

**Managing Successful Nutrition Programmes – Nutrition policy  
discussion paper No. 8**



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ADMINISTRATIVE COMMITTEE ON  
COORDINATION – SUBCOMMITTEE  
ON NUTRITION

A Report based on an ACC/SCN Workshop

at

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Edited by

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## UNITED NATIONS – ADMINISTRATIVE COMMITTEE ON COORDINATION – SUBCOMMITTEE ON NUTRITION (ACC/SCN)

The ACC/SCN is the focal point for harmonizing the policies and activities in nutrition of the United Nations system. The Administrative Committee on Coordination (ACC), which is comprised of the heads of the UN Agencies, recommended the establishment of the Subcommittee on Nutrition in 1977, following the World Food Conference (with particular reference to Resolution V on food and nutrition). This was approved by the Economic and Social Council of the UN (ECOSOC). The role of the SCN is to serve as a coordinating mechanism, for exchange of information and technical guidance, and to act dynamically to help the UN respond to nutritional problems.

The UN members of the SCN are FAO, IAEA, World Bank, IFAD, ILO, UN, UNDP, UNEP, UNESCO, UNFPA, UNHCR, UNICEF, UNRISD, UNU, WFC, WFP and WHO. From the outset, representatives of bilateral donor agencies have participated actively in SCN activities. The SCN is assisted by the Advisory Group on Nutrition (AGN), with six to eight experienced individuals drawn from relevant disciplines and with wide geographical

representation. The Secretariat is hosted by WHO in Geneva.

The SCN undertakes a range of activities to meet its mandate. Annual meetings have representation from the concerned UN agencies, from 10 to 20 donor agencies, the AGN, as well as invitees on specific topics; these meetings begin with symposia on topics of current importance for policy. The SCN brings certain such matters to the attention of the ACC. The SCN sponsors working groups on inter-sectoral and sector-specific topics. Ten-year programmes to address two major deficiencies, vitamin A and iodine, have been launched.

The SCN compiles and disseminates information on nutrition, reflecting the shared views of the agencies concerned. Regular reports on the world nutrition situation are issued, and flows of external resources to address nutrition problems are assessed. State-of-the-Art papers are produced to summarize current knowledge on selected topics. As decided by the Subcommittee, initiatives are taken to promote coordinated activities – inter-agency programmes, meetings, publications – aimed at reducing malnutrition, primarily in developing countries.

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J B Mason  
S R Gillespie  
ACC Sub-Committee on Nutrition  
September 1991

## **FOREWORD**

Because undernutrition and malnutrition are the result of different economic and social determinants, it is difficult in field studies – not being double blind, randomized and placebo controlled – to attribute significant outcomes to specific interventions. And yet the need for successful nutrition programmes is becoming more compelling. They are required by decision-makers who could formulate nutrition policies and adapt the major features of success to the local characteristics in their countries. The problem is still very much with us. Although in some developing countries rates of malnutrition have diminished, the total numbers of the malnourished are increasing as a result of population growth.

Success stimulates imagination and action. Professionals and technical staff engaged in nutrition, particularly in the developing world, will identify lessons to learn and be prompted to apply similar approaches to those that led to such concrete outcomes. For the international community of agencies, governmental and non-governmental, with prime interest in food and nutrition issues, positive results are important for changing course in ongoing projects or to sponsor new ones and, in general, to review their policies and investments.

One of the most effective mechanisms for the coordination of diverse institutions committed to synergistic goals is the dissemination of information. It facilitates communications, creates actual understanding, a common language, and stimulates joint actions. This is one approach of the ACC/SCN to fulfill its statutory responsibility of harmonizing policies and activities in nutrition of the United Nations system.

A Report on Managing Successful Nutrition Programmes is a contribution of the SCN to what should become an increasing catalogue of similar results of diverse nutrition interventions. Although the document contains a chapter on evaluation of five of the programmes selected, the focus is on management, i.e. the effective use of available human, financial, and material resources to reach pre-determined objectives. This is a neglected area in the formulation and implementation of programmes. The "management style" of planners, decision-makers, and executives may explain why we apply in nutrition much less than we know. Alan Berg has stated it clearly: "Our policy understanding of what to do is in most places far ahead of our understanding of how to do it There are many good policies in place. There are many good programmes in place ... But implementation is often appalling,"<sup>1</sup> It follows that although for some, management may not be attractive, it is essential.

<sup>1</sup>*Completing the Food Chain*. Papers and Proceedings of a Colloquia organized by the Smithsonian Institution, page 161. Edited by Paula M. Hirschhoff and Neil G. Kotler. Washington, D.C. 1989.

The Report makes it clear that effective management, with careful attention to detail in the different components of this discipline, explained, in most cases, why and how objectives were accomplished and technologies showed their efficiency. It became evident that management cannot continue as a second fiddle in the orchestra for implementing human development. It should be included among the main instruments.

Subject to the availability of funds, the SCN intends to continue the analysis and publication of successful nutrition programmes as a significant contribution to the reduction of malnutrition in the developing world.

A. Horwitz  
Chairman, ACC/SCN

## Introduction

<sup>1</sup> Based in part on "A Proposal for an International Symposium on Nutrition Programmes" prepared for the ACC/SCN by Professor John Kevany (December 1986), and the report of the preparatory meeting, held in Washington DC, 11–13 November 1986.

A large number and wide variety of nutrition programmes are being undertaken throughout the world. Some of these have been developed with substantial resources and are based on well-developed health and social sector infrastructures. Others are undertaken with minimal financial resources, are substantially dependent on external assistance and operate on the basis of weak or absent infrastructure. Some programmes are effective in meeting stated objectives of controlling malnutrition and promoting health while other programmes have failed to overcome fundamental, technical, administrative and financial constraints and consequently represent an inefficient use of scarce resources.

It is recognised that general economic and social change is needed to resolve nutritional problems in the long term and that policies affecting food availability, prices and income as well as developments in agriculture, rural development and health care are fundamental to this process. In the short and medium term, however, there remains a defined and widespread need for improvement of the nutritional status of economically and biologically vulnerable groups, particularly in the present era of macroeconomic adjustment. Even under favourable conditions of development at the national level, discrete sub-groups remain in need of nutritional support on a continuing basis.

The efficacy of specific nutrition interventions is well documented and has provided the rationale for their application to populations and sub-groups. Scientific objectivity and analytical rigor however have been lacking in the assessment of effectiveness of many nutrition programmes. This has often lead to uncertainty in priority selection and resource allocation for nutrition and to diffidence in the design and implementation of intervention programmes. Policy makers and programme managers alike have been unable to present convincing arguments for the relative need, effectiveness and cost of nutrition interventions in relation to competing health activities such as immunization rehydration therapy or family planning. As a consequence the priority assigned to nutrition is often low despite evidence of need for investment in this area from surveys, monitoring and service records.

Factors underlying ineffectiveness are both technical and managerial in nature. Inappropriate design, absence of targeting, weak training and supervision; unskilled management and inadequate financing are frequent

reported constraints. In addition to these general problems, conditions specific to local situations must be taken into account in examining the reasons for success or failure.

Evidence for effectiveness of individual components of a nutrition/primary health care package is scarce. This makes it difficult or impossible to define an order of priority for selection and implementation of specific components under extreme resource constraints. It can be argued that in such cases, resource and infrastructure constraints must be resolved, on a long-term basis, before any technical activities are initiated. Donors are more willing to support basic nutrition activities over the short-term, but are less interested in long-term investment in infrastructure to provide an effective delivery system.

There is however sufficient evidence now available to establish that, under certain conditions, large-scale nutrition programmes (e.g. growth monitoring, feeding, education) can be effective in preventing malnutrition. Enough is known about design, delivery, and resource requirements (costs, infrastructure) to identify successful experiences in design and problem-solving that are transferable. This information has been the subject of many agency reviews, but to date has not been widely disseminated to programme managers or to policy makers in the health and social sector who determine the relative priority assigned to nutrition and the resources allocated to service programmes.

The ACC/SCN therefore decided (at its 12th. Session in April 1986) to hold a workshop with the objectives of promoting widely, in appropriate circumstances, a better understanding of the scope, design and implementation of effective programmes to prevent malnutrition, and the factors critical to success. Information and experience should be made available to policy makers and programme managers to help improve resource allocation and programme effectiveness in nutrition respectively. The workshop was aimed at providing an opportunity and environment for participants to learn about successful programmes and determine their relevance to their own situation, to discuss common constraints on effectiveness and to consider policy commitments and programme initiatives suggested by the proceedings. Donors would be provided with insight into the political, administrative and financial constraints facing governments in this field and able to judge the level of commitment existing in participant countries.

The first step in preparation was to convene a meeting of scientists specialized in the design and evaluation of nutrition intervention programmes to provide an overview of the current global situation and guidance on criteria for assessing success and failure, and the technical organization of the workshop. The selection of nutrition interventions to be presented at the workshop required careful consideration. Success in the context of nutrition activities covers a wide range of impacts from hunger alleviation to the eradication of specific deficiency states, such as goitre or xerophthalmia. Conversely, a positive nutritional impact can be achieved with a range of non-specific interventions carried out by other sectors and agencies, many of which may have different social and economic goals. It was seen as impractical to consider the full range of such indirect and untargeted interventions when, in many cases, the definition of success will not be quantifiable in conventional health and nutrition terms. Nevertheless, the contributions to a programme's success made by coincidental or parallel interventions in other sectors or programmes (agricultural production, water and sanitation) was identified in each assessment.

Initially, 'successful' programmes were to be those evaluated as being effective. However, time and data precluded this, and programmes were selected on the basis of whether they had a reasonably good design, based on current knowledge, had wide coverage and had been sustained and/or expanded, with governmental backing. Aspects of management of such programmes were then examined. Specifically, attention was turned to factors such as programme relevance, feasibility, acceptability and participation, coverage, scale, affordability, replicability, and sustainability. Retrospectively we have included a chapter on available evaluations.

To ensure that an adequate spread of programmes was selected for case study presentation, the initial pool was stratified in respect of the principal characteristics that determined their relevance to countries with varying stages of socio-economic development. Geographic area, level of complexity, and type of intervention need to be adequately represented, in order to provide a range of experience pertinent to conditions prevailing in all or most of the countries participating. It was particularly important that examples were presented of activities that can be successfully carried out under conditions of severe resource constraint; including the near absence of formal infrastructure (e.g. rural areas of Sub-Saharan Africa). Programmes selected included examples of all major categories of interventions, i.e. integrated primary health care/growth monitoring/supplemental feeding; fortification and distribution systems; food stamps and other forms of income support. The following 17 programmes were selected from 12 countries:



- Botswana: Drought Relief Programme (Human Relief)
- Costa Rica: National Nutrition and Holistic Care Programme  
Health and Social Development Programme (HSDP)
- Gambia: Institutional Support for Health and Nutrition
- Ghana: Improving Child Nutrition, Weaning Food Project
- India: The Integrated Child Development Services Scheme (ICDS)  
Tamil Nadu Integrated Nutrition Project
- Indonesia: Family Nutrition Improvement (UPGK)
- Peru: Project COPACA
- Philippines: Alternative School Nutrition Programme (ASNP)  
The Pilot Food Price Subsidy Scheme  
Barangay Integrated Development Approach for Nutrition (BIDANI)
- Tanzania: Joint WHO/UNICEF Nutrition Support Programme
- Thailand: Nutrition and Primary Health Care  
Community-based Nutrition Intervention in North-east Thailand
- U.S.A. Women, Infants and Children (WIC)
- Zimbabwe: Supplementary Food Production Programme (SFPP)

The workshop was titled "Managing Successful Nutrition Programmes" and was held at the 14th International Congress of Nutrition, in Seoul, South Korea on 21–25 August 1989. It lasted eight hours, spread over three days, and was attended by some 200 participants in the 14th Congress. The presenters were supported by a number of sponsors, including GTZ, ILO, the Netherlands, UNEP, UNICEF, USAID, as well as the ACC/SCN itself.

TABLE 1 – PROGRAMME CHARACTERISTICS

Project/Country	Duration (data year)	Components	Coverage			Target
			Population Served	Beneficiaries (no.)	% Covered or Monitored	
Drought Relief Programme/ Botswana	1982–June 1988 (1985/86)	– intensive supplementary direct feeding – growth monitoring – take home rations – cash for work projects – agriculture and water relief programmes	National scale: 70% of population covered.	550,000 (or supplemental food)  74,000 workers for labour relief	75% of under-fives >95% of primary school children  40% of family labourers.	Nutrition vulnerable members of community – pregnant lactating – children 0–10 – TB outbreak – permanent destitute
National Nutrition and Holistic Care Programme (NNHCP)/Costa Rica	1975 to the present (1983)	– school feeding – food distribution – centers for education and nutrition – centers for	500 centers and 3000 school dining rooms.	500,000 (1983), mostly preschool children		Children pregnant lactating

		comprehensive child care				
Health and Social Development Programme (HSDP)/Costa Rica	1970 to the present	<ul style="list-style-type: none"> <li>– rural health workers</li> <li>– health and nutrition education</li> <li>– antenatal care and MCH services</li> <li>– anaemia control</li> <li>– clinics developed for treatment/follow up</li> </ul>	387 health centres or health posts in 1983	115,000 in 1973 777,000 in 1983	10% in 1973 58% in 1983	The entire rural population, with emphasis on women and children.
Institutional Support for Health and Nutrition/The Gambia	1989–1994 (revised; services ongoing since 1964)  (1988/89)	<ul style="list-style-type: none"> <li>– food supplements on take home basis</li> <li>– nutrition education</li> <li>– growth monitoring</li> <li>– development of local maternal and weaning supplements</li> </ul>	133,200 (333 villages)	50,000 total: – 25,900 pregnant or lactating women – 24,100 children under–two		Target shifted from children under–five to pregnant or lactating women and their children under–two.
Improving Child Nutrition, Weaning Food Project/Ghana	1986 to the present  (1988)	<ul style="list-style-type: none"> <li>– provision of corn mills</li> <li>– training of workers and trainers</li> <li>– nutrition surveillance– nutrition and health education</li> <li>– baseline data collection</li> </ul>	Around 100 villages.			<ul style="list-style-type: none"> <li>– whole village communities</li> <li>– women of child bearing age</li> </ul>
Integrated Child Development Services(ICDS)/ India	1975 to the present  (1989)	<ul style="list-style-type: none"> <li>– growth monitoring</li> <li>– supplementary feeding</li> <li>– immunization</li> <li>– health checkups</li> <li>– referral services</li> <li>– nutrition and health education</li> <li>– nonformal preschool education</li> </ul>	165 million (23% national population): – 28 million children under–six – 6.6 million pregnant or lactating women.	13.6 million total: – 11.4 million children under–six – 2.2 million pregnant or lactating women.	40% of children under–six  30% of pregnant or lactating women	<ul style="list-style-type: none"> <li>– 0–6 year olds</li> <li>– pregnant or lactating women</li> <li>– poor women</li> </ul>
Tamil Nadu Integrated Nutrition Project (TINP)/India	Phase I: 1980 to 1989  (1989)	<ul style="list-style-type: none"> <li>– growth monitoring</li> <li>– short term selective supplementary feeding</li> </ul>	17 million in 9000 villages in 10 districts (43% of the state)	1.1 million children age 6–36m  0.28 million pregnant or	Over 90% of children age 6–36 months attend growth monitoring	<ul style="list-style-type: none"> <li>– children age 6–36 months</li> <li>– pregnant or lactating women</li> </ul>

		<ul style="list-style-type: none"> <li>– nutrition education</li> <li>– anaemia control and micronutrient therapy</li> <li>– institution building</li> <li>– other PHC services</li> </ul>		lactating women		
Family Nutrition Improvement (JPGK)/Indonesia	1974 to the present (1989)	<ul style="list-style-type: none"> <li>– growth monitoring</li> <li>– supplementary feeding</li> <li>– nutrition and health education</li> <li>– Vitamin A &amp; iron supplementation</li> <li>– other adjunct MCH services</li> <li>– family planning</li> </ul>	58,355 villages in all regions  17 million under-five have access (80% of under-five population)	13 million under-five	60% of under-five population  Active long term participation ranges from 34–69%	<ul style="list-style-type: none"> <li>– children age five</li> <li>– pregnant lactating</li> </ul>
Project COPACA/ Peru	1985 (pilot), 1989 (expanded) to the present	<ul style="list-style-type: none"> <li>– nutrition surveillance</li> <li>– agriculture extension</li> <li>– health and nutrition education</li> </ul>	Pilot in 22 communities in one region			Children 24 months
Alternative School Nutrition Programme (ASNP)/The Philippines	1983 to the present (1989)	<ul style="list-style-type: none"> <li>– supplementary feeding</li> <li>– income generating activities</li> <li>– nutrition education</li> <li>– food production</li> <li>– environmental sanitation</li> </ul>	1047 schools in 11 regions			Moderate severely underweight school children
Pilot Food Price Subsidy Scheme/The Philippines	1983–1985: project delivery (1985)	<ul style="list-style-type: none"> <li>– consumer price subsidies of rice and oil</li> <li>– nutrition education</li> <li>– technical, economic and administrative evaluation</li> </ul>	7 project villages and 7 control villages in 3 provinces: 14,788	8,611 (from 1407 households)	92% of targeted households	All households within project villages

Barangay Integrated Development Approach for Nutrition Improvement of the Rural Poor (BIDANI)/The Philippines	1978 to the present (1989)	<ul style="list-style-type: none"> <li>– supplementary feeding</li> <li>– nutrition education</li> <li>– growth monitoring</li> <li>– home food production</li> <li>– adjunct health services</li> <li>– development projects: land reform irrigation road construction income generation marketing</li> <li>– environmental sanitation</li> </ul>	6 pilot villages, expanded to 122 by 1986 and now replicated in 136 more villages in other regions			Entire villages where populations are determined to be at risk of malnutrition.
The Joint WHO/UNICEF Nutrition Support Programme (JNSP)/Tanzania	1984 to the present (1988)	<ul style="list-style-type: none"> <li>– systems development and support</li> <li>– communications</li> <li>– maternal and child health services support</li> <li>– village based growth monitoring and nutrition rehab</li> <li>– water and sanitation</li> <li>– household food security</li> <li>– child care and development</li> <li>– income generation</li> <li>– research</li> </ul>	250,000 located in six districts and one urban area  46,000 children under-five	33,700 children under-five	Approximately 70% of children under-five	<ul style="list-style-type: none"> <li>– children under age five</li> <li>– pregnant women</li> </ul>
Nutrition and Primary Health Care Program/ Thailand	1982 to the present (1989)	<ul style="list-style-type: none"> <li>– growth monitoring</li> <li>– nutrition surveillance activities</li> <li>– nutrition training and Education</li> <li>– supplementary food</li> <li>– adjunct anemia and IDD control</li> <li>– wide variety of supportive programs(e.g. adjunct MCH services, school nutrition programme)</li> </ul>	National	1 million in 1982  2.5 million in 1989 (43% of under-five population)	Approximately 85% of all children under-five in rural areas attend growth monitoring	<ul style="list-style-type: none"> <li>– children under age five</li> <li>– children 6 to 12 years old</li> <li>– pregnant women</li> </ul>

Community– Based Nutrition Intervention/North–East Thailand	June 1982 to September 1985 (pilot)	<ul style="list-style-type: none"> <li>– growth monitoring</li> <li>– supplementary feeding</li> <li>– nutrition education</li> <li>– weaning foods preparation</li> <li>– home visits/follow up</li> <li>– establishment of drug cooperative stores</li> </ul>	4 intervention villages, with 3 control villages	270 (intervention)		Children under–f
Special Supplemental Food Programme(or Women, Infants and Children (WIC)/USA	1972 to 1974 (pilot)  Permanent programme to the present	<ul style="list-style-type: none"> <li>– supplemental feeding</li> <li>– nutrition education and counseling</li> <li>– adjunct health care and social services referral</li> </ul>	National	3.6 million (1989)	Only 50% of those eligible are reached due to financial constraints	Pregnant women children under–f "high ris
SFPP/Zimbabwe	1981 (expanded in 1984) to the present (1989)	<ul style="list-style-type: none"> <li>– community mobilization and food production</li> <li>– growth monitoring</li> <li>– supplementary feeding</li> <li>– nutrition education</li> <li>– intersectoral management committees</li> <li>– monitoring and evaluation</li> </ul>	Pilot programme expanded to national scale.	6000 projects (expanded from 2000)		Whole o at risk o of maln children

## PART I: SUMMARY OF PROCEEDINGS

### Chapter 1: Targeting and Selection of Beneficiaries

In attempting to look closely at the different strategies utilized in successful nutrition programmes to define the target population, the following questions are of interest:

- What are the key features of successful targeting?
- When do targeting costs outweigh benefits?
- What are the differences between targeting for prevention or for therapy?

These questions form the basis for the following discussion, although much of the discussion is focussed on the key features of successful targeting. Some suggestions are given with regard to question two and question three, but are not intended to provide thorough answers.

Targeting decisions flow from programme objectives and strategies. The clear definition of the target

population to be addressed in a nutrition intervention is an important step in the planning process. If well executed, this step can then greatly assist the implementation process and the evaluation of the achievements of the intervention. Most importantly, the defining of the target population should lead to programme benefits being received by the most needy.

### ***What are the key features of successful targeting?***

Targeting is found to be an important factor in the case studies presented. In these nutrition programmes, the system utilized to identify the target population and select the beneficiaries within that population could be described as a three-tiered approach which can be viewed as descending from very broad targeting (essentially non-targeting) to highly targeted programmes focussing primarily only on those deemed at risk. The first level of targeting determines the *geographic* scope, e.g. whether the programme is to cover the entire country, a selected region or district, a limited number of villages within districts, or only certain villages throughout the country. It should be noted that initial geographic targeting decisions are often based on prior information from existing socio-economic data or nutritional surveillance information.

