scale on a tape placed over the original marking, starting from zero. This means, the new zero point is the spot where the scale with the empty crib is in perfect balance.
2. The bar should be hung such that it is low enough for the operator to balance the arm but high enough so that the feet of the bigger children will not touch the ground.

3. Make sure that the balancing weight is moved back to its original position (near the hooks) *before* the child is removed from the crib.
4. Get the name, date of birth and other pertinent data about the child before the actual weighing.

The NCP will soon make available ready made scales and cribs for sale at minimum cost. With these scales, no correction of scales do not have to be made since they are pre-calculated according to the weight of the crib.

The bar scale of "espada" can be used as a substitute for the clinical scale if properly and carefully operated.

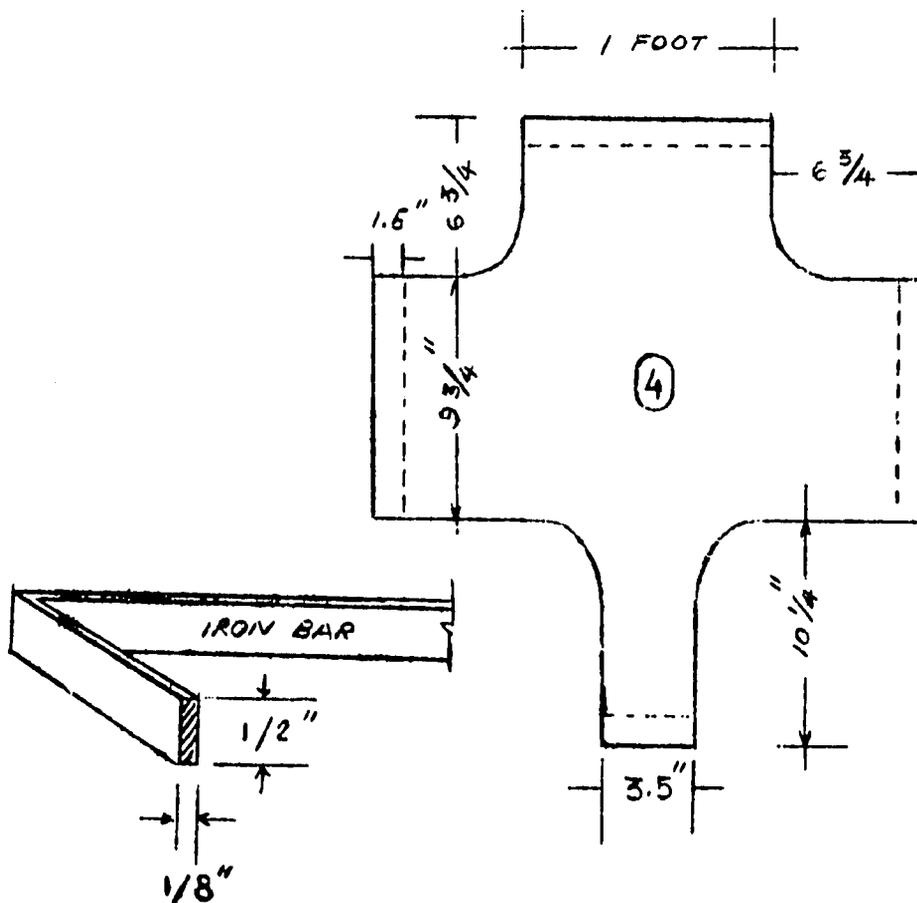
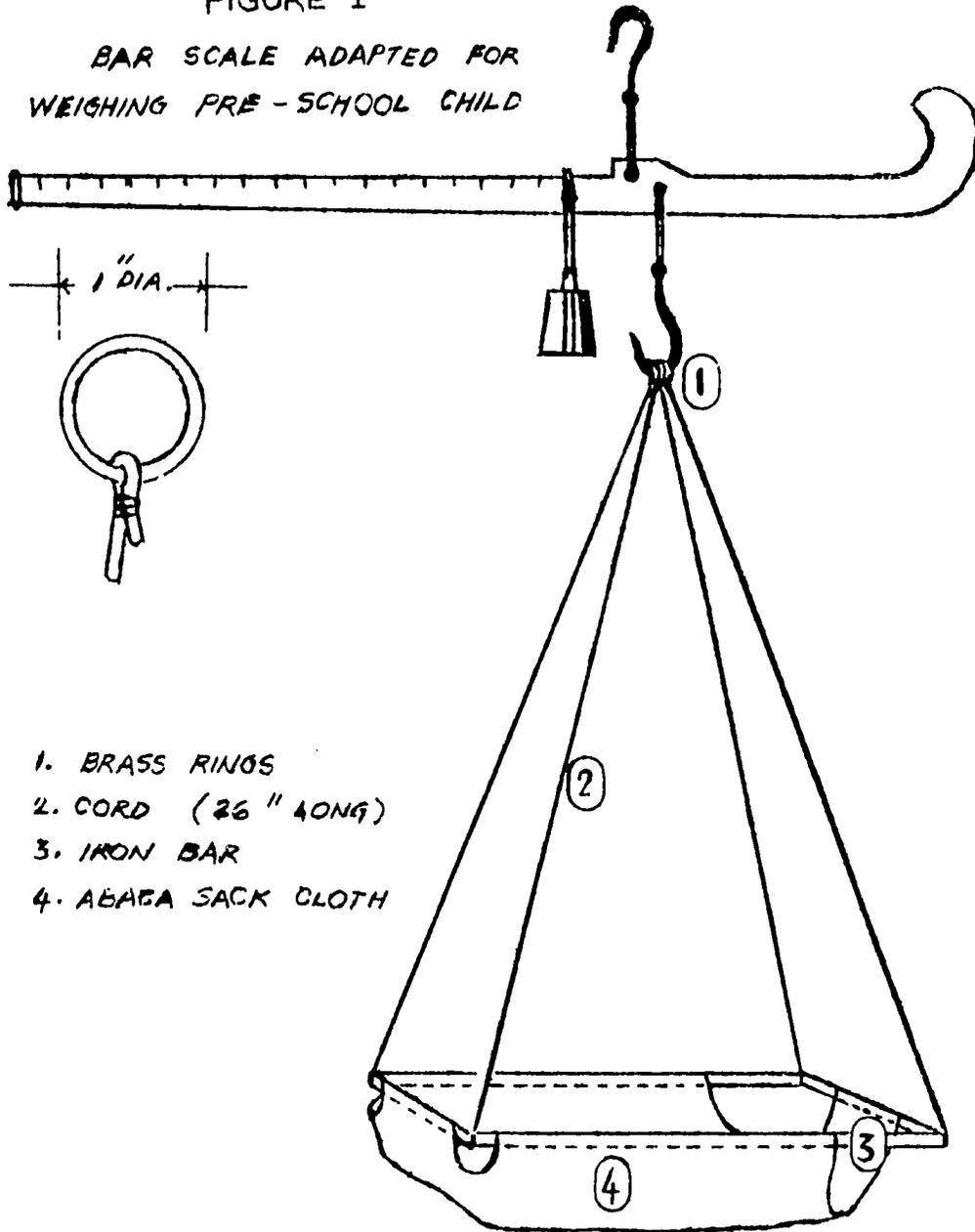