At this point, a nutrition intervention can be directed to all household members or a second level of targeting to a *biological group* considered to be under nutritional stress can be used to select intended beneficiaries. In nutrition interventions, children under-five are the usual second level targets, selected as the most at risk household members. Some programmes are now selecting children at the age of weaning, around the ages of 6 to 36 months, as "this age group are more likely to show anthropometric responses to interventions" (Beaton, et al, 1990). Pregnant or lactating women are also increasingly included as targets in nutrition programmes, for two reasons: i) their added nutritional needs places them at risk, and ii) the promotion of weight gain during pregnancy is hoped to reduce the incidence of low birth weight and thereby promote infant growth (Ghassemi, 1990).

The third level of beneficiary selection is used in those programmes which are highly targeted towards those most in need, seeking to utilize limited funds in a cost-effective manner. The needy are identified, usually by means of *socio-economic* criteria or, more commonly, by *anthropometric* criteria. The criteria used to determine eligibility for programme benefits tends to be rather strict. The inclusion of *additional risk factors of pregnancy* to select programme beneficiaries is somewhat new for nutrition programmes in the international setting.

Details of the methods of targeting used in each case study are given in Table 2, while a tabulation is provided in **Figure 1**. Among the case studies presented, seven out of thirteen large scale programmes use a two-stage method to define the target population during the first level of targeting – *geographic* targeting. In the first stage, programmes focus on specific regions or districts. These areas are determined by existing population-level information on nutritional status and/or socio-economic situation. Other factors, such as existing infrastructure and available resources, may also be considered when determining the geographic location of the programme. In the second stage of first level *geographic* targeting, similar information and criteria are used to select villages (or blocks) within that area. In this way, programmes with limited funds can try to direct programme benefits to those most in need of nutritional assistance.

The four pilot programmes among the case studies presented chose their geographic regions of operation by a number of criteria, the chief factors being: i) regions were determined to be under nutritional stress from national population-level data on nutritional status; ii) community participation factors, such as strong community groups and a willingness to contribute community resources towards the project existed in the area; and iii) other development programmes were in operation in the area, with which the nutrition programme could operate in conjunction. (See Table 2, Targeting).

At the second level of targeting, beneficiary selection, Figure 1 shows that in most of the case studies presented, children under-five continue to be the *biological group* selected as nutrition programme beneficiaries. Yet, four out of fifteen programmes focussing on young children now restrict beneficiary selection to children at weaning age (under-three or under-two). Additionally, the majority of the case studies presented now include pregnant and/or lactating women in their nutrition programmes. Only one case study, the Pilot Food Price Subsidy Scheme in the Philippines, directs programme benefits to the entire household without selecting a biological group as programme beneficiaries.

At the third level of targeting, strict criteria of eligibility are used to select the beneficiaries of the most costly programme benefits (primarily supplementary feeding). The majority of the programmes reviewed were found to use *anthropometric* data, chiefly from growth monitoring, of children under-five (or under-three) to screen for selection to the supplementary feeding component of the programme. In two of the twelve programmes

focussing on pregnant and/or lactating women, further eligibility criteria of *additional risk factors of pregnancy* are included. Only one programme, **the WIC programme**, uses a *socio-economic* criteria (plus anthropometry and risk factors) at the third level of targeting.

**Figure 1**

<b>METHODS OF TARGETING USED IN PROGRAMMES REVIEWED</b>		
<b>LEVEL</b>	<b>METHOD</b>	<b>NO. USING</b>
FIRST LEVEL	Geographic (large scale programmes only):	
	1 stage, to region or district level only	2
	1 stage, to village level only	2
	2 stage, to district level and villages within	7
	0 stage, nationwide, no geographic targeting	2
SECOND LEVEL	Beneficiary selection (all programmes):	
	Children 0–2 or 3 years	4
	Children 0–5 years	11
	Children >6 years	3
	Pregnant/lactating women	12
	Entire household (non-targeted)	1
THIRD LEVEL	Selection of the most needy individuals:	
	Socio-economic	1
	Anthropometry (growth monitoring)	10
	Additional risk factors of pregnancy	2

It should be noted that in most cases one component of a nutrition programme has strict selection criteria to determine eligibility, such as for the direct feeding of underweight children, while other programme components, such as nutrition education, are directed to the community at large. In this way targeting strategies can vary by programme component, seeking to use programme resources in the most efficient way possible.

The possibility of using *seasonality* as a targeting strategy exists for some interventions (e.g. public works schemes), but was not utilized among the case studies presented. As a method of directing interventions it has the drawback that initial start-up costs of programmes do not make it worthwhile to limit operation to a few months. Seasonal adjustments of other targeting strategies, determined through careful monitoring and implemented through existing structures, may be appropriate. This was seen in the **Drought Relief Programme in Botswana**, as some existing services were expanded during the drought. However, as the drought did not last for only a season but rather for several years, the cost-effectiveness of seasonal adjustments of targets cannot be determined.

There is a special need to reach isolated groups such as minorities, mobile people, or emigrants. Experimentation to develop innovative strategies is considered useful for this purpose. Useful ideas on how to achieve this might be found in a review of the active outreach methods used, for example, to reach Amerindians and Hispanics in the **WIC programme**, or in efforts aimed at distant hamlets in **TINP**. Another point to consider is the need for delivery mechanisms to fit with targeting strategies. For example, in the **WIC programme** the food package is generous because, although it is targeted at an individual, home delivery results in leakages within the household.

Another concern is whether or not the poorest of the poor are reached by the targeting strategies used in nutrition programmes. The example of the National Nutrition Survey, which is conducted every five years in India, was offered to show that the areas typically targeted for nutrition interventions (the rural areas, the tribal areas, and the urban slums) do contain the poorest of the poor. Two other suggestions given at the workshop

for addressing this concern were: i) make sure community workers are motivated to search out the poorest of the poor; and ii) community participation should be sought in addressing this issue, because the community knows best who the poor are among them.

### ***When do targeting costs outweigh benefits?***

In instances where large proportions of the population are poor and vulnerable, it may be difficult or unnecessary to define a narrower target than a geographical area or to use selection criteria more specific than a biological group considered to be under nutritional stress. This has the primary advantage of being the simplest targeting procedure for a programme. In some circumstances, using only geographic targeting may minimize political opposition to selectivity, since the better-off will also receive some benefit from the programme. This is an important trade-off in targeting which has, of course, to be assessed in a programme specific manner.

Other perceived benefits are that geographic area targeting alone avoids concerns that the poor may be sensitive to being so labelled and hence not participate in programmes (a possible occurrence in the **WIC programme**). Biological group selection without further eligibility criteria may evade the difficulty arising from family hesitation to have their children seen as undernourished by the rest of the community (though this may inadvertently have a desirable effect in that the better-off exclude themselves from programmes, as was found in the **ICDS in India**). It has also been pointed out (Cornia, 1987) that targeting by socioeconomic criteria or other "needs" criteria (such as growth monitoring) ultimately leaves the selection of programme beneficiaries at the discretion of local administrators.

These possible difficulties in assuring that the poorest of the poor are reached by targeting strategies show the need for careful monitoring of programme coverage. A good example of the need to monitor and evaluate the effects of a programme is evident in the case of the implementation of the food stamp scheme in Sri Lanka. Although the programme was targeted to the poorest households through use of an economic criteria of eligibility, monitoring of the programme revealed widespread underdeclaration of income among programme beneficiaries (Cornia and Stewart, 1987). This, coupled with an erosion in the real value of the food stamps due to climbing food prices, undermined the possible cost-effectiveness of the targeting strategy.

It must be recognized during the planning process (and remembered during evaluation), however, that leakage of programme benefits will occur during programme implementation when targeting is only done at a one-stage level, and cost-effectiveness will be reduced (Garcia and Pinstrup-Andersen, 1987). A recent review of nutrition programmes in Latin America by the World Bank found that "field visits conducted – revealed no evidence that would contradict the finding based on Moroccan data that targeted programs are five times as efficient as general food subsidies in achieving reductions in malnutrition" (World Bank 1989, p. 11). It is also suggested that "it is targeted programs that are most likely to demonstrate measurable nutritional effect" (Kennedy and Alderman, 1987).

Although the MSNP workshop did not elucidate any specific means of deciding when and how targeting costs outweigh benefits, the literature provides a few suggestions. The simplest method of determining if targeting measures, beyond *geographic* targeting, are worth the resources to be expended is given in a review of nutrition interventions and their effectiveness in which it is suggested that "if less than 20 percent of the households or children in an area are nutritionally needy, geographical targeting by itself is unlikely to work" (Kennedy and Alderman, 1987). Kennedy and Alderman also note that, though two-stage target population definition and narrow eligibility criteria may increase the cost per beneficiary, total programme costs will be reduced.

Another method of conceptually presenting the trade-offs to be considered when choosing a targeting strategy (e.g. what percentage of the needy are covered by the programme versus how much of programme resources are going to a non-targeted population) is to draw up a matrix listing the characteristics of the target population (age, location, consumption, occupation, etc.) in comparison with the characteristics of the proposed non-target population (Cornia, 1987). A more mathematical model for decision-making on targeting strategies uses a 2 × 2 table (similar to that used for the determination of positive predictive value and/or sensitivity in epidemiology) in which the "proportion of total targeted that are needy" can be compared to the "proportion of total needy that are targeted" (Mason, Habicht, Tabatabai and Valverde, 1984). A further advantage of this method is that it can also be applied to the monitoring of programme delivery and to programme evaluation.

It is again reiterated that assessing the costs and benefits of different targeting strategies, like almost any aspect of field level management detail, need to be programme specific and determined by the goals and



objectives of the programme and the immediate local circumstances in which the programme will be implemented.

### ***What are the differences between targeting for prevention or for therapy?***

There are concerns that highly targeted programmes, with the implied use of strict criteria of eligibility for programme benefits, will lead to nutrition programmes functioning in a purely curative manner. This is not a necessary outcome of targeting. For example, direct targeting to individuals through anthropometric determination on a regular basis (i.e. growth monitoring) appears to be the most effective method in achieving curative effects on malnutrition. Yet, growth monitoring itself can also function in a preventive manner as a means of conveying nutrition education to mothers (Griffiths, 1988).

More significantly, the cut-off points used as eligibility criteria for determining programme beneficiaries can be relaxed for a preventive focus. When growth monitoring is used to screen for selection for supplementary feeding, this would mean the inclusion of children moderately underweight and/or children showing the first signs of growth faltering. In the **Tamil Nadu Integrated Nutrition Programme**, which targets children under-three, eligibility criteria for supplementary feeding not only includes those found to be underweight through growth monitoring, but also includes children who fail to gain weight or have an inadequate weight gain for more than one weighing. If targeting of children in a preventive approach is to be used, it has been suggested (Timmons, Miller, and Drake, 1983 from Kennedy and Alderman, 1987) that children below the age of 36 months be focussed on, to catch any signs of nutritional stress as soon as possible, expecting stress to occur at the time of weaning.

In this way, having a highly targeted programme does not negate a preventive focus. In some programmes prevention is taken a step further by using "risk factors" to determine programme eligibility. This is part of the targeting strategy of the **WIC programme** through the use of a "Nutritional Risk Priority System". First priority is based on anthropometric and laboratory screening. However, second priority is given to the automatic programme enrollment of the infants of mothers who were determined to be at risk during their pregnancy. (See Part III for more details.) In the **TINP programme**, additional risk factors of pregnancy are used to determine receipt of some programme benefits by pregnant women. These risk factors (e.g. single parenthood, multiple pregnancies) have a preventive basis. It could perhaps be argued, however, that pregnancy in itself is a "risk factor" for nutritional stress in women in developing countries. However, when resources are constrained, it makes sense to identify those pregnant women at highest risk.

It is again noted that almost overwhelmingly among the case studies presented, other components of the programme, especially those with a preventive focus (such as nutrition education and environmental sanitation), were targeted to the entire community. In this way programmes attempted to target for both the prevention of and cure of undernutrition, while containing costs.

### ***Specific examples of case study targeting strategies***

In the **Community Based Nutrition Intervention, in North-East Thailand**, the pilot project was first directed to a geographic area known to be particularly disadvantaged. The nutrition intervention selected children under five years old to be the programme beneficiaries. Follow-up and home visits were then concentrated on those children found to be under two standard deviations below the mean (NCHS reference) in ongoing growth monitoring which measured weight-for-height. Thus the programme utilized a three tiered method of targeting and beneficiary selection. Other components of the programme, such as health and nutrition education through intersectoral cooperation between local health workers and agricultural extension workers, were targeted to the community at large. Extra efforts were made to reach women, specifically through women's groups. The program ran in tandem with the official development programme for village health improvement, which was targeted to the entire community and included the construction of latrines, water tanks, and environmental sanitation. In fact, it was felt that the conjunction with a programme addressed to what the community itself defined as its primary need (parasitic control of liver fluke infection) resulted in the community readily accepting the more targeted nutrition programme, as evidenced by good community participation.

The lessons to be gleaned from the **Women, Infants and Children Programme (WIC), USA**, are applicable beyond its developed country framework as it resembles MCH programmes in many developing countries. The programme consists of supplementary feeding and nutrition education as an adjunct to health care, and is aimed at vulnerable pregnant/lactating women and children under five years of age.

Targeting was built into this programme from the start and is one of the reasons for its success. Initially, the programme was targeted at households within areas with high infant mortality and low physician: population ratios, and to vulnerable individuals within these households. Area targeting is no longer done, but a low-income criterion is now applied to households. This two stage method of targeting (demographically to pregnant/lactating women and their children, with additional determination of socio-economic need) has made the programme politically acceptable. Management practices which have made targeting successful include: i) integration of the programme with the health system; ii) use of established networks in programmes older than five years; and iii) development of innovative techniques for drawing people into the scheme.

Successful WIC programmes tend to be urban rather than rural. The majority of participants learn of the programme from neighbours and friends; others learn of it from the health system, and a few through the media which is, however, ineffective compared with the personal contact networks. Those eligible who are not enrolled are usually poor working women who are outside the welfare system and may not know they are eligible. One conclusion from the programme's experience with enrollment is that different outreach strategies are needed for different segments of the eligible population. Some components of successful outreach have been: longer programme hours; provision of day care facilities at programme sites, and immediate follow-up of participants who fail to attend. Programme coverage has expanded from 100,000 people in 1972 to 3.6 million in 1989, though only 50% of those eligible are even now being served. Expenditure has increased from \$20 million in 1972 to \$1.9 billion in 1989.

Impact has been found to be greatest among **high-risk** (anthropometrically and biochemically determined) pregnant women, and then among infants. There is evidence that on a national basis WIC targeting has improved and this has increased the programme's cost-effectiveness. Although the size of the WIC programme has grown substantially from 1981 to 1987, the proportion of the national WIC caseload consisting of children has not increased at all (See Part III, Annex 15.2). A greater number and proportion of the highest risk group, women and infants, are now being reached.

WIC's targeting strategies have enabled it to serve a group noted for other high risk factors. For example, about 14% of the pregnant and postpartum women in 1984 were under 18 years of age (See Part III, Annex 15.3). This is in contrast to only 5% of the national teenage births and 11% of black teenage births. Effective targeting combined with well coordinated nutrition and health services is felt to have made the WIC programme one of the more successful federally funded nutrition programmes.

The **Tamil Nadu Integrated Nutrition Programme (TINP) in India** has been highly targeted from the start. It focusses on the most vulnerable districts of Tamil Nadu (defined as those with the lowest per capita food availability). Second level beneficiaries selected are children under-three and pregnant women. Further selection criteria determines eligibility for supplementary feeding. Children determined to be *at risk*, through growth monitoring (*at risk* children are defined as those with Grade III or IV malnutrition and/or those who fail to gain 300 grams – 400 grams for older children – in weight over three consecutive monthly weighings and/or those who lose weight over two successive weighings) and pregnant women with additional risk factors of pregnancy (such as pregnant with twins, fourth pregnancy, single parent) are eligible. In this way TINP seeks cost-effectiveness through a three level targeting and beneficiary selection strategy to reach those most in need.

Targeting is considered a major reason for TINP's success. It places emphasis on growth monitoring as workers have to weigh children to determine their eligibility. As feeding is not routine, mothers have had to be told why some children are fed and others not. This has called for good nutrition education. The programme has been cost-effective – the number of children enrolled in feeding has declined from 40% to 25% of the total in five or six years. Workers have been able to give time and pay special attention to at-risk individuals because they deal with a small group of children. The community has not formed a dependence on the programme because of its selective approach, and information and education have sustained their interest rather than food hand-outs. In the future, the programme will continue to target, but some of the criteria may be relaxed as the moderately malnourished have not benefited as much from the programme as severely malnourished children. More attention will also be paid to enrolling children in the programme at birth in order to reduce malnutrition.

## **Conclusion**

In conclusion, with regard to the first question raised at the beginning of this section, it appears that more developed targeting strategies lead to greater programme efficiency. At least a two-tiered, if not three-tiered, approach to targeting was a key factor of success among all of the case studies presented. The use of existing information on nutritional status to determine geographic targeting and the use of programme growth

monitoring data for screening for eligibility of programme benefits were also key factors of success common to the case studies presented. Children under-five continue to be the primary beneficiaries of nutrition programmes, with a new focus seen on children at weaning age and pregnant/lactating women, presumably as programmes seek to direct nutrition intervention to biological groups where the greatest impact might be expected.

It is also apparent that targeting strategies used in large scale programmes vary by programme component. The most restricted criteria is used for beneficiary selection of programme components which involve the greatest output of programme resources, while other components are directed to broader targets, such as all women of childbearing age or the community-at-large.

Although the second and third questions raised at the beginning of this section were not discussed in depth at the workshop, a few suggestions derived from the literature were given here to provide some guidance and focus attention on these issues. The second question was related to the determination of when the costs associated with more defined targeting strategies may outweigh the benefits. Three potential management tools were presented, varying from a simple rule-of-thumb to a mathematical model. In the simplest method, it is suggested that geographic targeting alone is not effective in areas where there is less than 20% prevalence of malnutrition (Kennedy and Alderman, 1987). The second method is a conceptual presentation of the characteristics of the target and non-target populations, listed in a matrix (Cornia, 1987). In the third method, a mathematical 2 x 2 table is used to determine the proportion of total targeted that are needy compared to the proportion of total needy that are targeted which are reached by a targeting strategy (Mason, Habicht, Tabatabai, and Valverde, 1984).

Regarding the third question, it is suggested that the utilization of a two or three-tiered targeting strategy does not in itself define whether a nutrition programme has greater focus on prevention or on therapy. The cutoff points and other definitions of selection criteria for eligibility for programme benefits will be the ultimate determination of this. Less strict selection criteria should lead a nutrition programme to a greater focus on the prevention of undernutrition. In reviewing the case studies presented, it was also seen that in the majority of cases, programmes were composed of both components with a curative aspect and components with preventive objectives.

The MSNP Workshop wished to focus on management of successful nutrition programmes from a field level perspective. When defining targeting strategies two concepts that were consistently mentioned by nutrition programme managers throughout the workshop in reference to all aspects of programme management were *simplicity* and *flexibility*. Targeting strategies cannot be fixedly defined but must be responses that meet the changing nutrition needs of a population. They must remain simple for three important reasons: i) to actually be cost-effective when implemented; ii) to be understood correctly by those implementing the programme; and iii) to be understandable and acceptable to the community-at-large.

Targeting is often a politically volatile issue. At the community level, targeting criteria may conflict with the sense of entitlement; at the national level, welfare programmes may exist for reasons of political patronage and vote-catching, and hence targeting may be considered undesirable. It is important that nutrition programmes consider how their targeting strategy can be acceptable to those concerned. Although this is a very programme-specific issue, the case studies presented at the workshop under the topic of "Targeting" provided some insight into this matter. In the **TINP** programme, targeting was politically accepted at the government level because earlier high expenditures on feeding programmes were yielding poor results. At the community level, the strength of the communications component was seen to assist community acceptance of the targeting strategies. For **WIC**, a change in targeting strategy increased the political acceptability of the programme. In the **Community Based Nutrition Intervention in North-East Thailand**, people accepted the targeted nutrition programme because it was attached to a parasitic control effort which was a community felt-need. Community education (by workers, reinforced by their supervisors) helped to increase acceptability of the strategy at the micro-level.

Last but not least, there must be information available in order to define targets. The majority of the programmes presented at the Managing Successful Nutrition Programmes workshop utilized existing or newly implemented growth monitoring data to define and locate those most in need. Information on the socio-economic situation, from regional level down to individual household, was also found to be useful for targeting. The link between effective targeting and efficient management information systems must be strong so that a programme may achieve the greatest cost benefit while remaining sensitive to changing needs.

#### TABLE 2 – TARGETING

Project/Country	Objective	Method	Comments
Drought Relief Programme/Botswana	Supplementation of food supplies to reduce the incidence of or forestall increase in malnutrition among those considered at risk.	Geographic and anthropometric identification of those most in need by existing data from the National Nutrition Surveillance system (growth monitoring) and additional information available to the Early Warning Technical Committee.	Approximately 75% of under-fives and >95% of primary school children were covered by the programme.  74,000 workers received labour relief in 1985/86.  Evaluation indicates that women benefited more than men.
NNHCP/Costa Rica	Not clearly defined, other than to eradicate Grade III malnutrition.	Nationally targeted to women and children.	The broadly defined target groups has increased the cost of the programme.
HSDP/Costa Rica	To extend Primary Health Care services to rural areas.	Nationally targeted to rural areas with a focus on children under-five and pregnant women.	Coverage of close to 60% is achieved.
Institutional Support (or Health and Nutrition/The Gambia	Target recently shifted from children under-five to pregnant/lactating women and their children under-two.	Targeting to all pregnant/lactating women and their children under-two within the region: When pregnancy is confirmed, women and their children under-two are enrolled into the programme and followed through the lactation period.	The recent change in targeting will improve the cost-effectiveness of the programme.
Improving Child Nutrition, Weaning Food Project/Ghana	To select communities most in need of such services.	Small scale programme targeted to villages with:  – evidence of serious nutritional problems – sizeable population – existence of strong women's group – existence of community contributions	
ICDS/India	To reach those most needy and malnourished within each targeted block.	Targeted to neighborhood blocks with socio-economic determination of need. Second level targeting to pregnant/lactating women and children under-six, with third level by anthropometric criteria (growth monitoring: MUAC <13.5 cm or weight-for-age Grade II or below).	Self exclusion of better off groups takes place.  In 1989, the programme reached 11 million children under-six and 2 million pregnant/lactating women.
TINP/India			

	To conduct nutritional surveillance through regular growth monitoring of all children age 6–36 months, with provision of short–term food supplementation to those identified as underweight or with growth faltering and to "at risk" pregnant or Isolating women.	Targeted to pregnant/lactating women and children age 6–36 months in Tamil Nadu, India, with third level targeting by anthropometric criteria (growth monitoring) or risk factors of pregnancy (e.g. carrying twins, fourth pregnancy, single parent).	In 1989, 90% of all children 6–36 months old attended growth monitoring activities, with feeding participation rate roughly 95%.  7.5% of children eligible did not participate, while 2% of participants were ineligible.  51% of eligible pregnant/lactating women were enrolled.
UPGK/Indonesia	To improve the health and nutritional status of children under–five and pregnant/lactating women, and provide supplementary feeding to those identified as underweight.	Targeted to villages throughout the nation, with second level targeting to pregnant/lactating women and children under–five, and third level focus on those identified by anthropometry (growth monitoring of weight–for–age).	Services are accessible to approximately 80% of Indonesia's children under–five in 1989.
Project COPACA/Peru	To reach 6–24 month old children (as surveys indicated high rates of malnutrition in this age group)	Pilot programme targeted to 22 communities in a region with high malnutrition, with second level targeting to children age 6–24 months.	
ASNP/The Philippines	To supplement moderately and severely underweight school children.	Targeted to public elementary schoolchildren in selected villages in most regions, with third level targeting by anthropometry (moderate or severely underweight).	
Pilot Food Price Subsidy Scheme/ The Philippines	To utilize a food price subsidy to low income groups as a short–term stop gap measure to alleviate malnutrition in poor households.	Pilot programme targeted to all households in villages with a high incidence of malnutrition, determined by available growth monitoring data.  Final evaluation recommends additional targeting based on anthropometric identification of those households most in need.	Approximately 90% of targeted households participated in the programme.  Close to 85% of all mothers attended nutrition education classes regularly.
BIDANI/The Philippines	To identify for development project benefit those populations at risk of malnutrition.	Targeted to villages with need defined by socio–economic criteria (income and occupations), with families considered at	Landless service workers and highland families are found to have the most number of

		high risk of malnutrition given priority for programme benefits.	malnourished children.
JNSP/Iringa, Tanzania	To reduce infant and child mortality, to better child growth and development and improve maternal health and nutrition.	Targeted to a region with a high incidence of malnutrition, diverse agro-ecological zones, and strong institutional infrastructure. Second level targets are children under-five and pregnant women, with anthropometric screening for village-level nutrition rehabilitation.	Approximately 70% of the under-five population receives services with 80% of villages reporting regularly by 1988.
Nutrition and Primary Health Care Program/Thailand	To improve the nutritional status of mothers, infants, preschool and school children; further efforts, such as food coupons, referral, and nutrition education, are focussed on those identified as underweight.	National coverage of children 0-14 and pregnant women, with third level focus on children identified as underweight through growth monitoring (anthropometric criteria).	Approximately 85% of all under-fives in rural areas attend growth monitoring activities.  Urban slum areas are targeted in the most recent national plan.
Community Based Nutrition Intervention/North-East Thailand	To reach all children under-five and focus further intervention, such as home visits, to those at nutritional risk.	Regional pilot programme targeting to children under-five with third level targeting by anthropometry (growth monitoring: weight-for-height).	Out of 4 villages selected for programme implementation, 3 implemented the programme as planned, showing that the programme targeting strategy was understandable.
WIC/USA	To serve those who are most nutritionally vulnerable.	Initially geographic targeting by socio-economic need; now, a socio-economic household criterion is used. Third level targeting is done by means of a nutritional risk priority system which selects beneficiaries until maximum local case load is reached.	Targeting has improved on a national basis. Programme growth has been accompanied by an increase in the proportion of females and infants to the number of children.
SFPP/Zimbabwe	To reach nutritionally vulnerable communities and the malnourished children under-five within them.	Evaluation found that criteria for selection of the target area and group was not often well understood. In the next phase of the programme, goals are to improve targeting, especially to ensure the most vulnerable are reached.	Variation in targeting resulted in selection sometimes of the families of malnourished children, and in other cases the whole community in an at risk area. as programme beneficiaries.

## Chapter 2: Staff Selection, Supervision, and Training

The case studies presented were considered in terms of the three components of staff selection, supervision and training. The successful management of nutrition programmes poses the following questions:

- What are the advantages or disadvantages of using existing staff?
- What tasks are appropriate for community workers?
- What frequency of supervisory visits to the local level work best?
- How can supervisors motivate staff?
- Of what duration should staff training be, and which staffing levels should be trained first?

A brief description of the staffing procedures of the **Supplementary Food Production Programme (SFPP) in Zimbabwe** and the **Joint WHO/UNICEF Nutrition Support Programme (JNSP) in Tanzania** follows. (See Table 3 for more details.)

In the **Supplementary Food Production Programme (SFPP) in Zimbabwe**, experience showed the need to establish an intersectoral collaboration towards meeting nutrition goals and bringing nutritional issues into the development arena. Integration of the various sectors was difficult but accomplished through the use of existing political/labor structures and staff to both plan and manage the programme, with a decentralized structure and focus on the rural communities. Intersectoral committees (teams) were established at all administrative levels. At all levels these teams had responsibility for decisions affecting the allocation of resources, and at each level the team provided training and supervision for the level below. A joint evaluation by a SIDA/Zimbabwe team three years after the programme began revealed a need for clarification of goals and objectives and the roles of each sector. The programme was restructured, with each sector participating in defining its role in the SFPP and in defining its own training needs. These were compiled into a handbook which was then used to train the intersectoral committees and served as a mechanism for monitoring the activities of each sector. The design of the handbook by all the sectors ensured there was no duplication of preexisting areas of training.

It was felt that it would be difficult to get new resource allocations for nutrition in the health sector alone. Therefore, the programme chose to operate in a multisectoral manner, drawing upon the resources of many sectors. Existing extension workers in several sectors were given training which linked programme components to the nutrition aspects of their prior training. The programme also created the position of nutrition coordinator and selected local people at the district and ward level to fill these positions. A recent focus is to have these nutrition coordinators occupy existing (but vacant or under-used) positions within the governmental health structure (such as Leprosy Control). In this way it is hoped to achieve sustainability of the programme goals as the central government assumes more of the funding responsibility.

The **Joint WHO/UNICEF Nutrition Support Programme (JNSP) in the Iringa Region, Tanzania** also called for an intersectoral collaboration to attain its objectives. The use of existing staff and structure was cited as a factor which aided in the collaboration, and some new staff were appointed. Intersectoral teams were created at all levels, in a manner which meshed with the governmental structures. A National Steering Committee met quarterly to provide policy guidance, and implementation committees also met quarterly. After a mid-term review of the programme, the decision-making process was decentralized to the district level. From the start, JNSP focussed on the community as the most vital area of action and worked to forge appropriate linkages between the community and the governmental structures. The Triple A Cycle of assessment, analysis and action was used to promote social mobilization. Planning and monitoring of the programme initiates from below with simultaneous feedback of information from higher levels to the villages.

Multi-purpose training centres were constructed at sub-district levels. Integrated training is conducted, using local manpower as much as possible, and monitored by a Training Coordinating Committee. Training is conducted as an annual series of courses and seminars, to assure continuity and provide adequate opportunity for refresher training. Due to the scope of the project, over eleven standardized handbooks were produced and are used in the training process. These then form the basis for supervision of the programme.

Village Health Workers were selected from within the community to conduct the community-based growth monitoring system, adjunct to regular MCH services. A household and village registration system is maintained by Village Health Committees, supported by the Village Health Workers. The Village Health Committees advise and counsel parents of children who show poor growth performance. Records of child deaths are also kept, indicating the last signs/symptoms before death.

It is of note that mid-programme evaluation of both the Supplementary Food Production Programme and the Joint WHO/UNICEF Nutrition Support Programme revealed the importance of using a decentralized administrative structure. Thus, evaluation gave the opportunity to build upon the strengths of both programmes in a timely manner.

### **What are the advantages or disadvantages of using existing staff?**

Only three of the programmes reviewed initially utilized existing personnel (paid or voluntary) at the local implementation level (See Figure 2). In the **Pilot Food Price Subsidy Scheme in the Philippines**, existing local volunteers (the Barangay Nutrition Scholars) function as support staff for the Home Management Technicians. The **Drought Relief Programme in Botswana** utilized existing personnel at district levels, while creating ten new coordinator positions, in order to begin the emergency programme in a timely manner. The **SFPP Programme in Zimbabwe** drew upon extension workers from many sectors, as it was felt that it would be difficult to get new resource allocations in the health sector alone.

Existing governmental staff were more frequently utilized in a supervisory capacity, especially to supervise local village nutrition workers (Fig. 2). For example, in the **Pilot Food Price Subsidy Scheme**, the use of the existing infrastructure of Home Management Technicians from the Department of Agriculture was cited as a major factor in lowering the cost of supervision. The Home Management Technicians devoted two days of their five day work week to supervision of the delivery of the programme at the local level.

Though the use of existing staff does conserve resources, Figure 2 reveals that most of the large-scale programmes, many with greater than 10 years experience, feel the need to create new positions for nutrition. This may seem necessary for several reasons. It may be that existing staff already have enough work to do and cannot be expected to complete additional work in an appropriate manner. There may be concerns that when nutrition tasks are secondarily added on to existing job descriptions, they do not get priority attention. However, once external funding ends, this becomes one of the main problems for sustainability of the programme.

**Figure 2**

<b>STAFF POSITIONS IN THE PROGRAMMES REVIEWED</b>		
Local Level Nutrition Workers:		
Existing (paid) governmental staff		2
Existing (voluntary) community nutrition workers		1
New (paid) governmental positions created		3
New (voluntary) community nutrition workers		3
New (community compensated) community nutrition workers		3
New (project paid) community nutrition workers		6
Supervision of local level nutrition workers:		
Existing (paid) governmental staff		11
New (project paid) staff		6
Totals (supervisory and local level positions):		
Existing staff utilized		14
New staff positions created		21

Having local staff incorporated into the existing governmental structure is considered by several programmes to be a key factor for sustainability. **Project COPACA** has been replicated within the governmental structure in other regions. In these regions, only training in the project methods is provided by Project COPACA. In the **SFPP Programme in Zimbabwe**, a recent focus has been to fit the positions of nutrition coordinator, which were created by the programme, into little-used existing primary health care positions, such as leprosy control.



The route chosen by many programmes appears to be a judicious mix of locally selected, community nutrition workers to conduct growth monitoring and screening for supplementary feeding, while supervision of these workers is conducted by existing government health personnel and serious cases of malnutrition are referred for treatment. Programme costs are reduced as the local level workers are voluntary, community-compensated, or paid a small amount, while supervisors already have a salaried position. The sustainability of such a combination rests on adequate compensation and/or incentives for the local nutrition workers to remain active for extended periods of time, and the reasonableness of the supervisor's workload.

Avoiding the overburdening of staff requires good management. Programme administrators must see to it that tasks are clearly defined for all staff and the workload truly manageable. The rewards are worth the time and effort – with the utilization of existing staff in an efficient manner, the chances for sustainability of a nutrition programme are increased. A recent World Bank Discussion Paper gives useful suggestions for ensuring that staff workloads are reasonable in nutrition programmes (Heaver, 1989):

"Focus field workers' tasks by:

- *"requiring a narrow range of duties."* Multipurpose health workers are often found to be overburdened with more tasks than a superhuman individual could complete. For example, the Multipurpose Female Health Worker (MFHW) in the **Integrated Child Development Services (ICDS) programme** has 47 tasks to complete each month. One of these tasks is to conduct 50% of the childbirth deliveries in her area. The catchment area has a population of approximately 5000 people with an annual growth rate of (approximately) 2.2%. Thus, the MFHW should attend 4.5 births per month ( $5000 \times 0.022 / 12 \times 0.5$ ). At roughly six hours per delivery, excluding the paperwork, the MFHW would spend close to 27 hours a month in this task – and there are 46 more to accomplish.
- *"determining reasonable worker-client ratios."* In the **Tamil Nadu Integrated Development (TINP) programme** the ratio of one field worker per 200 to 300 families was found to be effective. This ratio entailed that 50 to 100 children would be followed by growth monitoring activities, with 15 to 25 of these requiring supplementary feeding in any one month. When project components focus on prevention, versus curative service provision, the ratio can perhaps be increased up to 1:800 families.
- *"clearly defining work routines and priority tasks."* In **TINP**, three days a month are scheduled for the growth monitoring of 50 to 100 children, with three more days for entering the weight on cards and other associated recordkeeping procedures. Fifteen afternoons a month are scheduled for home visits and follow up of at risk children.

### **What tasks are appropriate for community workers?**

When determining the staffing pattern of a nutrition programme it is important to remember that the inclusion of community members as staff can aid programme sustainability, by encouraging community participation and developing a community sense of ownership of the programme. When **TINP** began, few Community Nutrition Workers (CNW) were actually from the village in which they worked. However, program managers quickly noticed a great difference in community acceptance of the program (and work performance of the CNW), depending upon whether the CNW was a resident of the village in which she worked. Staffing criteria were relaxed to promote the selection of local workers, with good results.

As can be seen in Figure 3 (Chapter 3, Community Participation), local community members are recruited for staff positions in fourteen of the seventeen programmes reviewed. Primarily, these local workers are responsible for growth monitoring, screening for supplementary feeding, and nutrition education. In several cases, the nutrition programmes are conducted alongside of existing Ministry of Health primary health care services. In this way, new positions for community volunteers are incorporated into the project while retaining the benefit of supervision by existing skilled medical staff. For example, in the **Family Nutrition Improvement (UPGK) programme in Indonesia**, community volunteers are responsible for growth monitoring activities which are conducted along with the provision of regular MCH services. In **JNSP in Tanzania**, local village health workers conduct growth monitoring as a means of strengthening, not substituting for, normal MCH services.

It appears that large scale nutrition programmes have found that with good training and adequate supervision, community members can be responsible for growth monitoring. Screening and referral of children with malnutrition and/or other childhood illnesses, along with the provision of nutrition education, are also

responsibilities associated with growth monitoring. A recent study conducted among community health volunteers in India found a high degree of agreement (approximately 80%) in anthropometric measurements between trained health personnel and trained community volunteers (Swaminathan, 1987). The MSNP Workshop did not focus on the complex topic of the delivery of nutrition education. However, in those programmes which had undergone evaluation, it was found that referral systems at the community level needed strengthening.

Other benefits are also obtained through the use of community workers in nutrition programmes. A recent report from the **Evaluation of Selection Criteria and Alternative Management of Malnourished Children (ERTU) project in Jamaica** shows that the use of paid Community Health Aides as community outreach workers for the detection of malnutrition also resulted in an increased use of MCH services leading to higher levels of complete immunization among children (Kingston Project 1990). In this way, the nutrition programme attempts not only to monitor growth but to interrupt the malnutrition/infection cycle (Tomkins and Watson, 1989).

### ***What frequency of supervisory visits to the local level work best?***

In a study of the feasibility of community health volunteers in large scale programmes, it was found that "the links with the health services are important, in legitimizing and giving credibility to the volunteer's role, so much depends on the interest and number of contacts health volunteers have with PHMs (supervisors)" (Walt, Perera, and Heggenhougen, 1989).

Supervision can be a part of daily activities involved in the operation of the programme, especially if tied to monitoring activities, such as was done in the **Drought Relief Programme in Botswana**. In the case studies presented, supervisory visits to the field by middle level staff occurred on a monthly basis in the **ICDS programme in India** and the **Community Based Nutrition Intervention in North-East Thailand**, while a bimonthly basis was recommended in **TINP**. The experience of multisectoral programmes suggests that the formation of multisectoral committees can aid supervision by decreasing the chances of redundancy of tasks and ensuring that each sector is performing its duties.

Similar to the situation of field workers, a supervisor's workload must be manageable. In **TINP**, a supervisor-worker ratio of 1:10 was found satisfactory (Heaver, 1989). Included is the suggestion that with greater logistical difficulties due to lack of roads, etc., a ratio of 1:6 or 1:8 would be better. These ratios are chosen so that each supervisor can spend one full day every two weeks with each worker. Also suggested is that as the programme matures and field workers need less on-the-job training from supervisors, a ratio of 1:12 might be appropriate.

### ***How can supervisors motivate staff?***

Increasingly it is being recognized that the supervisor's role is not only one of "checking up" on lower level workers, but also one of conducting informal refresher training and of motivating performance. A review of nutrition programmes in Latin America suggests that supervisors "need to give honest and constructive criticism of staff performance – and also show appreciation for success and offer the valuable incentive of words of praise" (World Bank, 1989). Four examples of methods which have been used to motivate staff arose from the MSNP Workshop:

- Have staff/committees visit each other and share their experiences.
- Try to send people out for seminars.
- Alternate meeting sites at the village level, scheduling extra time for monitoring and evaluation in that area prior to the meeting. In this way, management procedures can become a motivational tool.
- Let each subgroup decide on its training needs and times, to increase a sense of ownership of the programme.

Among other efforts to sustain motivation, bi-yearly "Best Community Nutrition Worker" awards are given in **TINP** which appear to be coveted signs of achievement. Supervisors can also "feedback" the information generated by the programme's management information system to local level workers, to sustain their enthusiasm and motivate further efforts. (See Chapter 4, Management Information Systems, for further discussion.)

There are ethical considerations in asking the poor to do voluntary work and doubts as to the longterm sustainability of a programme relying on voluntary assistance. The aforementioned study of the feasibility of using non-compensated community health volunteers in large-scale programmes, drawing upon examples from Botswana, Colombia, and Sri Lanka, concluded that "large-scale community level volunteer programmes will be characterized by high attrition and low activity rates and will only be sustainable under particular enabling conditions" (Walt, Perera, and Heggenhougen, 1989). These conditions are:

- Where there are substantial numbers of young, relatively well-educated men and women in rural areas, for whom further training or employment opportunities are lacking.
- Where the religious or ethical value of serving others through voluntary work is a strong cultural force.
- Where traditional, often authoritarian, structures underlie expectations of voluntarism.
- Where political commitment, sometimes under adverse conditions, unites and stimulates voluntary effort."

Yet even in Sri Lanka, where several of these conditions are met, interviews revealed that approximately sixty percent of volunteers gave the hope of future employment as their main reason for volunteering. Clearly, in areas where few economic opportunities exist and poverty is ever-threatening, it is questionable to expect that community workers can function in a sustained manner without some form of financial support.

From Figure 2, it can be seen that only four of the seventeen programmes reviewed rely heavily on volunteers. Most programmes either create paid positions or stress community compensation for local staff. For example, in the **ICDS** programme and in **TINP** in India, community workers receive an "honorarium". In **JNSP in Tanzania**, 80% of Village Health Workers are financially supported by their Village Committees while another 17% receive "in-kind" payment. The **health and nutrition programmes in Costa Rica** have always considered it important that staff be well paid and have opportunities for further education and promotion.

#### ***Of what duration should staff training be, and which staffing levels should be trained first?***

The decision as to which staffing levels should be trained first appears to be case specific. In the **SFPP Programme in Zimbabwe**, training began at the national level and worked down to the village level. The rationale was that this would assist in the overall supervision and sustainability of the project by making sure that the highest level decision-makers were familiar with it. In this manner, also, a system of "training trainers" was used, so that as each level was trained they became responsible for conducting the training of the next level. In **JNSP in Tanzania**, training occurred in the opposite direction with the rationale being that villages were waiting for the programme, having participated earlier in the planning process, and beginning training at the top would have delayed the receipt of services at the village level by two or three years.

The timing and duration of training must be flexible. The desires of different levels of staff can often conflict, with provincial heads expecting short training periods in order to decrease the interruption of regular daily activities, while village level staff desire the longest training period possible in order to further their education. A broad range of training time is seen in the case-studies presented. Five days was felt to be sufficient in the **Nutrition and Primary Health Care programme in Thailand**, yet considered inadequate in the **Institutional Support for Health and Nutrition programme in the Gambia**. Three months training is done in the **ICDS programme in India**, with the longest training period at six months for local village health workers in **JNSP in Tanzania**.

Training must be programme specific. The training of local community members will vary depending on their level of literacy and amount of prior formal education. Training length will need to vary in consideration of the difference in scope of the tasks the worker will perform. The previous training and experience of the new staff must be taken into consideration. The **SFPP in Zimbabwe** had each sector define its own training needs so that distinct needs would be addressed in the training process. The local agricultural calendar must be taken into account, so that training times do not conflict with periods of intense food production activity, as has been discovered by the **Nutrition and Primary Health Care Programme in Thailand**. On-the-job training does occur, after an initial familiarization with the mechanics of a programme, especially in interventions targeted to deal with emergency situations, such as in the **Drought Relief Programme in Botswana**.

In **TINP in India**, refresher training is conducted annually, lasting for ten to fifteen days. In the **ICDS programme in India**, refresher training also lasts for about two weeks but is conducted on a biannual basis.

Refresher training is also conducted annually in the **Nutrition and Primary Health Care Programme in Thailand**, for approximately three to five days. In the **UPGK programme in Indonesia**, supervisors are expected to provide refresher training during monthly visits to the field. In the **SFPP programme in Zimbabwe**, refresher training for local committees is expected to be provided individually by multisectoral extension workers during local level visits. In **JNSP in Tanzania**, integrated training is conducted as a continuous series of courses and seminars. This assures continuity and provides adequate opportunities for refresher training.

Many times the focus of training is primarily towards the community/village level worker. The necessity of incorporating physicians, who may not have been trained in public health aspects, into training programmes should not be forgotten. The physician can share clinical and diagnostic expertise while gaining an appreciation of the village level needs for primary health care. Other staffing levels may benefit from further training in management, at which time ideas as to the motivation of staff can be discussed.