FIGURE I  
BAR SCALE ADAPTED FOR  
WEIGHING PRE-SCHOOL CHILD



- 1. BRASS RINGS
- 2. CORD (26" LONG)
- 3. IRON BAR
- 4. ABABA SACK CLOTH

Annex – 3

**NUTRI-PAK – A FOOD ASSISTANCE INTERVENTION SCHEME**

The Nutri-Pak is a system of food assistance to the third degree cases of malnutrition identified during the Operation Timbang. It consists of local foods easily procured or prepared by the municipality and designed to serve as food supplement to the usual diet of the child. It is presented to mothers in ready-to-cook packs enough for a day's supply. Each pack contains packets of ground rice, a protein rich food such as mini-shrimp, dilis, mongo powder, skim milk powder and cooking oil. The mother prepares the dish at one time, mixing ingredients as directed, and then giving portions of the dish in midmorning or midafternoon or during mealtime as food supplement. Feeding is continued for at least six weeks.

Tables I to III show the different Nutri-Pak formulations using Mini-Shrimp powder, dilis powder and mongo powder. Different formulations allow for variety in the child's diet as well as choices for a municipality depending on its resources. There are three types of formulations for each food combination: Type I is for infants below 1 year, type II is for children 1-3 years, and type III, for children 4-5 years. The rice is ground such as to make thick lugao when cooked.

Table I  
Nutri-Pak Formulation  
with Mini-Shrimp Powder

Type	Rice g	Skim Milk g	Mini-Shrimp g	Oil	Total
1	60	10	15	15	100
11	110	—	15	25	150
111	125	—	20	30	175

**Table II**  
**Nutri-Pak Formulation**  
**with Dilis Powder**

Type	Rice	Skim Milk	Dilis Powder	Oil	Total
	g	g	g		
1	60	10	10	15	95
11	110	—	15	20	145
111	125	—	20	25	165

**Table III**  
**Nutri-Pak Formulation**  
**with Mongo Powder**

Type	Rice	Skim Milk	Mongo Powder	Oil	Total
	g	g	g	g	
1	60	10	20	15	105
11	115	10	30	20	175
111	135	10	30	25	195

Skim milk is any available powdered skim milk. The mini-shrimp powder is available from Arellco Enterprises\*. Otherwise, locally available varieties of small shrimps may be prepared by simple pre-cooking, drying and grinding (Appendix 3-a). Methods of preparing dilis and mongo powder are also described in Appendix 3-a. Oil is ordinary cooking (coconut) oil. Each measured portion of these foods are individually placed in polyethylene packets (no. 002) and sealed. A whole day's supply is packed in a larger polyethylene bag for easier handling and distribution. Recipients can be given a week or 2 weeks supply per distribution. Appendix 3-b gives directions for cooking various nutri-pak formulations.