For the training of any staffing level, there appears to be a need to standardize training objectives and procedures. In both the **SFPP** and the **JNSP**, the creation of a standardized handbook for training was said to be invaluable. Standardized training handbooks can also be utilized as aids for the monitoring of programmes.

### **Conclusions**

The issues related to staff selection, supervision and training are complex and not easily resolved within a brief workshop. However, it is hoped that the details presented above and in Table 2, Staff Issues, can provide some insights into what works best for nutrition programmes.

Determining the pros and cons of using existing staff or creating new positions is programme specific. There are benefits for the longterm sustainability of a programme if existing staff are used. Yet, there frequently will be concerns as to whether or not nutrition activities will receive priority. Most important of all, existing staff must have well defined and manageable workloads if they are to be expected to function in an enthusiastic manner. Programme planning must take into consideration the motivation of workers if longterm sustainability is to be achieved. Job security, reasonable compensation for their time, recognition of their efforts, and the means to improve and increase their knowledge base are repeatedly mentioned in studies as expressed desires of health workers.

There are important benefits to be derived from the incorporation of community members as programme staff. Programme costs will be reduced and community participation will increase. Community nutrition workers appear to be capable of conducting growth monitoring and screening for supplementary feeding. The strengthening of referral systems is of importance as the next step for nutrition programmes.

Supervision, as a topic for nutrition interventions, is finally receiving the attention it should. Recommendations on supervisor-to-staff ratios have been quoted here (Heaver, 1989). A ratio of 1:10 has been found satisfactory in **TINP**, while Heaver suggests that the ratio be reduced if the area of intervention has poor infrastructure. It is also suggested that as a programme matures a ratio of 1:12 may be appropriate. It is stressed that the role of a supervisor should not be to "police" workers, but rather to motivate them. Supervisors should provide on-the-spot refresher training so that workers solidify their formal training experience with practical experience.

The issues related to training (e.g. length of training, training methodology, etc.) are complex and were not tackled at the MSNP Workshop nor in this document. It can be reiterated that it is a key factor of success and will need to be programme-specific, taking into consideration the tasks to be performed by those trained and their level of literacy and prior training. The creation of training handbooks is recommended as a means of achieving an appropriate training structure that can be replicated as a programme grows.

TABLE 3 – STAFF ISSUES

<b>Project/Country</b>	<b>Selection</b>	<b>Training</b>	<b>Supervision</b>	<b>Affiliation</b>	<b>Field Worker/popn.</b>
Drought Relief Programme/Botswana	Utilization of existing health personnel at both national and	Largely on the job, due to emergency situation, except (or selected training on	Intensive staff supervision due to the monitoring and reporting	– National Early Warning System – Inter-Ministerial	

	district levels, with ten new positions (drought coordinators) recruited.	food management issues.	requirements of this programme.	Drought Committee – Food Resources Department – Ministry of Education – Remote Area Development Unit	
NNHCP/Costa Rica				– Ministry of Health (Dept. of Nutrition) – Ministry of Public Education	1:1000 professional and auxiliary staff in 1982.
HSDP/Costa Rica		Initially, health workers were trained for only six weeks. Later this was increased to 3 months, then increased again to 6 months.		– Ministry of Health	2 health workers (1 male, 1 female) per 5,000 population 1983.
Institutional Support for Health and Nutrition/Gambia	Public advertisement followed by written test and interviews and final screening.  Professional candidates are given priority in staff selection.  Prior qualification must be relevant to the programme activities.	On-the-job training for professional staff.  Training of community programme managers was limited to one week and found to be inadequate with village-based practical experience lacking.	Regional staff spend 75% time in central level supervision.  Central level staff spend 30–50% time in field visits.  Ongoing supervision by Community Management Committees.	– Ministry of Health – Gambian Food and Nutrition Association (GAFNA)	1 Community Management Committee per village.  5 GAFNA staff per 1:10,000 beneficiaries
Improving Child Nutrition, Weaning Food Project/Ghana	Community volunteers are selected and village management committees established. These are supported by District Management Teams.	Nutrition officers and community development officers train those involved in project management.	Village management committees implement the project with overall supervision by the Nutrition Division, Ministry of Health.	– Nutrition Division, Ministry of Health – Dept. of Community Development	
ICDS/India	Preschool workers (age 21–45 with 5–10 years schooling) are selected from within village communities.	Workers are trained for 3 months at district level training centres; after 2 years, retrained for 2 weeks.	Monthly field visits to workers carried out by supervisors.  Child Development	– State Governments, assisted by Central Government. – Dept. Social Welfare	1 AWW: 10 rural or urban (1:700 tribal)  1 supervisor: 20 rural (17 tribal) centres

	Supervisors (women, age 21–45) must be college graduates in nutrition related disciplines.	Supervisors are trained (or 3 months at a state middle–level training centre; retraining occurs, but no fixed schedule.	Project Officers oversee supervisors.	– Dept. Women & Child Development – Dept. Rural Development – Dept. of Health – CARE and World Food Program (food provision)	1 multipurpose worker: 5000 population  1 health supervisor/30 villages (30,000 people)
TINP/India	The main criterion for selection of the Community Nutrition Workers (CNWs) who conduct growth monitoring activities is that they be resident in that village; there are also age and educational qualifications.	CNWs receive 3 months initial training by a Community Nutrition Instructress (CNI) with annual refresher training for 10–15 days. The syllabus is designed by the CNI who then also provides on–the–job training and supervision (bimonthly). Skills in communication are emphasized. The last 10 days of training are conducted jointly with the multi–purpose health worker.	The "supportive" role of the supervisor is stressed; the CNI conducts bimonthly review sessions with CNWs.  Bi–yearly "Best CNW" awards are given.  Regularly monitoring of programme inputs at all levels has a supervisory effect.	The Government of Tamil Nadu:  – Directorate and Department of Social Welfare  – Directorate of Public Health and Preventive Medicine	1 CNW: 1500 population  1 multipurpose worker: 4–5 villages (5000 population).
UPGK/Indonesia	Weighing posts are staffed and managed by volunteers chosen by the community, adjunct to Ministry of Health staff provision of primary health care services.	Health centre staff arranges and assists 3 to 5 days of training for community volunteers.  Refresher training occurs during monthly supervisory visits.	Physician and ancillary staff at health centres supervise the weighing posts, 1 health centre per 25–45 posts.  Monthly village coordinating committee meetings are held.	– Ministry of Health – National Family Planning Board – Ministry of the Interior – Ministry of Agriculture – Ministry of Religious Affairs	National average of 1 weighing post per <170 children (100 to 400 regionally).
ASNP/Philippines	Teachers in primary schools implement the programme with the support of local families who produce the food for supplementary feeding.	Accounting and management training for the teachers is conducted before seed money is received.	A programme committee is chaired by the school principal; further supervision occurs along the normal Department of Education channels.	– Department of Education	

Pilot Food Price Subsidy Scheme/The Philippines	Utilization of existing infrastructure of Home Management Technicians (HMT) to manage programme at the village level with assistance from local para professional semi-volunteers. the Barangay Nutrition Scholars (BNS).	Both HMTs and BNSs had prior training. They were retrained by national and regional officers on the mechanics of the programme and the additional programme-related nutrition education messages.	HMTs used 2 of their 5 day work week to supervise the scheme. This lowered the cost of supervision.	– National Nutrition Council – International Food Policy Research Institute – Dept. of Agriculture – Ministry of Health (prior training of BNS)	
JNSP/Iringa Tanzania	Village Health Workers are selected by the villagers through (he Village Health Committee.  Traditional Birth Attendants and Traditional Healers are adjunct to governmental MCH services.	Village Health Workers receive six months training.  An integrated training approach, including the training of 18 trainers, is coordinated for all technical and non-technical staff at all levels with courses conducted as an annual series.  Over 11 training handbooks were developed and utilized.	Village Health Workers report to the Village Health Committees. They report to Ward Implementation Committees, overseen by District and Regional Implementation Committees.  The decision-making process is decentralized to the district level.	All committees interface on the same level with governmental institutions.	2 village health workers: 1 village.  All villages within 10 km of a dispensary
Nutrition and Primary Health Care Program/Thailand	Community volunteers conduct growth monitoring and nutrition education.	Volunteers are given 2–5 days initial training with annual refresher courses. They are also taught planning, controlling, and evaluation skills.	MCH personnel provide technical supervision of growth monitoring.  Community nutrition fund is managed by a village committee.	Ministry of Health	
Community Based Nutrition Intervention/ North-East Thailand	Village health volunteers are linked to existing local health personnel.	Training was done by academic staff members, Faculty of Tropical Medicine, Mahidol University.	Monthly supervision of local personnel by the project team.	– Ministry of Public Health and Rural Development – Faculty of Tropical Medicine, Mahidol University – Local health authorities	

SFPP/Zimbabwe	Existing extension staff from many different sectors support the programme.  Nutrition coordinators are selected from the local district area. They are now being incorporated into existing Ministry of Health positions.	Intersectoral training was conducted at all levels, with a training handbook developed with each sector defining its own training needs.  Refresher training is provided individually by multisectoral extension workers during visits at the local level.	Intersectoral management committees provide supervision in a process that is decentralized to the district level.	– Nutrition Unit, Ministry of Health – Ministry of Agriculture – Ministry of Education – Local government	
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### Chapter 3: Community Participation

At the workshop on Managing Successful Nutrition Programmes held in Seoul, several issues were raised regarding the topic of community participation:

- Community participation means different things to different people; how can community participation be defined?
- What specific methods are used to bring about community participation in a nutrition programme?
- What are the pros and cons of emphasizing community participation in a project?
- How can community participation be measured?
- What can be done to ensure the participation of women in the community?
- What can be done to ensure the participation of the poorest community members?

The first three questions above form the basis for much of the following discussion. More detailed examples of methods of community participation used in four of the case studies are then given (See Table 4, Community Participation, for a brief listing of methods of community participation in all of the case studies presented). The final three questions are then addressed, with some ideas and examples to stimulate further thoughts on these important matters.

#### ***How can community participation be defined?***

Although the definition remains necessarily broad, community participation could be described as: "the involvement in decision making by the community at large and not only by their elected leaders" (Shrimpton, 1989).

A look at various publications on the topic of community participation (Zaman 1984, Shrimpton 1989, Kennedy and Alderman 1987, Austin and Zeitlin 1981) reveals several determinants and possible indicators of community participation mentioned by all authors:

- Central government support for community participation.
- Participation in the decision making process with administrative support for decentralized decision making.
- The creation of community groups (or strengthening of existing institutions) with authority delegated to these groups to advise, supervise, and/or manage the nutrition project.



- The selection and training of local community members as project staff.
- Other community contributions towards project resources.
- Linkages within the project to other existing community groups (such as small farmers' associations, mothers' groups, etc.) and to existing government services.
- Good communications and information sharing between project staffing levels.

Sometimes included under the category of community participation is support for national institutions, utilizing the skills found within these institutions as much as possible in the training, research, and evaluation aspects of nutrition programmes. For this reason, mention is made in Table 4, Community Participation, of any programme which included this component. However, discussion of this aspect can be found in Chapter 5, Sustainability, under issues of institution building.

***What specific methods are used to bring about community participation in a nutrition programme?***

Looking at the above mentioned determinants and indicators of community participation, it can perhaps be said that **central government support** is necessary for any component of a nutrition project. Yet the programme component known as "community participation" theoretically has the most political ramifications. These must be recognized as legitimate central government concerns. Nutrition projects should neither proceed in a purely "top-down" fashion (perceived to represent the least amount of community participation) nor simply from the "bottom-up". What is needed is good communication between all levels, especially during the project planning and initial implementation phase, so that different concerns and needs can be considered in the decision making process. This should assist in achieving such central government support as is deemed desirable for the project. The MSNP Workshop did not focus on the "how-to" of achieving central government project support. However, several of the case studies, such as the **Family Nutrition Improvement programme (UPGK) in Indonesia**, give indications that central government expression of the political will to support community participation is integral to their nutrition programmes.

Community **participation in the decision making process** can occur either in the initial planning stage, (where various forms of community-directed needs assessment and determination of project goals may be utilized), during programme implementation, and/or in evaluation of a project. Methods of achieving community participation in the planning process or in project evaluation were not a focus of the MSNP Workshop. As will be discussed in more depth in the section in response to question three – *What are the pros and cons of emphasizing community participation in a program?*, the meaningful incorporation of community participation in the planning of a nutrition programme can be problematic. As the **Nutrition and Primary Health Care Program of Thailand** frankly states, planning is complex and, in reality, communities (through village committees) are only involved in short-term planning (2–3 months ahead) in Thailand. Longer term planning is still done by professionals. This is considered in the programme in Thailand as a realistic step towards the greater involvement of community members in the planning of nutrition programmes.

Community participation in the evaluation process (beyond a Yes/No type of survey of community satisfaction with a programme) is still a somewhat new concept and was not a focus of the MSNP Workshop (See Chapter 4, Management Information Systems, for further discussion on feedback of information). Therefore, as the focus of the MSNP Workshop was on management experience, the information from the case studies presented at the workshop is oriented to the incorporation of community participation methods in the implementation of the programmes.

One way in which community participation occurs in the implementation phase of the case studies presented is through the establishment or strengthening of local committees, with powers and responsibilities ranging from an advisory capacity to actual management and supervision of the project. Also, local community members are frequently chosen as project staff and in several programmes communities express their involvement through the provision of voluntary labor, the donation of land, and/or monetary or in-kind support. To strengthen participatory community structures, many programmes also link the project to other community organizations. (See Figure 3).

**Figure 3**

<p><b>METHODS OF COMMUNITY PARTICIPATION USED IN 17 PROGRAMMES REVIEWED</b></p>
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METHOD	NO. USING
Village committees (created or strengthened)	11
Local community members as staff	14
Community contribution of other resources	7
Linkage to other community organizations	7

**Intersectoral committees** are found at all levels, including the village or community, in the **JNSP programme in Tanzania** and in the **SFPP programme in Zimbabwe**. There is administrative support for decentralization and village committees make decisions which affect the allocation of funds. Food production for supplementary feeding is done at the village level in the **Nutrition and Primary Health Care Programme in Thailand**, with proceeds from the sale of excess harvest put into a nutrition fund which is managed by a village committee. In the **Weaning Food Project in Ghana**, the village committees are responsible for the running and maintenance of the corn mills, the fixing of grinding fees, the supervision of Weanimix preparation, and other management and accounting procedures. In the **Family Nutrition Improvement Programme (UPGK) in Indonesia**, the weighing posts are managed by the community, with the community responsible for growth monitoring and recordkeeping procedures. The **JNSP programme** found that: "Village leadership played a strong role. Communities with weak leadership lagged behind." (Yambi, Jonsson, and Ljungqvist, 1989).

In twelve of the seventeen programmes reviewed, **local community members** were selected as project staff. These village workers in most cases were responsible for growth monitoring, nutrition education, and follow up and referral of at risk children. Approximately half of these were supervised by governmental health staff. With good training and support, strong referral systems and well trained medical supervision, local community members appear to successfully assume the tasks involved in growth monitoring and nutrition education. (See Chapter 2, Staff Selection, Supervision and Training, for further discussion of community nutrition workers' tasks).

Seven nutrition programmes have obtained community participation through the mobilization of **community resources** to the project. For example, in the **Joint WHO/UNICEF Nutrition Support Programme in Tanzania**, greater than 80% of village communities themselves support the community nutrition workers, primarily with cash contributions but also with in-kind contributions such as food. Community are responsible for the maintenance of supplementary feeding activities in the **UPGK programme in Indonesia**, the **BIDANI programme in the Philippines**, and the **Nutrition and Primary Health Care Programme in Thailand**. The sustainability of the **Alternative School Nutrition Programme in the Philippines** has depended upon community food production as an income-generating activity, used to return the initially provided seed money.

Community contribution of resources alone cannot fully signify community participation unless the resource contribution is connected to decision making power. An increasing sense of ownership of a nutrition programme should lead to a greater voice in the processes of planning and implementation, with the ultimate goal being an elimination of external dependency and the sustainability of the programme.

In many of the case studies, as a measure to strengthen community capabilities of addressing the issues surrounding undernutrition, the programme embodies **linkages** to other existing community organizations or to newly created auxiliary organizations, such as the Women's Working Group in the **Tamil Nadu Integrated Project in India**. Other examples are the **Institutional Support for Health and Nutrition Programme in the Gambia**, in which Community Management Committees are linked to women's groups, and the **Pilot Food Price Subsidy Scheme in the Philippines**, in which implementation meetings to explain and clarify the programme were held frequently with local village councils.

A focus on community participation implies a management information system with feedback of information to the local level. This feedback is as important as the monitoring of the implementation itself. **Good communications and information sharing** between all project levels not only assists project implementation, but moreover helps to sustain community interest and increases community involvement. The long and winding road to the achievement of nutrition objectives becomes a more visible and tangible goal to the community when incremental progress can be followed (See Chapter 4, Management Information Systems, for more detail on methods of feedback used in the programmes reviewed).

**What are the pros and cons of emphasizing community participation in a project?**

Some of the perceived benefits of community participation in nutrition programmes are: i) it increases a sense of ownership of the project by the community, thus leading to sustainability of the project; ii) it decreases resistance to project innovations, assists the dissemination of nutrition education messages, and promotes regular and ongoing attendance at programme activities; iii) it decreases dependence on external assistance and promotes self-help in tackling community problems through the strengthening of community structures and leadership; and iv) projects which stress community participation tend to be interventions which are more appropriate for the community, in the goals and objectives defined and in the technology employed.

One limiting factor of community participation in a project is an increased administrative complexity (Kennedy and Alderman, 1987). Logistical constraints are also increased due to the frequent location of needy communities in isolated areas with weak infrastructure. The benefits would appear to outweigh these negative aspects. It should be recognized, however, that there always is the potential for local elite groups to use "community participation" in a project as a means of extending their own patronage network within the community (Kennedy and Alderman, 1987). Yet if targets are well defined and the programme is closely monitored to determine coverage and beneficiaries, this should be detected early in the implementation phase.

When community participation is promoted in the planning phase, there can be conflicts between programme goals and community goals. Based on a review of community participation in the health planning process in several health programmes in Southeast Asia, it was considered that in some cases "community members did not see health as a priority" (Rifkin, 1985). In recalling the historical developments of nutrition programmes in Tanzania (Yambi, Johnsson, and Ljungqvist, 1989), it is shown that poorly considered attempts to involve community participation in the planning process can possibly hinder efforts to reach programme goals:

"The idea was to identify causes of the problems and then agree on solutions. However, institutions conducting the investigations and dialogue often failed to respond to the communities' demands. This resulted in frustration on both sides: the villagers could not get what they wanted, and the institutions were unable to get other elements of their programs implemented."

It is therefore important to consider how community participation relates to the objectives in a nutrition programme. In the **Barangay Integrated Development Approach for Nutrition Improvement of the Rural Poor (BIDANI) in the Philippines**, community participation is vital to understanding the underlying causes of malnutrition. As the programme defines malnutrition in socio-economic terms, most community needs can be fitted into development plans. In the **Nutrition and Primary Health Care Programme in Thailand**, people view nutrition as basic to life and so participate in its improvement. When community aides are consulted, people readily accept the programme's focus on mothers and children. Another approach mentioned at the MSNP Workshop is for nutrition workers to guide communities to the sources that can help them meet their non-nutrition needs. Their confidence is thus gained and interest in nutrition can be mobilized.

Key to all of this may be the creation in the community of awareness of nutrition problems. The **Institutional Support for Health and Nutrition Programme in the Gambia** includes a component which involves consultation and sensitization on felt needs within the community. The **JNSP programme in Tanzania** has used a locally-shot film depicting villagers' nutritional problems to promote community awareness of malnutrition.

### ***Examples of case study methods of community participation***

The **Family Nutrition Improvement (UPGK) in Indonesia** is an intersectoral programme which addresses protein energy malnutrition, vitamin A deficiency, and iron deficiency among under-fives and pregnant/lactating women. (Although iodine deficiency is also widespread, an IDD programme deals separately with this problem.) UPGK activities include growth monitoring, health and nutrition education, food and vitamin supplementation, oral rehydration, household and village food production, and referral. There are over 200,000 *Pos Yandus* (Community Integrated Health Service Posts) in the project areas. They provide nutrition, family planning, MCH services, diarrhoeal disease control, and immunization services. Growth monitoring activities are conducted by trained workers (*kader*) selected from the community. Adjunct professional MCH staff perform physical examinations and provide other health services, including family planning, at the same time.

The UPGK programme aims specifically to foster active community participation. The *Pos Yandus* are designed to be managed by the community and serve as forums for communication. The *kaders* are selected by the community and supported by sector workers. The community is involved in the planning,

implementation and monitoring of the programme. Interest is first aroused through the process of the baseline survey which is done by the community itself. Training and support from the health services are then used as a means of enabling full participation. There is a built-in monitoring and evaluation system, the "SKDN system," where S is the number of children under-five; K, the number with growth charts; D, the number who have attended a weighing session, and been weighed; and N, the number who have gained weight. Each *pos yandu* examines and reports its coverage at first contact (K/S); participation in weighing (D/S); and outcome (N/S). Monitoring of the participation in weighing (D/S) is considered a measurable indicator of community participation.

The **Barangay Integrated Development Approach for Nutrition Improvement of the Rural Poor (BIDANI), The Philippines** is a programme which employs an integrated development approach for village nutrition improvement. Malnutrition is viewed as the result of people's adverse socio-economic conditions –unemployment, low income, ignorance, poor water supply and sanitation, or inadequate community organization. These problems are addressed by the programme through a grassroots strategy which involves people in programme planning and implementation. The community selects indigenous workers, and village-level committees are formed. Line, civic and barrio organizations participate, as well as private groups and village political structures. The people identify priority problems, their causes and solutions, and translate these into programme activities. The integrating instrument is a *development framework plan*.

Programme strategies include food production, income generation, and supplementary feeding. Families at high risk of malnutrition are the priority target beneficiaries. Workers are trained in community education approaches, and to link people with government services and resources. Theatre and other innovative means to enhance community participation are used, so that people are motivated to help themselves. Communities also provide labour, local resources, etc. for the nutrition and health programme, as well as for other development efforts, such as road construction. Training is provided by the implementing agencies, who also conduct a situation analysis and organize the programme, monitor and evaluate it. Initial training for the BIDANI workers are simultaneously planning workshops.

Community motivation, mobilization and involvement in the **Institutional Support for Health and Nutrition, The Gambia**, a Catholic Relief Services (CRS) project, has evolved over time. In the beginning, around 1964, CRS simply distributed food, medicines, etc. to urban and peri-urban areas. Drought began in the 1970s and Gambia was declared part of the Sahel in 1974. When food was brought in for drought relief, CRS explored several options to distribute it. One option was to use the health infrastructure; another, to identify and use existing village mechanisms. The traditional systems in place were: i) women's groups, consisting of 50 members with three leaders (known as *habiros*); and ii) Community Management Committees, consisting of a president, a vice-president and a male member selected by each village. It was decided to enter communities through these groups. The Department of Community Development trained community development workers. In 1979–80, CRS strengthened these organizations. Procedures used include consultation and sensitization on felt needs, then involvement in the project implementation with handing over to the Community Management Committee to continue community level management. Income-generating activities were introduced. Community involvement was high.

In 1980 (after the Alma Ata declaration), the Ministry of Health increasingly focussed on primary health care with community participation. Separate village health committees were formed, including Traditional Birth Attendants, nurses, village *imams*, etc. Friction developed between the two village-level committees. CRS then evaluated the two types of organizations, the Village Development Committees and the Community Management Committees (CMCs). It was found that the CMCs, involving elected village leaders and including women's groups and local institutions, were more viable. In the future, CRS intends to promote these groups.

The **Nutrition and Primary Health Care Programme in Thailand**, run by the Nutrition Division of the Ministry of Health, covers 80% of children under five. Its philosophy is that nutrition is a key element of health and life, and that decisions must be made by the people and accepted by officials. Participation is defined as people's involvement from planning through evaluation. It is felt that the most effective incentive for mothers and families is good child health. The central programme strategy is then to implement through existing community structures which are thereby strengthened. Communities are prepared through training for participation in the programme and government workers receive a reorientation and training for this "new" way of working. These initiatives are supported by political commitment to nutrition as a component of the quality of life and adequate supervision of the work of the community.

Some other precepts are:

- Start with the mother/child inter-relationship.

- Decentralization and flexibility. The programme is community-level, but centre-based.
- Strengthen community structures and leadership. Three essential elements are community leaders' groups, community workers, and a community fund.
- Research for programme development. For example, in 1985 it was found that half of all mothers discontinued growth monitoring. Reasons were elucidated and steps taken to improve participation.

Nutrition activities are integrated in the primary health care approach. The growth monitoring and supplementary feeding components of the programme are adjunct to maternal and child health services. A women's group is responsible for food production for supplementary feeding. A community nutrition fund is managed by a village committee. The growth monitoring system is used to screen for supplementary feeding and for referral. Any cases of undernutrition in combination with a disease state (such as diarrhoea, measles, pneumonia) is referred to the health center level.

There are some weaknesses in the system, as successful community preparation takes years to accomplish, as does the reorientation of government workers' attitudes. There are also difficulties with annual discontinuities of activities during the planting and harvesting seasons. However, the outcome of good health does seem to be adequate incentive for sustained community participation.

### ***How can community participation be measured?***

The measurement of community participation has not yet been methodologically defined enough to be commonly practiced yet in nutrition programmes. Some programmes do quantify the amount of resources a community contributes towards a nutrition programme as an indicator of the community's involvement. Community participation is also sometimes measured as participation in project activities, as is done in the **Family Nutrition Improvement Programme (UPGK) in Indonesia**. In the **Institutional Support for Health and Nutrition programme in the Gambia**, programme attendance, clinic attendance, and participation in food production activities are used as measures of community participation.

However, this remains an area which needs more research, particularly as attempts to truly capture in a quantified manner the essence of community participation requires the collection of qualitative information. An overview of the conceptual issues involved can be found in *Projects with People: The Practice of Participation in Rural Development* (Oakley, 1991). This book also cites three methodologic frameworks for the measurement of community participation in a programme. The first (taken from Finsterbusch and Van Wicklin, 1987) and second (taken from Shrimpton, 1989) give numerical values to various indicators as a means of ranking these and linking the numerical value to a narrow or wide definition of community participation<sup>1</sup>. The third method (taken from Rifkin, Muller and Bichmann, 1988) uses a similar approach but within the framework of a diagram.

<sup>1</sup> Four of the programmes presented at the MSNP Workshop (the Tamil Nadu Integrated Nutrition Project (TINP) of India, the Family Nutrition Improvement Programme (UPGK) of Indonesia, the Joint WHO/UNICEF Nutrition Support Programme (JNSP) of Tanzania, and the Nutrition and Primary Health Care Programme of Thailand) have been evaluated for community participation by the second methodology (See Shrimpton, 1989).

### ***What can be done to ensure the participation of women in the community?***

There is considerable focus on the issue of women's participation in health and nutrition programmes. The **Institutional Support for Health and Nutrition programme in the Gambia** expects major changes to be brought about by women because of their pre-eminent roles in the food system. This is certainly a positive development, in that women are key actors in health and nutrition. Nevertheless, women in economically deprived settings often have severe constraints on their time and projects should be careful not to ask too much of them (McGuire and Popkin, 1990). In the **Nutrition and Primary Health Care programme in Thailand**, success in family planning has reduced women's childbearing burden and helping them to overcome the drudgery that constrains them, while also promoting female literacy (now 88%). The empowerment of women further necessitates the promotion of means to attain some degree of financial independence and the creation of organizational support structures (ACC/SCN 1990, p6). In the **Barangay Integrated Development Approach for Nutrition Improvement of the Rural Poor (BIDANI) in the Philippines**, income-generating activities provided within the vicinity of homes allow women to improve their socio-economic lot. In the **Family Nutrition Improvement programme (UPGK) in Indonesia**, women's

organizations have been formed, with one in ten women acting as a communicator to improve outreach. Ensuring women's participation in community-level organizations is of paramount importance, and increasing women's income can be considered complementary to improving health.

***What can be done to ensure the participation of the poorest community members?***

It has been recognized by programme administrators that the interests of marginal groups have often been left out when community participation has been considered to represent communities regarded as homogeneous. This is an important issue that should not be overlooked in programme implementation. The case studies presented at the MSNP Workshop gave a few examples of ways in which they attempt to ensure the participation of the poorest community members. In the **Family Nutrition Programme (UPGK) in Indonesia**, it is felt that the availability of food supplements is incentive for the poorest to come forward and enter into the programme. Also, agricultural strategies address the food needs of the poor. In the **Institutional Support for Health and Nutrition in the Gambia**, the poor are considered to be purposively selected through the targeting strategies of the programme. In **BIDANI in the Philippines**, the village development committees must be guided to ensure that the poor are represented in decision-making, are mobilized, and have access to services. The **Nutrition and Primary Health Care Programme in Thailand** has set programme goals to focus on coverage in slum areas and is also joined to the Poverty Alleviation Plan targeted for rural areas. The awareness and participation of the poor must be increased, as they are most in need of the benefits of nutrition programmes.

***Conclusions***

Nutrition programmes use a variety of strategies to incorporate community participation at all project stages. Training local community members to fulfill some staffing functions, promoting community level organizations and linking these to higher levels of project and central government development structures, and the mobilization of community resources (labor, land, food production) are the key elements commonly found in the case studies presented.

When community participation is to be actively encouraged in a programme, there are common pitfalls to be avoided. Programme response to the possibility that community objectives might not match programme objectives should be determined before the project is implemented. Methods to create awareness within the community of nutrition problems may be useful in bringing communities' and programme planners' goals closer together. Linking programmes to other means of addressing the felt needs of the community can encourage acceptance of nutrition goals.

Management staff should beware of simplistic viewpoints that see the community as a homogenized unit, and monitor programme implementation carefully to ensure that all community members eligible for programme benefits are reached. Special efforts to enable women to have the time and means to participate in nutrition programmes should be considered as fundamental to any programme.

In spite of these *caveats*, community participation can and does occur, as the nutrition programmes reviewed have shown. Whether community participation is seen as an inalienable right of the community or simply as a method for programme success, there are important benefits to be derived from its promotion in programme decision-making.

**TABLE 4 – COMMUNITY PARTICIPATION**

Project/Country	Examples
Drought Relief Programme/Botswana	Organizationally, formal institutions were instituted to provide focal points for the involvement of the communities at large.  Village Development Committees had direct community involvement.  Central government commitment to the programme acted as a driving force and ensured that the different sectors gave emergency activities priority.
Institutional Support for Health and Nutrition/ The Gambia	Existing Community Management Committees and women's groups were strengthened. Members are elected by mothers participating in the programme, and the committee is linked to other local institutions.

	<p>Procedures of community participation include consultation and sensitization on felt needs, then involvement in project implementation with handing over to the Community Management Committee.</p> <p>There is a high participation rate of women who are committed to attend clinics monthly, participate in food production activities, and contribute to costs of fuel and labour charges for transport of supplementary foods.</p> <p>Establishment of programme management committees has created an institutional framework through which intervention in developmental activities has taken place (e.g. production of sesame).</p>
Improving Child Nutrition, Weaning Food Project/Ghana	<p>Village Weaning Food Project Committees have been formed and are involved in planning and implementation, including supervision, maintenance and accounting procedures.</p> <p>Project is linked to active women's groups.</p> <p>One hundred communities in various parts of the country have initiated the project, with several requests by various groups to provide education and demonstration on the preparation of Weanimix.</p> <p>The project has created community awareness of the need to use local foods to formulate good weaning mixtures.</p>
ICDS/India	<p>Strengthening of existing block and district level committees (with local representatives) through their involvement in the selection of project sites and local workers.</p> <p>Communities have contributed resources to the programme, in cash or labour.</p> <p>National institutions, such as medical schools, are involved in the training components of the programme.</p> <p>Community awareness of the needs of the young, participation in prog. planning and adoption of new child care practices.</p>
TINP/India	<p>The Community Nutrition Worker was a local mother of a healthy child, thus with high credibility in the community. She was well trained in communication skills and received back-up support from other project levels.</p> <p>Women's Working Groups were established and given health and nutrition education; they also prepared, for remuneration, the weaning food to supply local centres (but quality control was a problem).</p> <p>Nutrition education workshops are conducted for Children's Working Groups, formed by the programme, and for village influentials.</p> <p>TINP was successful in gaining the cooperation and acceptance of the community in three activities which were initially considered unacceptable: the regular weighing of children; targeted selection for supplementation; and nutrition education counter to traditional practices given by the "young" community nutrition worker.</p>
UPGK/Indonesia	<p>Weighing posts are managed by the community, with volunteer staff selected and supported by the community.</p> <p>Community resources are mobilized through in-kind or in-cash support of the supplementary feeding component of the programme.</p>

	<p>Communities are involved in planning, implementation and monitoring of the programme, with regular reporting of coverage and impact indicators.</p>
ASNP/The Philippines	<p>Involvement of family cooperators in income-generating activities and food production to support supplementary feeding component.</p> <p>The Parent/Teachers Association is linked to the programme.</p> <p>80% of seed money provided has been repayed, with most projects continuing through their own community support.</p>
Pilot Food Price Subsidy Scheme/The Philippines	<p>Substantial social preparation activities were conducted by the Home Management Technicians, linking the pilot programme to local institutions: village assemblies were held in cooperation with local councils; meetings were held with retail store owners.</p> <p>Feedback from beneficiaries was used in assessment for uninterrupted flow of the food subsidies.</p>
Barangay Integrated Development Approach for Nutrition Improvement (BIDANI)/The Philippines	<p>Local workers motivate people to self-help and to provide counterpart community support in the form of labour, available raw materials and other services or resources.</p> <p>Village committees are organized and involved in the identification of priority problems, their causes, and possible solutions.</p> <p>Local management structures receive technical support from national academic institutions.</p>
JNSP/Iringa, Tanzania	<p>The Triple-A Cycle of assessment, analysis and action was used to promote social mobilization.</p> <p>Village Health Committees were formed and an increased awareness of nutrition as an issue was promoted in the community through the showing of films of the programme taken in the area, and the use of seminars, village meetings, training, etc.</p> <p>Village Health Workers were selected from within the community, to conduct the community based growth monitoring system, adjunct to governmental MCH staff; Village Health Committees give nutrition advice to families in need, identified through growth monitoring.</p> <p>There has been substantial local resource allocation for activities and this is seen as an indication of the success and impact of the social mobilization effort.</p> <p>The programme is linked to a national institution.</p>
Nutrition and Primary Health Care Program/Thailand	<p>Food production for supplementary feeding is done by women's groups with the support of the village health volunteer. Income generated is used to set up a nutrition fund which is managed by a local village committee.</p> <p>There is a high rate of community participation in growth monitoring activities, with approximately 98% attendance found in rural villages.</p>
Community Based Nutrition Intervention/ Northeast Thailand	<p>Monitoring is used to provide feedback to the community; if no progress is seen in continuous growth monitoring, meetings are held to discuss this with the villagers.</p> <p>Most mothers participated regularly in growth monitoring, attended mothers' clubs and prepared supplementary food, and asked for</p>



	<p>advice in nutritional matters without having to be followed up.</p> <p>A national academic institution is responsible for programme implementation.</p>
WIC/USA	Assessment of participant satisfaction done annually.
SFPP/Zimbabwe	<p>At all levels, intersectoral committees are created with decision making powers over the use of funds.</p> <p>Community mobilization is promoted, to increase community self-reliance in the production of nutritious foods, especially those suitable for children of weaning age.</p> <p>Recent evaluation indicated a high level of community participation. Through community contributions of labour, implements and cash contributions, a number of projects have been sustained.</p> <p>Plans are to involve national institutions in the evaluation of the programme.</p>

#### Chapter 4: Management Information Systems (MIS)

In the last decade, the need for and advantages of a management information system in health and nutrition interventions has become increasingly recognized. Interest among the participants at the Workshop on Managing Successful Nutrition Programmes centered on sharing information on the useful details of management information systems which have been found to work well for nutrition programmes:

- What are the factors of a successful management information system?
- Which indicators are used in successful nutrition programmes?
- Is existing data used or new data acquired?
- For what purposes is the information used?

#### ***What are the factors of a successful management information system?***

Two concepts are repeatedly found to be factors for success in a management information system: *simplicity* and *flexibility*. Simplicity is necessary so that the data gathered will be as error-free as possible and so that the information generated from the system is understandable to users and reliable for decision-making. This need for simplicity and flexibility refers to the collection (and choice) of variables, the analysis, and its presentation to decision-makers. A management information system should be flexible due to the complex and shifting interrelationships which affect nutritional status among a population. Prevention of malnutrition and its consequences of diminished functional capacity is the ultimate goal of any nutrition programme. A management information system should be able to respond to changing needs for programme adjustments in a timely manner. Therefore it is also important that the system be decentralized in structure. The **Drought Relief Programme in Botswana** exemplifies how decentralization can work in a national project.

The inputs and outputs of a management information system should be dictated by the objectives of the nutrition programme and in this way each MIS will be somewhat different. The more explicitly defined programme objectives and targets are, the better the management information system can be made to fit the needs of the programme. The system should serve the purposes for which planners, managers, and evaluators need the information. The necessity of keeping the system simple, plus considerations of system costs, requires that the amount of data items gathered be limited to fulfilling the needs of the programme (Underwood, 1983).

The training of personnel in the implementation of a management information system is of key importance, especially given the increasing use of microcomputers. Due to constraints of time, the MSNP Workshop did not focus on the details of MIS training.

#### ***Which indicators are used? Is existing data used or new data acquired?***

Indicators should be chosen to be reliable, relevant to programme objectives, and able to be disaggregated and/or show trends over time (Mason, et al, 1984). In the **Joint WHO/UNICEF Nutrition Support Programme in Tanzania**, it was felt that the ability to disaggregate data provided an important means of gaining further insights into the local situation. The management information system was designed so that data could be disaggregated by sex, age, socioeconomic status, and time (Ljungqvist, 1988).

Nutritional surveillance systems might be described as the broadest type of management information system found in nutrition programmes. Indicators which are commonly used in nutritional surveillance are: i) nutritional status, including low birth weight; ii) infant and child mortality rates; iii) morbidity incidence or prevalence; iv) socio-economic variables; and v) environmental variables, from the number of latrines to meteorologic satellite data (Mason, et al, 1984). Common sources of data are either household surveys, national government administrations, or project administrations.

Figure 4 addresses two issues: i) *which indicators are used* in successful management information systems; and ii) *is existing data or newly acquired data utilized* in nutrition programmes?

**Figure 4**

<b>MANAGEMENT INFORMATION SYSTEM INDICATORS USED IN PROGRAMMES REVIEWED</b>			
<b>PROCESS INDICATORS</b>		<b>No. PROGRAMMES</b>	
Coverage/use of services		13	
Participant satisfaction		1	
Other process indicators		8	
<b>OUTCOME INDICATORS</b>		<b>No. PROGRAMMES UTILIZING</b>	
		<b>EXISTING DATA</b>	<b>PROJECT DATA</b>
Nutritional Surveillance:			
	Anthropometry	9	5
	Household food expenditure	1	–
	Agriculture/Environment	1	1
	Socioeconomic status	1	–
Health Status:			
	Infant/child mortality	1	2
	Low birth weight	–	1
	Behavioral change (nutrition)	–	5

Figure 4 shows that the indicators most frequently monitored in the nutrition programmes presented are: i) coverage and use of services; ii) other process indicators; and iii) anthropometric data. Coverage and service use is of primary importance in determining if an intervention is reaching the targeted beneficiaries. If not, programme adjustments can be made. "Other process indicators" refers to management information such as stock control, transport usage, employee work time, etc. This continuous information is necessary to ascertain if the programme is being implemented as planned and to identify and solve problems in implementation.

Anthropometric data is gathered in all but one of the seventeen programmes reviewed. Anthropometric data has many uses within a programme:

"Anthropometry may be useful in the first instance to identify target groups. Secondly, if the programme has a nutrition-related component, it has a role in checking progress. Finally, anthropometry may be relevant to assessing overall programme performance and impact" (Beaton, et al. 1990)

Most frequently, existing data from ongoing growth monitoring is utilized. This usually means that the programme is then responsible for or adjunct to the continued gathering of data from growth monitoring within the national system. The next most frequently used source of anthropometric data is the establishment of ongoing growth monitoring through the nutrition programme itself, either because a national system does not exist or because the programme wishes to gather additional data or different data. Only in one case was anthropometric data gathered through survey methods, as growth monitoring was not a component of the programme.

Among the programmes reviewed, for purposes of growth monitoring and screening for supplementary feeding, weight-for-age is the anthropometric indicator most frequently chosen. It can perhaps be assumed that this occurs for two reasons: i) weight-for-age is an attractive indicator for programme implementation because of its low cost and simplicity (skill level and/or time needed to weigh many children); and ii) weight-for-age growth monitoring charts have long been used now as a basis for nutrition education communication to mothers. In the pilot **Community Based Nutrition Intervention in North-East Thailand**, height was also measured so that weight-for-height could be calculated. However, this has proved to be a constraint to replication of the programme as the national programme only measures weight.

Most of the programmes reviewed are conducting ongoing growth monitoring for screening, a situation in which weight-for-age may be a satisfactory indicator. Some programme experience has found that weight-for-age does respond fairly quickly to seasonal food shortages, drought situations and food price changes and can be considered a useful indicator even for nutrition programmes which aim to alleviate acute food shortages. Nonetheless, the measurement of length does provide additional useful information and should be considered when resources are not too constrained. (Please see SCN News No. 5 for a more detailed discussion of the appropriate use of different indicators for various nutrition objectives.)

It can be seen from Figure 4 that a limited number of nutrition programmes are trying to gather data on important outcome indicators that can be correlated to anthropometric status (such as mortality and low birth weight). These indicators are not commonly part of a basic management information system. They represent a greater investment, with the expected benefit of being able to better evaluate programme effects. With a large number of children in the programme and a village-based system of recording child deaths, monitoring of the **Joint WHO/UNICEF Nutrition Support Programme in Tanzania** has shown the infant mortality rate to decline from 152 in 1984 to 107 by 1988. In the **Tamil Nadu Integrated Nutrition Project in India**, evaluation has found the infant mortality rate in the project districts to have declined 29% in Phase I and 27% in Phase II, with a reduction of 13% estimated for Phase III. With the recent change in targeting strategy to focus partly on pregnant women, the **Institutional Support for Health and Nutrition in The Gambia** has also begun to monitor low birth weight.

Qualitative measures can be incorporated into a management information system but it can be difficult to standardize these. If used, they must be chosen so as to help achieve the goals and objectives of the programme (i.e. aid decision-makers in answering the questions they ask). Such questions vary by country.

Again, these indicators must be simple and inexpensive to collect. Among the programmes reviewed, five gather qualitative information on behavioral change in feeding practices. Two of these programmes were pilot programmes. These, along with three large-scale programmes, still gather qualitative data in the traditional way – through surveys.

### ***For what purposes is the information used?***

Once a management information system has been implemented and is generating useful information, the next important step is the application of this information: "A fourth element of durable, successful programs is a means of ongoing surveillance to provide program feedback and evaluation of progress locally and nationally toward achieving stated objectives." (Underwood, 1983)

The possible uses for such data have been summarized as: "for national development plans and policy directives; for targeting large-scale national social welfare, food, and nutrition programmes; and for identifying specific problems requiring special attention" (Mason, Habicht, Tabatabai and Valverde 1984). The nutrition programmes reviewed appear to have made just such appropriate use of their management information systems. Many of the programmes cited the use of the MIS outputs to influence national decisions regarding the allocation of resources, as in the **Drought Relief Programme in Botswana**, and to influence national nutrition policy, as in the **Supplementary Food Production Programme in Zimbabwe**. At the MSNP Workshop, it was generally agreed that data presentation should be done in a way in which it is readily apparent to decision makers what the situation is and what needs to be done.