\* Arellco Enterprises, 4118 Ramon Magsaysay Blvd. Sta. Mesa, Manila

### Municipal Nutri-Pak System

A municipality desiring to start a Nutri-Pak System may put up a simple processing plant designed according to resources available. Funds for materials and the operation of the processing plant should, as much as possible, come from local sources. A well-controlled delivery system is essential. The barangay network provides an excellent channel for delivery and evaluation.

It should be emphasized to the parents of recipients that the assistance is only a means of relieving the acute condition of the child and that this method of rehabilitation is an emergency and temporary relief operation. It should always be accompanied by other nutritional intervention systems most especially health protection and nutrition education.

In an average municipality with 200 pre-schoolers suffering from third degree malnutrition, it may be assumed that 12 percent (or 24) are infants below one year, 56 percent (112) are from 1 to 3 years, and 32 percent (64) are from 4 to 5 years. For a six-week feeding operation, this will mean a total of 8,400 packs, and for two six-week feeding operations during the year at 6 months intervals, this will mean a total of 16,800 packs (Table IV).

Table IV  
Number of Nutri-Paks for a Municipality  
with 200 Third Degree Malnutrition Cases

Type	One Six-Week Feeding	Two Six-Week Feeding
1	1008	2016
11	4704	9408
111	2688	5376
<b>TOTAL</b>	<b>8400</b>	<b>16800</b>

Based on present costs\*, Tables V to VII summarize the cost of raw materials per child for the different formulations on a daily basis and over a

\* Rice at P1.90/kilo; skim powder at P7.40/kg.,  
mini-shrimp powder at P6.00/kg., cooking oil at  
P5.00/kg.

6-week and two six-week feeding periods. The Mini-Shrimp formulation present the cheapest combination, while the mongo powder formulation is the most expensive.

**Table V**  
**Cost of Raw Materials Per Child**  
**for Mini-Shrimp Formulations**

TYPE	Cost Per Child		
	DAILY	6 WEEKS	12 WEEKS
1	P .35	P14.70	P29.40
11	.43	18.06	36.12
111	.51	21.42	42.84

**Table VI**  
**Cost of Raw Materials**  
**Per Child for Dilis Formulation**

TYPE	Cost Per Child		
	DAILY	6 WEEKS	12 WEEKS
1	P .38	P15.96	P31.92
11	.49	20.58	41.16
111	.61	25.62	P51.24

**Table VII**  
**Cost of Raw Materials Per**  
**Child for Mongo Powder Formulations**

TYPE	Cost Per Child		
	DAILY	6 WEEKS	12 WEEKS
1	P .38	P15.96	P31.92
11	.54	44.68	45.36
111	.64	26.88	53.76

Applying these costs to a municipality with 200 third degree pre-schoolers on a Nutri-Pak assistance program (daily feeding for 6 weeks, repeated after 6 months) an expenditure of P7,430, is estimated to be needed for Mini-Shrimp Formulation (Table VII). Dilis powder formulation will need P8,600, while mongo powder formulation will need about P9,500.

**Table VIII**  
**Breakdown of Cost of Raw Materials for**  
**two six-week Nutri-Pak Program in a**  
**Municipality with 200 Third Degree Pre-Schoolers**

Food Commodity	Cost of Formulation			
	Mini-Shrimp	Dilis Powder	Mongo Powder	
1	Rice	P 229.82	P 229.82	P 229.82
	SKM	149.18	149.18	149.18
	MSP/DP/MP*	181.44	241.92	241.92
	Oil	151.20	151.20	151.20
	Sub-Total	P 711.64	P 772.12	P 772.12

\* *Mini-shrimp powder/dilis powder/mongo powder*

11	Rice	P1,966.27	P1,966.27	P2,055.12
	SKM	—	—	—
	MSP/DP/MP	848.72	1,693.44	1,693.44
	Oil	1,176.00	940.80	940.80
	Sub-Total	P3,988.99	P4,600.51	P5,385.01
111	Rice	P1,276.80	P1,276.80	P1,378.94
	SKM	—	—	398.16
	MSP/DP/MP	645.80	1,290.24	967.68
	Oil	806.40	672.00	672.00
	Sub-Total	P2,729.00	P3,239.04	P3,416.79
	<b>TOTAL</b>	<b>P7,429.63</b>	<b>P8,561.67</b>	<b>P9,573.92</b>

Estimated total expenses including equipment, personnel, etc. is summarized in Appendix 3-c.

### APPENDIX 3-a

#### Processing and Packaging of Nutri-Paks

Prepare only as much of the raw materials as are needed for a 6-week distribution..

#### I. Directions for Preparing the Raw Materials

##### 1. Rice

- Winnow and remove tiny gravel, palay and other debris.
- Grind\* to coarse grits and store in dry covered bins until ready to pack.

##### 2. Mongo

- Winnow and remove tiny gravel, pod remnants and other debris.

\* Stone grinder may be used.

- Grind\* to fine grits but not powdered.  
Sift to remove some of the loose hulls.  
Regrind coarse grits.  
Store in dry covered bins until ready to pack.

3. *Dilis*

- If fresh dilis is used, dry under the sun according to practiced procedure.
- If dried dilis is available, pre-cook by toasting over low fire.
- Grind to fine powder and store in dry covered bins until ready to pack.

4. *Shrimps*

- If fresh mini-shrimps are used, cook in its own juice for 15 minutes, then dry thoroughly under the sun or in a mechanical drier (Appendix C).
- If dried mini-shrimps are used, pre-cook by toasting lightly on low fire.
- Grind\*\* into fine powder and store in clean, dry containers with well fitted covers until ready to pack.
- Ready to serve mini-shrimps powder may be obtained from Arellco Enterprises in 50 g. or 1 kg. bags.

## II. Directions for Packaging

1. **Personal Hygiene**  
Personal neatness should be strictly observed, such as wearing clean aprons, tying hair into place, washing hands with soap and water, and avoiding smoking.
2. **Cleanliness and Orderliness**
  - a. Keep table tops neat, clean and orderly.
  - b. All equipment and utensils should be clean and dry and orderly arranged.
  - c. Storage bins and sacks containing commodities should be stored conveniently in one room section.
  - d. Provide a covered trash can.

\* Mechanical grinder – refer to Appendix C.

3. Arrangement: Room – 4 x 6.5 meters
  - a. For cleanliness and convenience, gas should be used for toasting dilis or shrimp. The gas stove is placed on a table in one side of the room.
  - b. Locate grinder (mechanical) on a small table adjacent to the cooking area. If a stone grinder is used, it should be on a low platform for convenience.
  - c. A rectangular table for weighing, packaging and sealing is placed in a convenient part of the room.
  - d. Washing and storage areas should be adjacent to each other.

4. Packaging

Each food commodity is packaged at one time until a calculated number good for a six-week distribution is weighed, packed and sealed. Store in separate bins, label and cover tightly.

Oil need not be weighed. Using standard household measures the specified quantities for oil may be translated to the following equivalents:

10 grams = 1 tbsp.

15 grams = 1½ tbsp.

20 grams = 2 tbsp.

25 grams = 2½ tbsp.

- a. The bin containing the food commodity is placed on the right of the worker. Invert flap of plastic envelop, place on scale and note its weight. With a scoop-type spatula transfer ground food to the envelop, weighing specified amount.
- b. This is passed on to the next worker (sealer) to the left. Reverse flap and seal. Inspect for leak in sealing.
- c. Pass to next worker who reviews seal, counts, stores in bins and labels.
- d. A record is kept of the finished packets and kept up-to-date. Similar process is followed for the other food commodities.
- e. A whole day's formulation (specified according to type)

is packed in a larger polyethylene packet and sealed. One week supply is placed in bigger bag and stapled. Recipients can be given one or 2 weeks supply per distribution.

5. Sizes and Number of Plastic Packets
- a. Milk, mini-shrimp or dilis powder packet including over-flap — 3.5" x 5", no. 002
  - b. Mongo powder — 4.5" x 6", no. 002
  - c. Oil — 3.5" x 6", no. 004
  - d. Rice — 5.5" x 8", no. 002
  - e. Packet for one day formulation — 10" x 13", no. 001
  - f. Polyethylene bags for 1 week supply — 18" x 12", no. 00

#### APPENDIX 3-b

##### Directions for Cooking Various Nutri-Pak Formulations

###### Using Mini-Shrimp and Dilis Powder:

- a. Type 1 formula with dilis or mini-shrimp powder. In a covered kettle, boil 2½ cups water. Add the oil to the rice, mix and add into the boiling water. Stir and cook 10 minutes on low heat.
- b. Add dilis or mini-shrimp powder and cook 5 minutes more. Milk is added before removing from stove and salt or sugar added to taste, whichever is preferred.  
Yield: 460 grams or about 2 cups.
- c. Type II and III formulas with dilis or shrimp powder. Cook exactly as Type I but use more water: 3½ cups for Type II and 4 cups of water for Type III. Add salt or sugar to taste. It is advisable to divide each nutri-pak to 2 or more servings. The child should finish one pack per day.