MIS information is the key source for identifying areas with the greatest need for nutrition efforts, as occurs in the **Nutrition and Primary Health Care Programme in Thailand**. Another use of MIS information common to many programmes is to monitor programme implementation and make appropriate and timely changes when necessary, such as is done in the **Family Nutrition Programme (UPGK) in Indonesia**. Finally, more complex management information systems provide the means to evaluate programmes and provide accurate information to decision makers on the costs and effects of alternative nutrition interventions, as was done in the **Pilot Food Price Subsidy Scheme in the Philippines**. (See Table 5, Management Information Systems, for more details.)

Another very important, but unfortunately often neglected, use of MIS information is to motivate personnel involved in local implementation and to sustain community interest in any nutrition programme. Various reviews of successful nutrition programmes and their management information systems have consistently mentioned this "feedback" of information to the community level as being a key factor of success (Drake, Miller and Humphrey, 1980; Underwood, 1983; World Bank, 1989; and others). It cannot be emphasized enough how important it is for those involved at the community level to follow the progress of nutrition interventions:

"Effective mobilization has several components. Firstly, *advocacy* is needed for problem awareness and to encourage the people to take self-responsibility and participate in problem solving. Secondly, adequate *information and communication* enable all actors to participate in assessment, analysis, and action." (Yambi, Jonsson and Ljungqvist 1989)

Also, due to the distance between local intervention sites and the seat of mid-level supervision, a management information system provides an output that supervisors can use to monitor what is being done at the local level. This supervision can be even more effective if there is feedback of results to the local level workers. Thus, the information produced by a management information system can also function as a tool for staff motivation.

### **Examples of case study management information systems**

Following are descriptions of two programmes which emphasized the use of management information systems in a successful manner. These descriptions shed further light on the questions of whether to use existing data or acquire new data, and for what purposes is information derived from a management information system utilized. It should be noted that the two programmes had very different goals and objectives; thus, the complexity and structure of their management information systems was different in order to meet programme objectives.

The **Pilot Food Price Subsidy Scheme in the Philippines** had a heavy emphasis on research. This detailed level of information is often not possible and also often not needed in a management information system for a nutrition programme. The **Drought Relief Programme in Botswana** functioned during a time of severe drought and potential famine. It was therefore tied in to an Early Warning System, with access to much more information than is typically found in a nutrition programme's management information system.

**Drought Relief Programme (Human Relief), Botswana:** This national programme was created in 1982 in response to a drought and continued until 1988. If another drought occurs, it will be reactivated. Its management information system combined quantitative and qualitative assessments to provide information that was linked to decisions taken at regularly scheduled meetings nationwide. The National Early Warning System that utilizes already existing data was utilized to make recommendations to the Interministerial Committee regarding the incidence and severity of drought conditions, their effects on the human population, the supply of basic food stuffs, and the numbers of beneficiaries entitled to food rations. However, the single most important source of information for the management of the human relief component was the National Nutrition Surveillance system, which reports on the nutritional status of all under-fives attending health facilities throughout the country. The system was easily attached to an existing Ministry of Health system monitoring the incidence of common illnesses. Data is collected on the monthly prevalence of 'underweight' children by health facility, clusters of facilities, and region. Data from clinics is fed up to central level and back down to district level within a period of 1–2 months, to inform at all levels where nutritional problems are becoming more or less severe. Assessment of changes in prevalence figures at these levels can be compared to changes in the other early warning indicators (see Pan III for details).

Since the inception of the National Nutrition Surveillance system in 1978, this information has been instrumental in giving directions as to who is malnourished, where they could be found, and how badly they are affected. In this form, it influenced the allocation of resources in the direction of the most vulnerable and

perhaps the poor.

The data on child malnutrition indicates that at the beginning of the drought period and before the drought interventions could have any effects there was an observed increase in the prevalence of malnutrition. The figures appeared to fall in 1984, to just below the pre-drought levels (i.e. 25–30% under-five children below 2 standard deviations of NCHS weight-for-age standards). Several factors may have been at play here and could explain this observation, but the influence of the extensive feeding programme, the increased coverage at child welfare clinics with the attendant benefits, and the injection of incomes into the rural households cannot be ignored and tend to indicate the remarkable success of the human relief programme in containing malnutrition.

**Pilot Food Price Subsidy Scheme, The Philippines:** The project was conducted for 18 months, starting in 1983, with evaluation concurrent with programme implementation and continuing for another 2 years. The objective was to reduce the caloric deficits among low-income households. This was conceived as a stop-gap measure aimed at bringing about immediate improvements in the energy intakes of malnourished individuals. There were three components: i) a consumer food subsidy on rice and cooking oil; ii) nutrition education; and iii) technical, economic and administrative evaluation of the scheme. Targeting was by geographic location (village) and everyone in the village had access to food discount cards, regardless of their nutritional status.

The most successful aspects of this pilot project were the methods and management of monitoring and evaluation of the programme. In addition to periodic surveys of selected households in the areas where the pilot scheme was implemented, data for the economic and nutritional assessments were obtained from extensive monitoring of all parts of the scheme. Data was collected on a variety of socio-economic, environmental, and biological variables relating to food consumption and nutrition. The Home Management Technicians monitored the implementation of the subsidy scheme at the local level through a system of household ration cards and retail outlet registrations:

"The monitoring clearly demonstrated that the efficiency of scheme implementation depended largely on adequate understanding by program participants of the program's objectives, mechanics, and benefits, and on the retail store owners' understanding of program procedures." (Garcia and Pinstrup-Andersen, 1987)

A full-time study team from the central office of the National Nutrition Council, Ministry of Agriculture, and the International Food Policy Research Institute monitored the subsidy scheme continuously through the entire one year period of its operation. This permitted analysis of the cost of the delivery system and comparisons with programmes having other targeting schemes. Impact evaluation indicated that the scheme resulted in increases in calorie consumption by 138 calories AEU (adult equivalent unit) per day, which is roughly 7% of the current calorie consumption. The scheme also reduced prevalence of underweight preschoolers from 32% to 20%. Nutrition education had a small positive effect in households where it was accompanied by the subsidy. The administrative and food cost of the scheme is considered low (cost-effective) compared to other consumer food subsidy schemes.

There are some important differences between the two programmes presented. In the **Drought Relief Programme in Botswana**, the MIS system relied almost exclusively on existing data and incorporated both quantitative and qualitative data. In contrast, the **Pilot Food Price Subsidy Scheme in The Philippines** set up a new reporting and evaluation system specifically for the pilot subsidy project. The emphasis in the **Drought Relief Programme in Botswana** was on locating and assisting (by supplying food) the groups most vulnerable to the drought. The emphasis in the **Pilot Food Price Subsidy Scheme in The Philippines** was on research, to determine impact and cost-effectiveness of the programme.

Although very different, both projects had very successful management information systems. This again points out that programme goals and objectives must dictate the content of a management information system and its level of complexity.

## **Conclusions**

The nutrition programmes reviewed, many of which have been underway for more than ten years, have certainly been flexible, as the past decade has been a time of rapid evolution of management information systems. Programmes have learned to make use of existing information (such as national nutrition surveys) and to expand upon this within the programme. Large-scale programmes are taking advantage of high population coverage to incorporate further indicators into their management information systems, to measure

effectiveness. The new focus of nutrition programmes on pregnant women will result in more, and useful, programme experience in the gathering of birth weight data.

The programmes reviewed have demonstrated the usefulness of the information generated by a management information system for influencing national policy and the allocation of resources. Management information system help many programmes to identify constraints in programme implementation and make appropriate and timely changes. The sharing of information generated by the system throughout all levels has catalysed a greater community participation within nutrition interventions.

**TABLE 5 – MANAGEMENT INFORMATION SYSTEMS**

<b>Project/Country</b>	<b>What system?</b>	<b>Data source and type</b>		<b>Outputs</b>	<b>Use</b>
Drought Relief Programme/Botswana	Since 1978 Nutrition Surveillance System containing National Early Warning System.	Already existing data utilized by NEWS on incidence & severity of drought conditions, effects on livestock, supply of basic foodstuffs, no. of beneficiaries.	Anthropometric & socioeconomic data. – PEM prevalence rate. – Coverage rate. – Death rate.		The system was utilized to provide information linked to decisions taken at nationwide meetings, influencing the allocation of resources for the poor and needy.
Institutional Support for Health and Nutrition/Gambia	CRS system of collecting growth surveillance data. Nut. surveillance introduced in 1978 on a national scale.  In the revised prog. started recently, evaluation is inbuilt to assess several bench marks as per objective set.	Growth monitoring and primary health care services for pregnant women.	– Anthropom. (WA) – Birth Weight	Regular information is collected by Regional coordinators who submit field reports on a monthly basis.  Committees also submit monthly reports on centre level activities (i.e. growth monitoring, commodity status, etc.)	To provide a baseline profile against which nutrition "at risk" can be measured for future action.  To foresee dangers of drought and widespread food shortages.  Information is used in the decision making process during project implementation.
Improving Child Nutrition, Weaning Food Project/Ghana	Nutritional surveillance and information from visits by nutrition officers and community development officers.	Growth monitoring of beneficiary children.  Baseline data collection	Anthropometric		Information is used to determine programme modifications and additional training needs.
ICDS/India	An MIS flows from AWW to sector, block, district, state and central	AWW monthly progress reports provide data on stocks, service provision,	Seven registers for Survey, Immunization, Services to Pregnant/Lactating	Computerized output now available.	Output is used primarily to ensure administrative follow up.

	<p>levels.</p> <p>No regular system of independent evaluation exists.</p> <p>– Annual surveys on health &amp; nut. status by CTC between 76 &amp; '88.</p> <p>– Studies on infant &amp; child mortality in the project blocks in '87 &amp; '88.</p> <p>Numerous reports of micro–studies.</p>	<p>beneficiary anthropometry, health checks, referrals, births and deaths, and community participation.</p>	<p>Women, Service to Children, Food Stocks, Diary and Visits, and non–food Stocks, in addition to child health cards and growth charts.</p> <p>A variety of data on health and nutrition of beneficiaries.</p> <p>Also recently suggested to include social component indicators.</p>	<p>Monthly progress reports consolidated by the Dept. of Women and Child Development. The monthly monitoring reports are consolidated by the Central Technical Committee.</p> <p>Quarterly progress report is prepared at the Centre.</p>	<p>At the lower levels, it is used for programme feedback in monthly meetings and field supervisor visits.</p> <p>Policy and management changes have been proposed and implemented on the basis of the continuous output.</p>
TINP/India	<p>Regular collection, interpretation and appropriate dissemination of analytic inform. required by the Project Manager are supported through MIS. Information for compilation of the indicators flows from the CNW's and the MPHW's through the 1st level supervisors to the CNI's and the block health supervisors then forwarded to SI of the monitoring unit in each district &amp; to the project coordination office. The MIS feedback loops are many.</p>	<p>The system intended to cover 7 areas:</p> <ul style="list-style-type: none"> <li>– input delivery</li> <li>– Recruitment of target group</li> <li>– input utilization</li> <li>– Adoption of recom. behaviour</li> <li>– Nut. status changes</li> <li>– Health status changes</li> <li>– IMR changes.</li> </ul>	<p>A set of key indicators (ratio of the no. of recipients of particular services to the target population) developed for different project components on a monthly, quarterly or half yearly basis.</p>	<p>Reports on</p> <ul style="list-style-type: none"> <li>– % children weighed</li> <li>– % children fed</li> <li>– % children graduated from feeding</li> <li>– Preg. female registration</li> <li>– immunization coverage</li> <li>– Trends in nutrition &amp; health status of the target population.</li> </ul>	<p>To measure the degree to which nut. health and communication services were producing desired results</p> <p>Timely identification of areas that may require special attention because of emerging of continuous nut. problems.</p>
UPGK/Indonesia	<p>Built–in monitoring and evaluation system ("SKDN").</p>	<p>Community based growth monitoring.</p>	<p>S = number of children under–five K = number with growth charts D = number</p>	<p>Each weighing post examines and reports: K/S = first contact</p>	<p>Information is used to take corrective actions in area where</p>

			attending a weighing session N = number who have gained weight	D/S = participation N/S = outcome.	improvement is suggested.
Project COPACA/Peru	Initial 3 surveys in 22 communities in the intervention areas. – National Health Survey (1984) – Baseline Survey (1989)	Anthropometric & health data from 754 children and weaning practices of 323 households with <6Y children. – Available official statistics on N.S. of population.	% 6–24 m children with normal WA. % children with inadequate weaning foods.		Research results and the experience with the implementation of project activities in the areas of nut. educ. and agric. extension were used to identify indicators for measuring nutrit. status
ASNP/Philippines	Weight survey (one region).  Bookkeeping, auditing and other reports handled by trained school committee members (teachers) and sent to the Dept. of Education.	Public elementary school children.	Anthropometry (wt.) % schools repaying seed money.	Regular reports	Monitoring the programme process.
Pilot Food Price Subsidy Scheme/The Philippines	The pilot subsidy scheme was observed under actual operating conditions for 12 months by a full-time study team.  The pilot programme was specifically designed to permit its evaluation.	A carefully drawn sample of 841 households for the 14 villages surveyed prior, during (twice) and after the programme.  Also retailers, wholesalers, participating banks, extension officers, etc. were monitored.	– household food expenditure – household food consumption – nutritional status of preschoolers (weight and height measurements) – other socioeconomic and environmental variables	Analyses were conducted to estimate the impact of the scheme on household food expenditure and calorie consumption.	Information is for use in assessing alternative nutrition interventions at the national level.
JNSP/Iringa, Tanzania	Village based growth monitoring and registering of deaths.  Continuous monitoring of programme implementation.	Quarterly reporting of growth monitoring and child deaths by Village Health Workers.  Quarterly reporting of	GM data (WA) IMR, CDR. Immunization coverage. No. of VHWs sanitation activities Use of MCH cards.	Reports on – Change in total and severe PEM. – Change in % of immunized children. – Changes in IMR. – Changes in	Monitoring is used as a management tool.  Midterm review led to structural changes and decentralization.



	<p>Mid-term internal review and external evaluation.</p> <p>Special studies on impact by national institutions.</p>	<p>programme implementation.</p> <p>Children under-five</p> <p>Pregnant women attending village health days</p>		<p>CDR.</p> <p>– Changes in no. of VHWs/village.</p>	<p>Information is used in assisting the national government to decide whether to adopt the Iringa experience in other regions</p>
<p>Nutrition and Primary Health Care Program/Thailand</p>	<p>Nut. surveillance cell in the nut. division has been set up–</p>	<p>Primary schools</p> <p>Preschoolers</p> <p>Pregnant females</p>	<p>Basic Minimum Needs (BMN) used as quality of life indicators. For food and nutrition:</p> <ul style="list-style-type: none"> <li>– growth monitoring of weight-for-age of under-fives</li> <li>– weight gain during pregnancy</li> <li>– birthweight of newborns</li> <li>– adequacy of food for schoolchildren</li> </ul>	<ul style="list-style-type: none"> <li>– quarterly child weighing report.</li> <li>– weighing report from the primary schools and preg. females in 1988 survey.</li> </ul>	<p>Information used for problem identification and goal setting for development by community leaders and local level public personnel.</p> <p>Plans are to strengthen the management of information at the provincial, departmental and national levels for planning, coordination and evaluation.</p>
<p>Community Based Nutrition Intervention/North-East Thailand</p>		<p>growth monitoring of children under-five.</p>	<p>Weight-for-height</p> <p>Height-for-age</p>	<p>Quarterly reports</p> <p>Ongoing impact evaluation</p>	<p>Information is used during programme implementation. If no improvement is seen in growth monitoring reports, meetings are held with the villagers to discuss this.</p>
<p>SFPP/Zimbabwe</p>	<p>Continuous programme monitoring.</p>		<p>Several registers are kept at the local level:</p> <ul style="list-style-type: none"> <li>– growth monitoring</li> <li>– food production</li> <li>– group funds</li> <li>– visits received</li> <li>– distribution of supplies</li> </ul>	<p>Group progress reports are completed twice a year, with the assistance of extension workers, and sent to the provincial committee.</p>	<p>Evaluation has recommended that the monitoring process be clarified and strengthened.</p>

## Chapter 5: Sustainability and Replicability

Sustainability and replicability are complex topics that can be seen as the outcome of all aspects of project planning and implementation. The sustainability of a programme without significant external funding is the ultimate goal of any intervention, especially at a time when resources are limited. Presentations at the MSNP Workshop shared information on what was seen as the key factors affecting the sustainability of their programmes. There is a need for further research in this area.

There is an important distinction to be made between functional and financial sustainability. The former refers to the technical/administrative ability to run a programme without external assistance; the latter to the ability to run a programme without external financing. The term "replicability" on the other hand is commonly used to mean two different things: i) the internal expansion of a programme within a province or country; and ii) the duplication or copying of a programme externally (e.g. in another country).

The determination of a basic framework of nutrition intervention that can be replicated in any country is problematic. The diversity of contextual factors (e.g. food security, public health services, social legislation) relevant to the nutrition problems within a country means that any sort of "packaged" nutrition programme requires much room for modification.

The issue of external replicability of nutrition programmes was beyond the scope of the MSNP Workshop and is not discussed in this publication. It has been approached in the literature through analyses of what leads to the sustainability of large scale programmes in countries in different socio-political and agro-environmental contexts. A recent attempt to synthesize the factors of sustainability for health projects in five countries in Central America and Africa determined several characteristics of project design and management that were common to all sustained programmes (Bossert, 1990). This concluded that projects should be designed and managed so as to:

- i) demonstrate effectiveness in reaching clearly defined goals and objectives;
- ii) integrate their activities fully into established administrative structures;
- iii) gain significant levels of funding from national sources (budgetary and cost-recovery) during the life of the project;
- iv) negotiate project design with a mutually respectful process of give and take; and
- v) include a strong training component.

A review of the programmes presented at the MSNP Workshop suggested a similar set of inputs for large-scale nutrition programmes (Lotfi and Mason, 1989): i) clear objectives; ii) dedicated, strong and competent leadership and management; iii) effective training; iv) realistic supervisory ratios; v) extensive coverage with effective targeting strategies; vi) sufficient community mobilization; vii) a system of monitoring and evaluation that assists a timely and appropriate assessment of necessary process changes; and viii) an appropriate integration of health and nutrition services.

It is interesting to note that at the MSNP Workshop several participants recounted how their programmes fell short of their objectives but were, nonetheless, sustained. The fact that unsuccessful (or even partially successful) programmes can be sustained, has important implications for any discussion of key factors for sustainability. The issue of why the programmes presented at the MSNP Workshop could be considered "successful" was not formally addressed. It was considered that as most of the programmes had been sustained for greater than 10 years, they would have combined useful information on what has been successful for them in terms of management. (See Table 6, Sustainability, for more details.)

### ***Examples of case study strategies for sustainability***

The Alternative School Nutrition Programme (ASNP) in the Philippines began in 1983 in 23 schools and has since expanded to cover more than 1400 schools. This gives a simple indication that the programme is sustainable and replicable; sustainable since it has lasted since 1983, and replicable (within country) since it has been duplicated in different districts. However, this national programme has been focussed on the issue of sustainability in also a deeper sense, in that the programme objective is to develop local capability to sustain a food and nutrition programme based on supplementary feeding and income-generating activities for schools and families.

The programme is funded 60% internally. There are five components: nutrition education, supplementary feeding, food production, income-generating activities and environmental sanitation. Among the various ways in which the programme aims for sustainability, one factor is that targeting strategies are matched to resource capabilities: only the severely underweight children and a portion of the moderately underweight are targeted for the food supplementation. They receive a daily supplement that provides 200–300 Kcal/day and 5–10 grams of protein.

The Department of Education supplies seed money to schools for income-generating activities from which the profits are used to support the five components of the programme. The seed money is to be returned to the Department of Education after 2 years so that it may be given to another school. Evaluations showed that 80% of the participating schools turned over the seed money after 2 years, and 79% of the severely undernourished children moved into 'moderate' or 'mild' categories of malnutrition.

The programme is administered by a committee chaired by the school principal. Other committee members include the Food Service teacher and the Food Production teacher, together with the help of other teachers who handle bookkeeping, auditing, and other recordkeeping procedures. The amount of seed money given to each school depends on the particular project to be undertaken, the size of the school, and other factors, such as the availability of facilities for the project.

Other factors added to the sustainability and replicability of the programme within the country. Very clear and specific guidelines with accompanying forms make it easy for teachers to participate in the programme. Good training for project staff occurs before seed money is received and activities begin. There is regular monitoring of the programme, the results of which have been used to make appropriate adjustments to programme implementation. Equally important but difficult to quantify is the existence of the political will to promote a self-sustaining programme in order to instill a sense of pride and self-respect within communities. Replicability has been enhanced because of the simple administrative procedures and tools used and the requirement to turn seed money over to another school.

The Integrated Child Development Services (ICDS), in India began in 1975 in 33 blocks (approximately 120,000 people per block) and has expanded to over 1000 blocks. It is a national programme, centrally driven and funded although decentralization is proceeding. Excluding the cost of supplementary food (55% donated by CARE & WFP), only 3% of projects are assisted by bilateral donors and 3.5% of total programme expenditures obtained through UNICEF assistance.

The objectives of the ICDS are:

- To improve nutrition and the health status of 0–6 yr-olds,
- To decrease mortality, morbidity, and school drop-out,
- To achieve an interdepartmental policy which promotes child development, and
- To enhance the mother's capability to assure her child is of normal health and nutritional status.

To achieve these objectives, the programme has six components: supplementary feeding, immunization (as recommended by EPI guidelines), health check-up, referral services, nutrition & health education to women between 15 and 45 years and informal preschool education for 3 to 6 year-olds.

Moderately malnourished children (mid-upper arm circumference <13.5 cm and weight-for-age Grade II or below, India standards) receive 300 kcals and 8–10 grams of protein per day. Twice this amount goes to the severely malnourished. Pregnant/lactating women get 500 kcal and 20–25g protein from 3rd trimester to 6 months post-partum (vitamin A and iron also given). ICDS also provides ante/post-natal care for women, neonatal care and three to six-monthly check-ups for children under 6 years old.