###### Using Mongo Powder:

- a. Types I, II and III formulas, with mongo powder. Use three cups

of water for Type I, 4 cups for Type II and 4½ cups for type III. Add the mungo to the boiling water, stir and cook for 10 minutes in medium fire. Mix the oil and rice and add to the mungo. Stir and cook 15 minutes longer. Salt or sugar is added to taste. For each type, milk is added last, just before removing from stove. Each type yields 2 to 4 servings, which is good for the whole day.

### APPENDIX 3-c

#### Cost Estimate

#### Plan I

#### 1. Capital Outlay

##### a. Building pre-fab or free

##### b. Equipment

1 weighing scale	P1,400.00
1 plastic sealer	280.00
1 stone grinder (for rice) . . . . .	.85.00
1 portable hand operated grinder	300.00
1 portable motor 1 hp. for grinder	950.00
1 work table 1.2 M x 2.4 M	300.00
1 LPG burner with accessories	200.00

##### c. Miscellaneous

1 bilao sifter 36" dia.	8.00
2 bilaos 30" dia. for drying at P7.50@	15.00
2 bañeras at P20.00@	40.00
1 galvanized iron bin with fitted cover for 1 cavan ground rice	26.00
2 galvanized iron for 10-20 K powder (dilis or shrimp)	30.00
4 galvanized iron to store separately packaged commodity at P17.50@	70.00
Sub-total	<u>P3,704.00</u>

\* Description and suggested sources listed.

2.	Personnel		
		1 weigher at P8.00 x 10 x 2	160.00
		1 sealer at P8.00 x 10 x 2	160.00
		1 sorter, foreman, bookkeeper at P10.00 x 10 x 2	<u>200.00</u>
		Sub-total	<u>520.00</u>
3.	Raw Materials		
		Complete formulation with mini-shrimp powder, for 2 six-weeks treatment	P7,500.00
		Plastic packets, assorted sizes	<u>500.00</u>
		Sub-total	<u>P8,000.00</u>
		Transportation and Travel at P100. x 2	200.00
5.	Sundries at P100. x 2		200.00

#### Plan II

1.	Capital Outlay		
a.	Building – pre-fab. or free or minimum rent at P50.00/month x 2		P200.00
b.	Equipment		
	1 weighing scale		P1,500.00
	1 plastic sealer		280.00
	1 grinder (mechanical)		9,800.00
	1 work table 1.2 M x 2.4 M		300.00
	1 table 1.5 M square		120.00
	1 LPG burner and accessories		200.00
c.	Miscellaneous		
	1 bilao sifter 36" dia.		8.00
	2 bilaos 30" dia. for drying at P7.50@		15.00
	2 bañeras at P20.00@		40.00
	1 galvanized iron bin with fitted cover for 1 cavan ground rice		26.00
	2 galvanized iron for 10-20 K powder (dilis or shrimp)		30.00

4 galvanized iron to store separately packaged commodity at P17.50@	70.00
	<hr/>
2. Personnel	P12,589.00
1 weigher at P8.00 x 2 x 10	160.00
1 sealer at P8.00 x 2 x 10	160.00
1 sorter, foreman, bookkeeper at P10.00 x 2 x 10	200.00
	<hr/>
Sub-total	P 520.00
3. Raw Materials	
Complete formulation with mini-shrimp powder, for 2 six-weeks treatment	7,500.00
Plastic packets, assorted sizes	500.00
	<hr/>
Sub-total	P 8,000.00
4. Transportation and Travel at P100. x 2	200.00
5. Sundries at P100.00 x 2	200.00
	<hr/>
TOTAL	P 21,509.00

#### Description and Sources of Equipment

— Weighing Scale:	
1 unit "NUTEX" scale, Pearl Bench Type, Model NT 1000 P; Capacity 1 kilo; Graduation 2 gms. Front and back reading dials.	P1,400.00
<b>Sources:</b> NUTEX Equipment Supply 1785-C Taft Ave., Manila Tel. 50-71-92	
— Grinder:	
Heavy duty grinder with 3 hp. motor capacity 12 cans per hour.	P9,800.00
Portable hand-operated grinder with 1 hp. motor attachment	300.00 950.00