There is tremendous variability in the quality and performance of the ICDS from one block to another as well as an imbalance in the services demanded (deficit of demand for education and health services). This has resulted in a change of focus from 0–3 year-olds (and pregnant/lactating women) to 3–6 year-olds. Although the ICDS has proven sustainable and replicable, it is primarily known for its day-care and food supplementation rather than health service provision. This, along with a high level of female illiteracy, are major constraints on the project.

The National Nutrition and Holistic Care Programme (NNHCP) in Costa Rica began in 1975, originating in the remote areas and expanding to the cities. Since its inception, the goal of the NNHCP was to eradicate Grade III malnutrition and gain votes for the ruling party through its appeal to the socialists, intellectuals and philosophers. The main components of the programme are school dining rooms, Centres of Education and Nutrition, Centres of Comprehensive Child Care and extramural distribution of milk and oil.

There has never been external funding except in the form of food donations (WFP, CARE and USAID). The 1982 budget was approximately US\$ 8.7 million; 1987 was US\$ 12.3 million. As a result of very strong legislation, funding comes from consumer and export taxes earmarked for this project. About 50% of the budget is used to purchase food while 27% goes to infrastructure and personnel.

The NNHCP emphasizes community participation as it concentrates on the poorest communities. It supports food programmes (by purchasing and distribution), rural water supplies, primary health care and social development. Evaluation has been slow and deficient and it is uncertain as to how – and to what degree – the programme has achieved its goals. Dr. Mata, who presented the programme at the workshop, felt the programme was not replicable outside Costa Rica owing to factors such as the abolition of a national army (1949) and the very strong legislation which translates to a very large budget.

The Weaning Food Project in Ghana began in 1986. The objectives were to provide facilities for the preparation of community based weaning food, to train community members to manage the project and to improve the nutrition of the weaned infants and thus prevent malnutrition. The government of Ghana provides only technical and supervisory staff. UNICEF, the World Health Organization, and the World Bank provided the capital, which is approximately US\$ 692,000, plus the cost of 100 corn mills. The components are i) the provision of corn mills for the community and appropriate training of workers/trainers, ii) nutritional surveillance and iii) nutrition and health education.

Corn mills are introduced into the village with appropriate training to create better weaning foods using locally available foods. Education is provided to the villagers in order to create an awareness of the health problems and the proper measures to rectify them. The corn mills are managed by a village management team which is supervised by a district management team. Income is generated by charging grinding fees. Some of this income is reserved for mill maintenance while some is utilized for other projects within the community.

Factors contributing to the sustainability of the project are the following:

i) seed money is given, ii) income is generated, and iii) the wife of the President of Ghana has advocated the project and started a group to mobilize women.

Project COPACA in Peru began in 1985 with a problem analysis showing a high degree of malnutrition due to inadequate child feeding and weaning practices. Interventions based on this were then proposed. A pilot project was initiated and led to the design and implementation of a project which began in 1989. This is a rural multisectoral project with funding from the GTZ. The objectives of the project are i) to improve intra-family food distribution, ii) to increase production and consumption of indigenous food crops. The overall goal of the project is to improve the nutritional status of the population through agricultural extension, nutritional surveillance and health and nutrition education.

The project is both small and new but exemplifies "planning for sustainability". Programme objectives were explicitly created to be both financially and functionally sustainable. It is considered sustainable because it is cost effective, it took the socio-economic factors of the community into account, and it does not depend heavily on health services.

At the project level, **sustainability** is hoped to be achieved by aiming all project activities at strengthening the farming families' reliance on their own resources to improve their nutrition situation. The promoted crops are already known by the farmers but presently neglected in the daily family diet. At the national level, sustainability is hoped to be achieved by providing strategies to diminish the country's high dependency on food imports.

Within the project context, **replicability** is defined as the possibility to continue project activities within the structure and capacity of the existing public institutions, even without or with only limited external funding. Their replicability is a leading criterion for the choice of project activities.

Within the actual project region, replicability is taken into account by the following facts:

- Extension staff work under similar conditions to public health institution employees (e.g. salary). They also have similar professional backgrounds as employees of public institutions;
- The developed extension/education methods are not sophisticated and, thus, can be applied by local staff. The project costs of the education material are relatively low so that the public sector can afford to produce them at a larger scale;
- The developed extension/education methods can be integrated into the overall programmes of the public institutions (e.g. school curricula).

The project has already started to replicate its developed methods and strategies in another region (the replication, or control, region) without project staff and with only limited external funding. The project only offers training courses and interdisciplinary planning workshops for representatives of public institutions already working in this region.

### **Discussion**

The factors related to the internal replicability or expansion of a programme within a country are considered within the following discussion of factors related to programme sustainability. Much of the following discussion is derived from Dr. Sanders' presentation at the MSNP workshop, in which he used the diagram below (See Figure 5) as a framework to demonstrate the most important factors related to the sustainability of programmes.

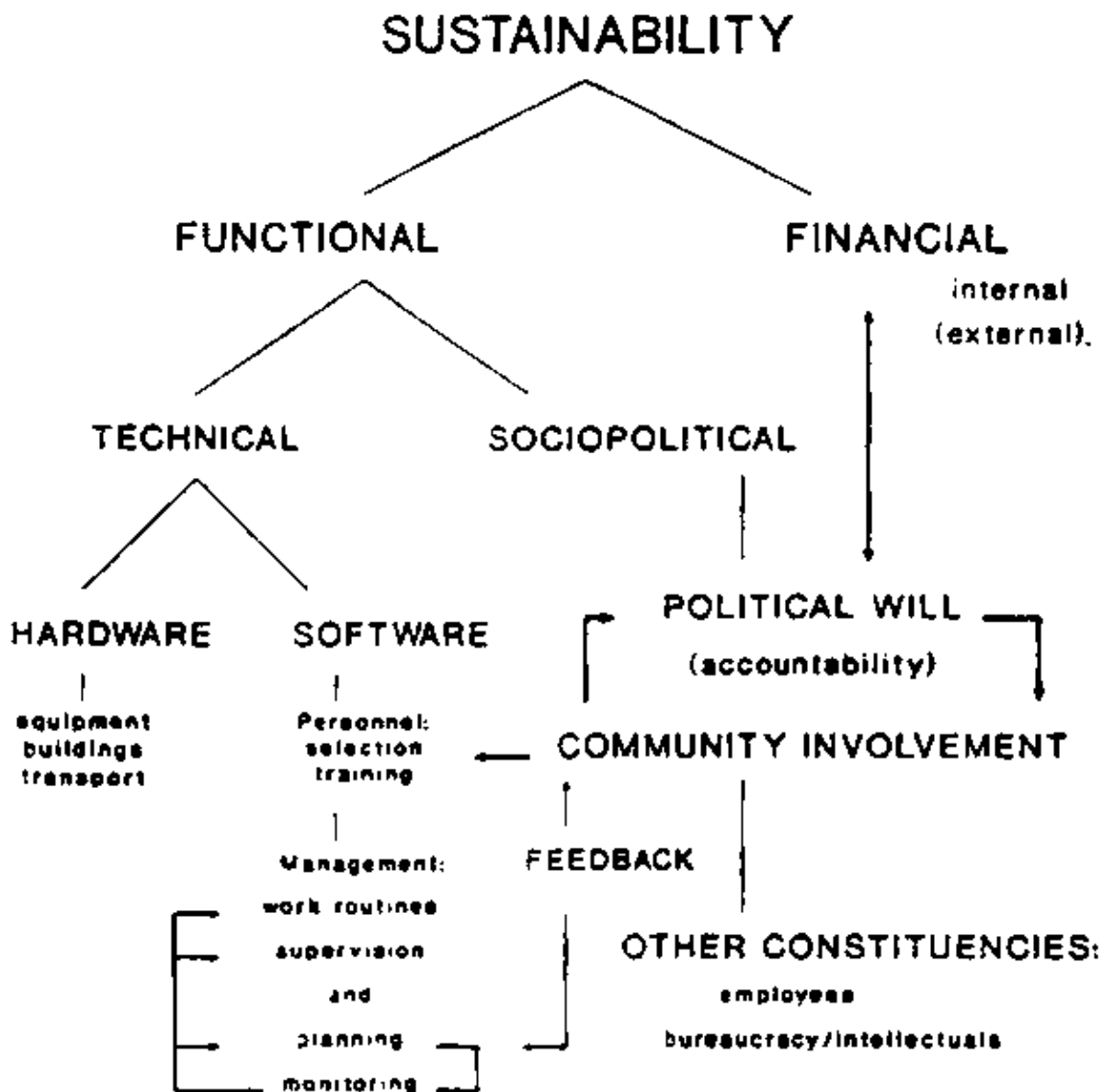


FIGURE 5

As noted, factors related to the sustainability of programmes can be divided into the two main categories of *functional or financial* sustainability. The former refers to the technical and administrative ability to run a programme without external assistance; the latter to the ability to run a programme without external financing.

### **Functional sustainability: socio-political factors**

The *functional* aspects of sustainability can be divided into technical factors and sociopolitical factors. *Sociopolitical* factors of sustainability can be seen as those factors which describe a society and which relate to a society's decision to support a programme. Leaderships reflect the society in which they exist. For example, though a long period of democracy in Costa Rica has resulted in changes in leadership, social work policies have remained intact and have been demanded and expected by a highly sophisticated population. There is already a tradition of investing in social programmes, with health and education having been a political priority for much of this century.

Costa Rica provides a good example of how the *political will* of leaders to support programmes is held accountable to local communities. In this manner, local communities affect the sustainability of programmes in a different way than socio-cultural acceptance of a programme would determine. This may be referred to as *community involvement* or mobilization – something more than what is sometimes called "community participation".

As stated in the preface to a conference on 'Good Health as Low Cost' in 1985:

– A guarantee of a long life to nearly everyone cannot wait the attainment of global affluence. It now appears that it does not have to. There is an available model. However, that model cannot be quietly accepted as a health priority. The community has to feel strongly and even righteously about the desirability of the ends and the high priority in effort that they should be awarded. It is clear that this feeling must have as a fundamental element a strongly held commitment to equity, or at least to a satisfactory minimum level for all, of health services, food and education."

(Halstead et al. 1985)

Interest was expressed as to methods of nutrition advocacy which programmes have found useful in stimulating community involvement leading to a political demand for services. Some of the suggestions derived from the experience of those present were:

- Endorsement and/or activism by public figures.
- Strengthening the technical and functional capacity of local level committees to address nutrition problems.
- Social marketing techniques.
- Ensuring that programmes are socio-culturally acceptable.
- Monitoring and making appropriate and timely changes in programmes to meet needs.

Many of the programmes reviewed point out the need for the community to not only understand the local nutrition situation, but also to fully understand the objectives, implementation mechanisms, and expected effects of the planned intervention thoroughly. For example, in the **Alternative School Nutrition Programme in the Philippines**, the schoolchildren's parents attend introductory meetings where this is the focus.

Returning to Figure 5, besides local community populations, there are subgroups which exist and form *other constituencies* that exert influence on the political will to sustain a programme. The *employees* of programmes have an obvious motivation for encouraging the sustainability of the programme. Subgroups among the *bureaucracy* of a country and among the educated *intellectuals* of a country can also choose to align themselves in support of a programme. Depending upon the political power of any constituency, it can have great influence on official expression of political will to sustain programmes. In this way, the sustainability of a programme may not necessarily depend upon its actual effectiveness. Similarly, a programme with a large working force (or a large clientele) may be sustained due to negative political ramifications if cut. Thus, sustainability cannot always be equated with "success".

### **Functional sustainability: technical factors**

The *technical* factors of functional sustainability can be divided into two components: i) programme hardware; and ii) programme software. *Hardware* refers to the equipment, buildings, transport, and other material items necessary for programme implementation. This is possibly where external financing remains appropriate in an ongoing programme. *Software* refers to the technical capacity of programme personnel, their selection and training, and the management procedures followed during programme implementation (e.g. supervisory ratios, work routines, programme planning and monitoring).

Another important aspect for longterm sustainability of nutrition programmes is the promotion of linkages with national institutions, such as universities and research hospitals. In this way the technical capabilities of a country are strengthened. A framework for the evaluation of indicators of institution building specific to the field of nutrition has been proposed (Gillespie, 1990). Inputs include "staff training, sustainable financial support, staff–development planning, physical assets, and technical assistance." Some examples of input indicators given are:

- the percentage of the budget allocated to staff training.
- the existence of a staff–development plan, including arrangements for trainee placement.
- the existence of adequate facilities and equipment for staff members."

Seven of the programmes reviewed have included a linkage to one or more national institutions for programme design, training, evaluation, etc. An example of this is the **Barangay Integrated Development Approach for Nutrition Improvement of the Rural Poor (BIDANI) in the Philippines**, in which local management structures receive technical support from national academic institutions. More than 106 medical colleges and other technical institutes lend their expertise to the **ICDS Programme in India** training programmes. This link with the All–India Institute of Medical Sciences is also a powerful symbol felt to encourage respect for the programme at all levels. It also creates a significant constituency interested in seeing the programme sustained.

Another important linkage for nutrition programmes can be to other medical services. Several of the nutrition programmes are linked to existing maternal and child health care programmes (See Chapter 2, Staff Selection, Supervision, and Training). For example, in the **Family Nutrition Improvement Programme (UPGK) in Indonesia**, the linking of the growth monitoring programme to regular maternal and child health care clinic services has a two–fold benefit: i) it provides technical support for the nutrition programme; and ii) it links sustainability to that of the MCH services.

A programme's technical capacity can be a linking point for *community involvement* in a programme, in the selection of *personnel* from the community and in their *training*, which transfers skills to the community level. Of the seventeen nutrition programmes reviewed, this link occurred in fourteen of the programmes (See Chapter 2, Staff Selection, Supervision, and Training). With increasing involvement, village councils or committees can also be responsible for the selection of local nutrition workers from among community members.

Another important linking point between the technical aspects of a programme and the local community is in the *feedback* between programme administration and the local community. This feedback can occur in all stages of a programme: i) the community can be involved in the planning of a programme; ii) the community can have access to information derived from programme monitoring; and, iii) the community can be aware of the programme changes that monitoring reveals as necessary. This exchange of information and opinions, facilitated by an adequate management information system, can strengthen the socio–cultural acceptance of a programme, an important facet of programme success. (See Chapter 4, Community Participation, and Chapter 5, Management Information Systems, for further discussion of these issues).

### **Financial sustainability**

*Financial* sustainability may be the greatest determining factor as to whether a programme continues or not. Ultimately, the funds must exist to support a programme if it is to continue. The financial sustainability of a programme should be planned from the very beginning. The most crucial step is the transition from external to internal funding. The *internal* financial capacity to sustain a programme is determined to a great extent by *political will*, which is itself expressed in two ways: i) through the budgeting of internal monies for the programme; and ii) through the enactment of legislation related to programme goals.

Although out of the control of most programme managers, political stability of the government is an important factor in sustainability. When governments change, different priorities may be reflected in the allocation of resources. In countries where the political situation is extremely changeable, it may be difficult to sustain regular administrative procedures, including employee payment.

Partly because of this, and for the benefits cited previously of a community sense of ownership of programmes, one innovation in the search for ways to achieve financial sustainability of nutrition programmes is to provide low levels of external financing for income-generating projects at the local level. The funds generated are then used to support nutrition activities. The use of seed money in a loan format, such as in the **Alternative School Nutrition Programme in the Philippines**, holds promise. By requiring each school to return the seed money within two years, the ASNP ensured a constant supply of seed money for replication of the programme in other areas while also stimulating local productivity. In the **Weaning Food Project in Ghana**, income is generated, part of which is reserved for project maintenance and part of which goes to support other community projects. Women's groups in Thailand also generate income which goes into a nutrition fund controlled by a village committee in the **Nutrition and Primary Health Care Programme in Thailand**.

When planning for sustainability of nutrition programmes during the transition phase, expectations by external donors should be realistic and not too ambitious. Once a reasonable "phase-over" schedule is determined, then it should be adhered to. Among the large-scale longterm nutrition programmes reviewed, external funding often becomes limited to covering capital costs, while national governments are expected to cover recurring costs. Training and a few other things still get covered by external donors, with emphasis now on assisting countries to increase their technical capacity, with stress on the "training of future trainers":

"The ideal use of external funding would be investment in facilities that can be used for a long time without high maintenance costs, and the development of improved methods, procedures, and teaching materials, that not only have long-term benefits but also can be used outside the area where the particular project is being implemented."

(Ljungqvist, 1988)

Equally important as the determination of shared costs is the timing of this phase-over in programme funding. A number of failures of well-designed and implemented programmes, assisted by external funds, resulted because the government was unable to continue the process once the external assistance came to an end. The transition stage should be extended, in a programme specific manner, over a reasonable period of time. This is one reason why, in the **SFPP programme in Zimbabwe**, support for supplementary feeding will be continued while phasing-in emphasis on local food production. The example of Costa Rica also gives important information on when, during the process of development, it is most appropriate and effective to invest specifically in nutrition (Horwitz, 1987).

Finally, although it is true that the more a programme is seen as being effective and having an impact on nutrition problems the more likely it is to be sustained, it is important that a programme be given sufficient time to achieve impact in a cost-effective manner. This quote, taken from a review of successful nutrition intervention strategies, still remains apt:

"Also important is that 'success' or 'failure' not be judged prematurely. Although flexibility in regional and local program implementation is important, stability of agreed upon objectives is equally important. Stated in other terms, the goals must remain unchanged, whereas flexibility is needed in the means of achieving them under local conditions. Furthermore, demonstrable benefits may occur within different time frames for different kinds of programs. Evaluations to judge 'success' or 'failure' must take this into account." (Underwood, 1983)

Among the programmes reviewed, it is frequently "their long life itself that has allowed them to gradually adapt and become more effective. Longterm backing, to allow programme management to solve problems and develop better methods for outreach and delivery — without fundamentally altering their approach — has been crucial. Effective programmes do not just spring into existence. They depend on the long haul, on the efforts of dedicated individuals (Lotfi and Mason 1989).

## **Conclusion**

Pressures from select constituencies and voting beneficiaries can lead to the expression of political will to sustain a programme. Yet if a programme hopes to be sustained because it is effective, then all aspects of



good programme management are relevant. Keys to good management which came out of the MSNP Workshop were:

- *Targeting* – Proper targeting affects sustainability. It can reduce the cost of an intervention, making it easier to sustain, and as the most vulnerable groups are targeted, it becomes politically difficult to cut the programme or its budget.
- *Staff Selection, Supervision and Training* – Staff issues are of prime importance in creating a technical capability to sustain programme. Effective training is paramount. Clear handbooks for programme training and implementation are noted to be helpful in ensuring consistency between programme implementation in different areas. Sufficient remuneration and prospects for the future are seen to be key elements in keeping trained staff involved in programmes.
- *Community participation* – As evident in Figure 5, community participation and greater involvement in a programme leads to a political accountability for programmes and increases the likelihood of internal funds being budgeted for a programme and/or legislation being enacted which relates to programme goals. Community participation can occur through the inclusion of local community members as programme staff, through community selection of these staff members, and ultimately through local management of a programme.
- *Management Information Systems* – Simple administrative procedures and tools and the appropriate use of MIS outputs to inform decision-makers and facilitate feedback between all programme levels are seen to be key factors which promote programme sustainability. The use of an MIS system expanded to generate information on impact and support cost-effectiveness evaluation also clarifies for decision-makers the reasons a programme should be sustained.

The large-scale nutrition programmes presented at the MSNP Workshop are mature programmes, many having lasted more than ten years. While they have been sustained, they have been flexible, with management focus based on new knowledge derived from continuing research efforts.

**TABLE 6 – SUSTAINABILITY**

<b>Project/Country</b>	<b>How long in operation?</b>	<b>Plans to continue or expand?</b>
Drought Relief Programme/Botswana	During 6 years of drought (1982–1988).	To operate every time there is an emergency situation.
NNHCP/Costa Rica	Since 1975 (more than 14 years).	The programme is continuing nationally, with 100% internal funding except for food donations.
HSDP/Costa Rica	Health services' expansion with a focus on rural areas began in the 1970's.	The programme is continuing nationally, with 100% internal funding, and is considered to be highly beneficial in relation to costs.
Institutional Support for Health and Nutrition/The Gambia	Ongoing services since 1964; present programme for 6 years (1981–1987), revised (for 1989–1994).	The plan is to phase out imported food aid and develop local food supplements while integrating the project into the existing Primary Health Care system.  The programme is continuing at present with Catholic Relief Services support.
Improving Child Nutrition, Weaning Food Project/Ghana	Since 1986 (more than 3 years).	The programme is expected to continue but with training of the community leaders in project management and some donor support.
ICDS/India	Since 1975 (more than 14 years); expanded from 33 to 100 blocks in 1979; expanded to 200 blocks by 1981.	The programme will continue, with minimal external funding, but expansion will depend on larger allocations or reallocations within health–nutrition sectors.

TINP/India	Since October 1980 (more than 9 years).	Greater community ownership of the programme is considered the key to ensuring its long term sustainability. Up to 1989, there has been substantial external funding.
UPGK/Indonesia	Since 1974 (more than 15 years).	Plans are for increasing programme coverage of households in areas where expansion occurred in 1984.  Recent capital costs of expansion were funded approximately 30% internally and 70% externally, with operational costs 100% internally funded.
Project COPACA/Peru	Pilot programme for 4 years (1985 to 1989).	The project is being replicated, in 1989, in another region without external staff. The project offers training courses and planning workshops for representatives of public institutions already working in the region.  The pilot programme was funded by GTZ, with limited external funding provided as the programme is replicated.
ASNP/The Philippines	Since 1983 (more than 6 years).	80% of primary recipients of seed money have been able to turn over the amount to secondary recipients (some of whom have passed it on to tertiary recipients), with the majority continuing to engage in programme activities through income generation.  The programme is 60% internally funded. 40% external.
BIDANI/The Philippines	Since 1978 (more than 11 years).	Replication of the pilot programme from 6 villages to 136 villages in other ecological settings has been successful.
JNSP/Tanzania	Since 1984 (more than 5 years).	The initial programme was expanded to all 620 villages in the region, with the national government considering similar models for countrywide replication.  Initially, the programme was externally funded by the Government of Italy through WHO/UNICEF; 80% of village health workers are now remunerated by local village committees.
Nutrition and Primary Health Care Program/Thailand	Since 1982 (more than 7 years).	The 6th Development Plan (1987–1991) projects expansion of coverage to 100% for growth monitoring of children under-five, with a 40% internal budget increase; presently the programme is approximately 75% internally

		funded.
Community Based Nutrition Intervention/North–East Thailand	Pilot programme from 1982–1985.	The pilot nutrition programme was linked to a pilot parasite control programme, which has been taken over by the government and replicated in several provinces. Attempts are now being made to fully incorporate the nutrition components.
WIC/USA	Pilot programme from 1972 to 1974: by 1980, the programme was serving 2 million women and children; by 1990, over 4.5 million.	The ongoing programme was replicated from the pilot project, with some changes in target beneficiaries over time.
SFPP/Zimbabwe	Since 1981, expanded in 1984.	Expanded from 2000 to 6000 projects in 1984. A number of projects have sustained themselves through community contributions of labour and cash.  External funding by SIDA, with internal funding covering salaries, transport, and subsistence allowances.