**Source:** Arellco Enterprises  
4118 Ramon Magsaysay Blvd.  
Sta. Mesa, Manila  
Tel. 60-27-66

Stone grinder, no source available but popular  
in provinces

Plastic sealer, Fuji, manual type 280.00

**Source:** NUTEX Equipment Supply  
1785-C Taft Ave., Manila  
Tel. 50-71-92

Work tables – can be ordered

LPG burner – available through gas dealers

Bilao -- available in all markets

Bañera, bins, spatula – can be ordered according to size in tin-smith stores

Mini-shrimp powder, already packed and processed – available at Arellco Enterprises (refer above address)

### **GUIDELINES: Backyard, School, and Community Gardens**

**GENERAL PURPOSE:** The focus of backyard, school or community garden programs is to make available to rural families and school children a more adequate diet and hopefully to correct the malnutrition problem. Promotion of home or community gardens to replace or phase-out current food donation from abroad is also a major purpose. For such food production projects, the recommended crops (legumes, root crops and corn) have been specifically selected for their high yields of calories and proteins, the nutrients most commonly lacking in the average diet.

**CALORIE AND PROTEIN PRODUCTION GOALS:** Based on recommended dietary allowances, the average Filipino family of eight (8) members requires the following daily:

16,000 calories (2,000 x 8)

400 grams (50 grams x 8)

As a reasonable production goal in home or community gardens, two purposes can readily be identified, namely:

- (1) Correction of the current estimated calorie and protein deficiency.
- (2) Replacement of the current food assistance to families with malnourished children.

**Purpose 1:** It is estimated that the average diet is 15% deficient in calories and 5% deficient in protein. Thus, the average family of eight (8) members would have to produce the following daily to correct the deficiency:

2,400 calories daily (15% of 16,000)

20 grams protein daily (5% of 400)

**Purpose 2:** It is estimated that in the current targeted maternal child health food assistance program, participating families receive an average of about 600 calories per day of donated food, mostly donated from abroad:

600 calories (400 calories per recipient with  
an average of 1.5 recipients  
per family)

### **FOOD PRODUCTION PLAN**

**What to Plant:** For variety and for nutritious diet for families, one can plant the following groups of vegetables throughout the year in backyard,

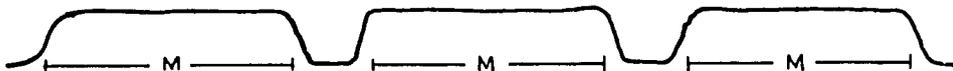
school or community gardens:

- (1) Calorie or energy foods: corn, sweet potatoes, cassava, gabi.
- (2) Protein crops: cowpea, bush sitao, mungo, kadyos, (pigeon pea), patani, (lima bean), peanut, or utaw (soybean).
- (3) Vitamin Rich Foods: malunggay leaves, gabi leaves, sweet potato leaves, alugbati, kangkong, pechay, mustasa, calabasa, tomato or saluyot and papaya.

The emphasis should be on calorie and protein foods since these are of major concern.

**Garden Size:** The backyard garden plot could be 1 meter x 10 meters raised bed and thoroughly prepared for planting. In a backyard of 100 sq. meters, we could plant eight plots of 1 meter x 10 meters in size to the pre-requisite target crops. It is important to keep the land preparation and crop selection simplified. Selected crops should be chosen for their local acceptability, nutritional value and seed availability. These could include: corn, beans, sweet potatoes, cassava, all of which can be duplicated from seed/cuttings from the harvest.

**Land Preparation and Plot Garden Layout:** The raised beds would appear as:



These beds could be prepared initially in January, for example and planted successively until June without major land preparation. Then, in June, the land could be prepared again for successive crops until December. The simple land preparation method requires only periodic cultivation, weeding and hilling operations, as needed. Most important is an **initial thorough land preparation operation** to insure good plant growth and uniform vigor.

The garden soil must be cultivated deeply at least two times to break the hard layer, and then harrowed at two times to insure an even land surface for planting.

**Crop Protection and Care:** The above selected crops should be sprayed, if possible, every 10-14 days for insect pests with locally available commercial pesticides. Care should be taken not to spray at least seven (7) days before harvesting the crops:

Each crop has individual water requirements. As a general rule, watering should be 2x/day as: early morning (7-8 a.m.) and early afternoon at about 2-3 p.m.

The close examination of traditional backyard garden cropping patterns reveals that typical gardens are usually planted to mostly leafy vegetables, since they are fast growing and mostly easily taken care of.

**Planting Guide:** The following table shows a home garden planting guide which can be used to arrive at a reasonable estimate of calorie and protein yields.

CROP	DAYS TO:	PLANT DISTANCE		FERTILIZER *		EXPECTED
	HARVEST	ROWS	HILLS	TYPE	RATE	
1) Sweet	120-150	2 rows @ 75 cm	20-35 cm	14-14-14 or 12-24-12	1 tbsp* / Hill	7.5 kilos/bed
2) Corn (dry, shelled)	110-115	2 rows @ 75 cm	20-35 cm	21-0-0	1 tbsp/ hill side dress @ 1 tsp***	1 kilo (dry, shelled)
3) Beans (dry)	60-75	2 rows @ 50 cm	10-20 cm	14-14-14 @ 1 tbsp/ hill	1 tbsp/ hill	1.5 kilos (dry shelled)
cowpea	60-75	2 rows @ 50 cm	10-20 cm	14-14-14	1 tbsp/ hill	1.5 kilos (dry shelled)
bush sitao	60-75	2 rows @ 50 cm	10-20 cm	14-14-14	1 tbsp/ hill	1.5 kilos (dry, shelled)
Mungo	50-60	2 rows @ 50 cm	10-20 cm	14-14-14	1 tbsp/ hill	1.5 kilos (dry, shelled)

\* tbsp — tablespoon

\*\* bed — 1 meter x 10 meters

\*\*\* tsp — teaspoon

\* Guidelines on compost and manure for fertilizer will be added.

**Yields of Calories and Proteins:** The following table shows the protein and calorie yields that can be expected daily from the planting guide shown on page 3:

NUTRIENT CONTENT AND YIELDS

CROP	Expected/ Bed Yield/(kg) of (kg) / 10M <sup>2</sup>	Edible Portion	NUTRIENTS		No. days to Produce	NUTRIENTS PRODUCED/DAY	
			Calories	Protein (gm)		Calorie	Protein
Sweet Potatoes	7.5	6.6	8,976	72.6	135	66	0.5
Corn (dry, shelled)	1.0	1.0	3,600	90.0	115	31	0.8
Beans (dry, shelled) (cowpeas, bush sitao or mungo)	1.5	1.5	5,200	330.0	65	81	5.0
TOTAL						178	6.3
Average per bed of : 10M <sup>2</sup>						60	2.1

It can be seen that an average garden of 10M<sup>2</sup> planted to root crops, corn and legumes will yield about 60 calories and 2.1 gram protein each day.

**Home Garden Area Required:** In the above production goals, two purposes were identified. The following table shows home garden areas needed to achieve these purposes:

Purpose	: Calorie Required Per : Family Daily	: Calorie Produced : Daily Per 10M <sup>2</sup> Area	: Garden Area : Required M <sup>2</sup>
To correct average family calorie/ protein deficiency	2.400	60	400*
To replace donated foods for mal- nourished children	600	60	100
:	:	:	:
:	:	:	:
:	:	:	:
:	:	:	:
:	:	:	:

\* 48 beds, 1 x 10 m each

No estimates are given for protein because with the planting plan shown, the protein yield will be at least twice the amount needed to correct the deficiency.

Many homes may not have an area as large as 400 m<sup>2</sup> for home gardens. However, correcting one-half, or even one-fourth of the estimated shortage would be important nutritional improvements. Therefore, every family is urged to have a garden to improve its diet.

## COMMUNITY GARDENS

### Production Areas Required to Replace Donated Foods:

The average barangay participating in the food assistance program has 150 families, (1,200 population). There is an average of 100 malnourished pre-school children, infants, or pregnant and lactating mothers who are eligible for food assistance and receive food equal to about 400 calories per recipients or a total of 40,000 calories daily.

Our estimated production is 60 calories per 10M<sup>2</sup> per day. Thus, 40,000/60 is equal to 6,667 M<sup>2</sup> or 2/3 of a hectare.

In other words, a well-managed barangay garden of 2/3 of a hectare can produce the food calories and protein now being donated through the food assistance program. This production goal should be a minimum effort of every rural barangay.

### GUIDELINES: Multiple Cropping

More economical use of small farms for home food production or for market.

Intercropping, multiple cropping, or rotational cropping as a means of introducing other high-energy foods with rice should be practiced by rural families. These practices would increase incomes, augment home food supplies, particularly for families that do not have space around their home for a garden, and provide food for increased animal production (pigs, chickens, rabbits).

A suggested multiple cropping system for an average small farmer producing rice is shown below:

CROP CYCLE	DURATION CYCLE (Months)	CROPS PRODUCED (2-hectare farm)	
		1 Hectare Plot	1 Hectare Plot
1	6	Rice	Sweet Potatoes followed by legumes (cowpeas, munggo, bush sitao, etc.)
2	6	Sweet Potatoes followed by legumes	white corn followed by legumes

Under rain-fed condition and using new high-yielding variety seed or other planting materials, the following yields can be expected from this multiple-cropping plan:

CYCLE	DURATION	CROP	Hectare 1		Hectare 2	
			Yield Gross (kg)	Edible (kg)	Yield Gross (kg)	Edible (kg)
1	6 months	Rice	1900	1235		
		tuber (sweet Potatoes)			7000	6160
		legumes (cowpeas)			2000	2000
2	6 months	sweet potatoes	7000	6160		
		legumes	2000	2000	2000	2000
		white corn			2000	2000
					Annual Requirement	
Production Edible					Family of 8	Protein
CROP	Kg	Calories	Protein	(calories)	(kg)	
Rice	1235	4,446,000	86.4			
White corn	2000	7,200,000	174.0			
Sweet Potatoe	12320	16,755,000	135.5			
Legumes	6000	21,360,000	1224.0			
TOTAL		49,761,000	1619.9	5,840,000	146.0	

From these calculations, it is very evident that the average rural family with two (2) hectares of usable land can produce ten times as much food calories and proteins as it needs to have an adequate diet.

The suggested multiple cropping pattern might be criticized for producing a monotonous diet but this is not true. Here is why:

Corn can be eaten as corn-on-the-cob, immature creamed, or a corn meal or grits.

Many legumes can be produced as greens -- for example sitao, lima beans, immature soybeans, green peas, etc.

Sweet potato leaves can be served as a green leafy vegetable, as can the leaves of other tubers such as gabi. For further variety many garden leafy greens can be inter-cropped with corn or sweet potatoes and harvested in 30-60 days.

Another advantage of intensive farming or multiple cropping is that it can produce the energy and protein requirements of animals produced for home consumption or for sale. Corn, tubers, and legumes are excellent feeds for poultry, swine, or rabbits.

**NATIONAL NUTRITION COUNCIL  
Information and Education Program  
Implementing Guidelines**

The importance of a well organized, sustained and coordinated I E Program in the promotion of improved nutrition of the population cannot be overemphasized. In order to obtain the desired results, the following implementing guidelines have been formulated:

A. A Nutrition I E Program shall be developed by the I E Branch of the Planning Division of the NNC in coordination with the various co-operating agencies.

B. Such a Program shall be guided by the Policy Directions of the PNP formulated by the NNC and released for implementation on February 19, 1975.

C. Based on the said Policy Directions, the following shall be given emphasis:

1. the nature and extent of the malnutrition problem and the group most affected;
2. meeting the nutritional needs particularly calorie and protein of the 0–6 age group, pregnant women and nursing mothers;
3. sustained efforts in the production of root crops (camote, gabi, ubi, etc.), legumes (sitao, mongo, cowpea, etc.), leafy and yellow vegetables, fish and livestock, fats and oils;
4. proper utilization of these foods to adequately meet the nutritional needs of the target groups;
5. improved processing, efficient marketing and storage to minimize losses and wastage;
6. practical health measures and nutrition practices such as: breast-feeding, early supplementation, immunization, keeping the environment clean, etc.

D. A synchronized I E campaign using various approaches is desirable. All concerned should be involved and coordinated in order to achieve greater impact.

E. It shall be the concern of the I E program that a maximum reach-out is effected and, more importantly, that a uniform nutrition message is disseminated by everyone down to the smallest unit of organization.

F. All IE materials shall carry the name of the PNP and the basic source.

G. Duplication of efforts in the development of IE materials (both in form and subject matter) among agencies should be minimized. In order to achieve this, all proposed IE materials by any cooperating agency should first be cleared with the NNC.

Before changes on the proposed or revised materials are made, sources of idea/materials must be consulted. Also, if the subject matter is among the least priorities as far as the NNC Policy Direction is concerned, but of top priority for the agency concerned in relation to their agency functions and targets, the agency after clearance by NNC, may go ahead in the development and production of the proposed material using their own funds.

H. In the development of IE materials for field dissemination the following steps shall be followed: Please refer to Annex 1 for flow chart.

- Step 1. Management Committee formulates implementing guidelines based on policies established by the NNC.
- Step 2. Development of IE prototype by the agency proponent in close consultation with the IE Branch of the NNC.
- Step 3. Submission of prototypes to the NNC Management Committee which shall also serve as the IE REVIEW Committee. The Committee may recommend development and mass production of said prototype, if it is found to be of use to the other cooperating agencies.
- Step 3.1 Forwarding of the final draft of the IE material to the NMPC for design and production, through the NCP.
- Step 3.2 Pretesting of prototype by the proponent agency together with the IE Branch of the NNC. Necessary revisions based on pretesting results shall likewise be a joint responsibility of the proponent agency and the IE Branch of the NNC.
- Step 3.3 Material goes back to originator who prepares final copy for approval.

- Step 4. Approved material goes to NMPC through NCP for production.
- Step 4.1 Distribution of the produced I & E materials to field personnel concerned through the established delivery system at provincial, municipal, and Barangay levels. Each agency shall be responsible to meet additional needs of its personnel for copies of the I & E materials produced.
- Step 5. Post-testing (Evaluation).