## Chapter 6: Impact and Cost

We have not specifically set out in this paper to synthesize results of impact evaluations. This has been done on a number of occasions by Gwatkin *et al.* (1980), Beaton and Ghassemi (1982), Kennedy and Alderman (1987), Berg (1987), etc. The programmes selected for the workshop were in any case originally considered to have had or be having a positive impact on nutrition to varying degrees. The main purpose of the workshop was to look at issues of management of these successful programmes i.e. aspects of process, not evaluations of outcome. Nevertheless, we include here a brief compilation of impact evaluations for five of the programmes presented to demonstrate their levels of effectiveness in reducing nutritional deprivation. Following on from this we consider the levels of economic resources necessary to maintain such programmes.

### *Impact evaluations*

**The Joint WHO/UNICEF Nutrition Support Programme in Iringa, Tanzania** was started in 1984 in 168 villages and covered about 50,000 under–five children. The 1983–88 Evaluation Report (Government of the United Republic of Tanzania, WHO and UNICEF 1988) drew on nutritional status data routinely collected as part of the ongoing monitoring system to assess the nutritional impact of the programme. The computerized system maintained by the Regional Support Team preserves information regarding the prevalence of both "underweight" (weight–for–age less than 80% Harvard standard) and "seriously underweight" (weight–for–age less than 60% Harvard standard), for every quarter of the year. In less than three years, the prevalence of "seriously underweight" children had dropped from more than 6% to 2%. Data were not routinely available to compare trends with non–project areas, but in August – October 1987, children from 442 non–project villages were weighed as part of a campaign. The prevalence of "seriously underweight" children was 5.6% (close to the 6.3% rate in the project villages in 1984). In the same quarter of 1987, the prevalence of "seriously underweight" in the project villages, however, was down to 1.7%. As the evaluation report concludes:

"That such a marked differential exists between the original project area and the rest of the region after three years of programme activity is a strong indicator of the impact of the Iringa Nutrition Programme on severe malnutrition"

The Iringa approach has since been adopted in other regions in Tanzania. The Child Survival and Development Nutrition Status Database at UNICEF has provided the following data on changes in the

percentage of under-fives who are "seriously underweight" in 4 regions: Kagera (8.1% to 2.0%, 1985–89), Iringa CSD (5.8% to 1.9%, 1987–89), Mtwara (8.0% to 5.9%, 1987–89), Hal, Kilimanjaro (3.5% to 1.7%, 1987–89).

Both the State government of Tamil Nadu and the donor agency have made claims for the success and significant nutritional impact of **the Tamil Nadu Integrated Nutrition Programme**. Impact data on TINP have been generated from three formal sources (Shekar 1989):

- i) Monthly monitoring data flowing from reports generated by the Monitoring Wing from the entire project area,
- ii) Monthly nutritional surveillance data flowing from sample households in 'control' and 'project' villages,
- iii) Evaluation reports, of which the Mid-Term Impact Evaluation (1984) and the Terminal Evaluation (1989) have been published.

The latter report claims a "positive correlation between the duration of the project operation and the rate of reduction of severe malnutrition" based on the monitoring data. It also claims that "within the category of 6–36 months children, a higher rate of reduction of severe malnutrition has been recorded in the sub-group 13–24 months", although age-disaggregated data were not presented in the report to support this.

Data in the 1984 report indicate that the nutritional status of 13–36 month children improved in the pilot block and deteriorated in the control block. In the pilot block, Grade III and Grade IV malnutrition decreased from 20.4% at baseline in 1980 to 15.7% in 1984 and increased in the control block from 15.1% in 1980 to 17.8% in 1984. According to the evaluation report, this indicates a 23% decline in the pilot block compared with a 17% increase in the control block – interpreted as indicating a 40% net decline in Grades III and IV degree malnutrition as a result of TINP.

In a critique, Shekar (1989) claims that differences between the 'control' and 'project' villages in terms of socio-economic status, and initial levels of malnutrition were "glossed over in a cursory fashion", and this reduces the strength of the data. Appropriate and rigorous statistical analyses of existing data would have also enhanced the plausibility of claims of positive impact. Standard deviations, along with the mean need to be regularly reported and analysed. Better indicators than gross shifts in grades of malnutrition could be chosen so as to give more information about impact, particularly as individual weights are regularly being monitored. Nevertheless, Shekar believes that the 'true' impact of TINP may even be greater than that suggested by these reports. In a study of 'positive deviance' with a relatively small sample size, Shekar et al. (1989) found that the decline in grade 3 and 4 malnutrition was minimal in the first year of TINP operation, but quite dramatic between 1 and 5.5 years. Process information supported these conclusions, and the attribution of impact to TINP was seen as highly plausible.

A study was carried out by Tandon (1989) in which the impact of the **Integrated Child Development Services (ICDS) in India** on the nutritional status of the pre-school target population after 3–5 years and after 8 years of ICDS was compared with the changes in a non-ICDS (control) group. The non-ICDS group had been selected for an ICDS intervention which had yet to be initiated. Data from this group were compared with data from 30 projects completing 3 to 5 years of ICDS, and 13 projects completing 8 years.

In the non-ICDS group, the percentage of children with Grade III and IV malnutrition dropped from 19.1% in 1976 to 8.4% in 1985. This was attributed to improvements in family planning and MCH services during this period. Compared to this figure of 8.4%, the comparable figure in the 3–5 year ICDS group was 6.4%, and in the 8-year ICDS group, 6.3%. Tandon claims that other benefits of ICDS have been felt and reflected in, for example, the birth rate, morbidity and mortality figures and immunisation coverage, though these had not been examined in this particular study.

The study concludes by stressing the need for integration of nutrition services "at the point of delivery, that is, at the very base of the health pyramid, as has been done in the ICDS system, rather than at the apex which refers to the level of planning and administration"

With regard to cost factors, the ICDS assembled in one package the different components of vertical programmes such as nutrition, health care services, and education. The ICDS budget therefore, presents under one head all the services in the package which in different circumstances, would have been separated.

**The Pilot Food Subsidy Scheme of the Philippines** was implemented in three provinces, using data collected by a detailed IFPRI study (Garcia and Pinstруп–Andersen 1987). The scheme consisted of price discounts on rice and cooking oil and a nutrition education component. Targeting was both geographical and by commodity. Each household with a high incidence of malnutrition and poverty was issued with a ration card indicating its monthly quota of rice and oil, based on family size. The rice ration subject to a price discount was only about half the amount usually consumed by most of the households, but the oil ration exceeded the amount usually purchased prior to the subsidy. Thus, consumer rice prices were not reduced at the margin, unlike oil prices.

According to the analysis, the subsidy component of the scheme caused a significant increase in household food expenditures and calories acquired and consumed, as well as in calories consumed by most individual household members. Although adults obtained the largest share, the average weight of preschoolers also increased. The nutrition education component was found to have a small positive effect when accompanied by the subsidy, but no effect could be detected when the education was unaccompanied by additional purchasing power. Where education did have an effect, it was intra–household, resulting particularly in increased consumption of children – an indication that nutritional messages can increase the focus on children.

Findings indicated that consumers were more likely to increase their food consumption if foods were subsidized than if incomes were raised directly. Overall, the evidence indicated that the subsidy had positive effects on both households and preschoolers.

The study concludes by recommending additional targeting based on growth monitoring as a means to achieve the goal of expanding food consumption of households with malnourished preschoolers and improving the nutritional status of these preschoolers, even more cost–effectively.

An evaluation of the **Women, Infants and Children (WIC)** programme (USDA 1990) in the USA convincingly demonstrated that the programme improves birth outcomes and is highly cost–effective. Substantial health benefits offered by the programme were evident since 1986. The average increase in birth weight related to prenatal WIC participation by Medicaid recipients ranged from 51 g. in Minnesota to 73 and 77 g. in Florida and Texas respectively, to 113 and 117 g. in South Carolina and North Carolina respectively. For Medicaid births occurring before 37 weeks gestation, the average increase in birthweight associated with prenatal WIC participation ranged from 138 g. in Minnesota to 259 g. — approximately half a pound – in South Carolina. Prenatal WIC participation was also associated with a lower incidence of preterm births and a longer gestational age.

The primary objective of the evaluation was to translate these findings into money. This was done by determining the savings in medical costs for newborns and their mothers during the first 60 days after birth from participating in WIC. Medicaid costs for WIC participants and non–participants were compared. For accurate comparison of the costs, other characteristics of the two groups that might account for the observed medical cost differences were identified and taken into account. The cost–effectiveness analysis showed that the benefits of prenatal WIC participation exceeded the costs of providing WIC benefits. In fact for every dollar spent on the prenatal WIC programme, the associated savings in medical costs during the first 60 days after birth ranged from \$1.77 to \$3.13 for newborns and mothers combined and from \$2.84 to \$3.90 when only the savings in relation to newborns are considered.

### ***Programme costs***

Certainly, no matter how effective these programmes might be, they should be affordable and within the means of governments in countries where implementation is intended. This is crucially important if these efforts are to be sustained after external assistance – if in place – has been withdrawn.

Cost assessment is perhaps one of the most difficult aspects of any programme evaluations. There are always hidden expenditures, like cost to the beneficiary. For example, time spent for travelling and waiting in the line, time and money spent to look after children or family as a result of education received, cost of volunteers' time and energy, etc. Theoretically, costs to the beneficiary using the services should be set against the costs the beneficiary has saved through participation in an effective intervention. Examples are having a better pregnancy and lactation outcome, having a healthier child, less episodes of disease in the family, use of knowledge gained in the areas of nutrition and health for siblings not in the programme, or benefits for the family as a whole.

The problem of cost comparing of different programmes is not only related to the variations in their objectives, components, or size, but also to differences in the whole context and environment in which these have been implemented. Cross-project comparisons are therefore complex.

In fact, costs or related data are seldom addressed in individual nutrition intervention programme reports. In cases where such data are available, cost components (food and non-food costs, management costs, etc.) have often not been distinguished clearly. Total costs, even when reported, have limited value by themselves. Frequently the cost of reaching an individual using the provided services (cost per beneficiary or recipient per year) is calculated (see Figure 6), and this provides for some standardization for comparative purposes. However, this measure has a number of limitations. Firstly, it does not reflect the quality of services provided, nor does it show whether the programme has had any impact on the recipients. In the **Tamil Nadu Integrated Nutrition Project**, the cost/child in the programme fell by 19% between 1982 and 1985. Here, from the cost per beneficiary value alone, it is not clear whether this has been due to a change in coverage or, as has been in fact the case, that fewer children required the rehabilitation feeding as a result of the programme's positive impact on the recipients. Secondly, from the cost per beneficiary value it is not known how many of the beneficiaries were in fact targeted. (See Chapter 1, Targeting, for three methods of calculating this.)

Thirdly, there is a trade-off between close targeting to those who will respond (e.g. the most underweight in a feeding programme), the costs of this targeting, and the lowered effectiveness if many non-responders are included among the beneficiaries. For this reason, in many supplementary feeding programmes the cost per individual enrolled in the programme has been several times lower than the cost calculated for those actually having been helped by the programme. Research conducted by IFPRI has shown that household targeting is a key element in achieving income-transfer or nutrition goals at reduced costs. Modifications in food subsidy programmes toward targeting would reduce fiscal and economic costs, but also result in economic losses for non-target households and therefore incur political opposition. There is a point beyond which increases in administrative costs, including the cost of identification of target households, exceed the savings from further reducing leakage of benefits to non-target households (IFPRI, Food Policy Statement, No. 9, October 1988).

Previous reviews of nutrition programmes have tried to estimate costs-per-beneficiary, as well as per-caput, in project areas. We will focus on the former. In one review (Beaton and Ghassemi, 1982) it has been calculated that generally the cost of providing 300-400 kcal/day would range from \$15 to \$25 per child (1976 US\$ equivalent). The reviewers noted that the cost would be different for different types of food distribution. Another review (Anderson, Austin, Wray and Zeitlin, 1981) has reported a somewhat wider range: \$10-30/year per child fed in take-home and on-site feeding programmes. A third review (Kennedy and Alderman, 1987) has estimated the costs of delivering certain number of calories and found that this would change somewhat the overall picture, citing examples from two programmes in the Philippines. The average cost of the Mother and Child Health Programme, at US\$ 31.4/beneficiary, is higher than the cost of the School Feeding Programme, at US\$ 12 per person. Yet in terms of the delivery of 1000 Kcal., the former programme becomes cheaper than the latter (US\$ 0.25 vs. 0.43).

In the JNSP programme in Tanzania, the total cost of \$17 per beneficiary was divided into i) start-up cost (\$3.6), ii) expansion cost (\$5.3) and iii) ongoing cost (\$8.05). Such disaggregations are helpful as, for example, the degree of financial sustainability could be proxied by the latter figure.

In the Philippines Food Subsidy Scheme, 84 % of the cost was the subsidy itself, 9 % was administrative with 7 % being an incentive payment to retailers to ensure efficient food distribution. The fiscal cost of each \$1.00 transferred to participating households was \$1.19, or, if only transfers to malnourished preschoolers are considered a benefit, the cost increases to \$3.61. Cost-effectiveness is thought to be favourable. Costs were low because, first, geographical targeting based on growth monitoring costs less than targeting based on household income levels; second, the use of existing private sector retail outlets for the distribution of subsidized foods costs less than a separate distribution network; and third, the use and expansion of existing local bureaucratic structures cost less than the creation of a new and independent structure.

Seven out of the ten pilot nutrition and health interventions reviewed by Gwatkin, Wilcox and Wray (1980) had reported cost values, although cost per person in the project area could not always be distinguished from cost per beneficiary (Wilcox, personal communication). In all the seven projects discussed, nutritional services were complemented by health measures, with the exception of project in Etimesgut, Turkey, where services were predominantly medical support and family planning. The annual per capita population costs of these projects ranged from \$0.8 to \$7.5. or approximately 0.5-2.0 per cent of the annual per capita GNPs of the countries concerned for the year to which the costs in each instance refer. This is similar to the levels of governmental health expenditure reported by the World Bank for developing countries.

Among the World Bank assisted projects, the Indonesian Nutrition Education Programme cost only \$4 per beneficiary per year initially, decreasing to \$2 during expansion (Berg, 1987). These calculations do not include food provision, but when food cost is added the total cost would be around \$11/beneficiary/year (Yee and Zervas, 1987). The Indonesian weighing and feeding programme (NIPP), at \$56/beneficiary/year, was much more expensive.

**Figure 6: Comparing Costs per Beneficiary (US \$) for Selected Programmes**

PROJECT/COUNTRY	MAIN PROGRAMME COMPONENTS	COST PER BENEFICIARY	NOTES AND SOURCES
Drought Relief Programme/Botswana	Direct feeding Cash for work	7	1985, direct feeding programme
	Livestock, water, and agricultural relief	38	1985, for all programmes. Quoted from Quinn, et al. (1988)
NNCHP/Costa Rica	Preschool and school feeding Nutrition education	21	1982, quoted from prog. Summary
HSDP/Costa Rica	Health services	2	1982
		3	1983 (Calculated from prog. summary)
Institutional Support for Health and Nutrition/The Gambia	Growth monitoring Food supplement Nutrition/health education	55	Calculated from prog. Summary
TINP/India	Growth monitoring Supplementary feeding Nutrition education Health services	9	Overall cost
		7	Weighing–screening
		12	Weighing–feeding (Berg, 1987)
ICDS/India	Growth monitoring Supplementary feeding Health services	7.5	Not including food (Calculated from prog. Summary)
UPGK/Indonesia	Growth monitoring	2	Weighing
	Supplementary feeding	11	Weighing and feeding. Quoted from Yee and Zervas (1987)
Pilot Food Price Subsidy Scheme, The Philippines	Consumer food subsidy	9	1984, quoted from Garcia and Pinstrup–Andersen (1987)
JNSP/Tanzania	Growth monitoring	8	Recurrent costs
		17	Total costs. (JNSP Evaluation Report, 1988)

The annual costs of weaning education in six countries (Ashworth and Feachem, 1985) are cited, with most projects falling in the range of \$2–10 per participating child per year. It is pointed out that these costs are not directly comparable, due to differences in programme design and methods of cost calculations. It was

concluded, however, that weaning education may be an economically attractive diarrhoeal control measure in some countries.

The cost of controlling micronutrient deficiencies has been estimated as very low compared to the dramatic benefits usually obtained. The cost is mainly related to delivery, rather than supplies, which in turn depends on targetting strategies and availability of services. For vitamin A capsules, the costs have been estimated as 2 cents/beneficiary/year. This would be increased to 20 cents for capsule dose taken (West and Sommer, 1987). Salt iodization from the experience in S.E. Asia cost 5 cents/beneficiary/year, while intramuscular oil injection is reported to cost twice this figure from such programmes in Zaire and Nepal (Hetzl, 1988). Fortification of salt with iron costs 5–9 cents/beneficiary/year, and that of centrally processed grain products with vitamins and minerals would cost about 8 cents/person/year (Berg, 1987, p.116).

Annual cost per beneficiary estimates available for some of the nutrition programmes reviewed here are summarized in Figure 6. An important factor explaining the differences between amounts is whether or not food (or feeding) costs are included. Generally, the health and education programmes have the lowest cost/beneficiary/year, but then these are less directed toward undernutrition. Overall, the amounts are in line with – if somewhat higher than – those calculated from previous studies, that were generally smaller-scale projects. But they tend to confirm that the range of \$10–\$30 per beneficiary per year is around that needed for programmes with sufficient scale to be likely to have a positive effect. The expected relationship between expenditure and effects is usually non-linear (Habicht, Mason and Tabatabai 1984). US \$10–30 may approximate the minimum level necessary to begin to affect nutrition. One conclusion from this is that it has to be considered worth sustaining an expenditure of about this magnitude if direct nutrition programmes are to be undertaken.

## **PART II: PROGRAMME SUMMARIES**

In this part, we provide detailed information on the 17 programmes from 12 countries, presented originally at the IUNS Congress in Seoul, August 1989. These case studies were prepared by the authors attributed, although since the workshop, the summaries may have been re-structured to provide a common format.

The programme summaries are organised in the following way. First, programme objectives are outlined, followed by a brief description of the programme -- including its duration, form of support, budget and programme components. Next, the most successful aspects of each particular programme are highlighted. Finally, detailed information on the specific workshop themes, discussed in Part I chapters 1–6, is presented. Where helpful, tables and annexes have also been included.

### **1. Drought Relief Programme (Human Relief), BOTSWANA**

**Ms T. Maribe**

#### **Objectives:**

- Supplementation of food supplies to reduce the incidence of, or forestall increase in malnutrition among those considered at risk.
- Rehabilitation of severely and moderately malnourished children through direct on-site feeding at health facilities.
- Creation of rural employment opportunities in order to compensate in part for production lost due to drought.

**Duration:** From 1982 to June, 1988.

**Implemented by:** The Government of Botswana with external support from the World Food Programme, USAID, and the Governments of Australia and Canada. This was a national programme with allowance for district level modifications depending on results of annual assessment exercises.



**Budget:** Note the budget includes donor assistance channeled through Government. Funds allocated for Development 1982/83 to 1987/88 totalled US\$ 89,331,964 with recurring expenditure during the same period totalling US\$ 22,134,301, making a grand total of US\$ 111,466,301.

**Programme Components:** These include direct feeding, take-home rations, and labour based relief projects (cash for work projects).

#### **Most Successful Aspects:**

- *Participation* – fully mobilized communities, community leaders (including politicians), and local and international donor support.
- *Management Information System* – combined quantitative and qualitative assessments to provide information that was linked to decisions taken at regularly scheduled meetings nationwide.
- *Targeting* – in an effort to reduce dependency of households on government assistance, food supplements were targeted to vulnerable members of the communities while able bodied persons benefitted from cash for work programmes on a rotational basis to allow potential workers equal opportunity to participate.
- *Pre-Project Planning* – research/information on previous experience provided guidance that enabled planning and implementation to be undertaken concurrently.

#### **Programme information on specific Workshop themes**

**Planning:** Drought in Botswana tends to be recurrent and accepted as a fact of life. Prior to the 1982–1988 drought period, rainfall and nutritional surveillance data were used to indicate the likelihood of drought. These information sources were therefore used to determine the onset of the past six years of drought (1982–1988). The principal goal of the human relief component of the Drought Relief Programme was the preservation of human life. The intensive feeding programme and the Labour Based Relief Projects contributed to this objective while the other programme components, e.g. water and agricultural relief, had an indirect effect on it.

**Targeting:** The supplementary feeding programme was targeted to the vulnerable group members that comprised the following (please note that this information covers the period from June 1987 to May 1988):

- Preschool children (166,221)
- Pregnant women (16,179) and lactating mothers (37,451)
- 6–10 year old children not in school (75,281)
- Permanent destitutes (6,639)
- Primary school children (245,984) and
- TB out-patients (2,559).

The coverage of specific vulnerable groups was very high. Over 75% of all the 0–5 year old children eligible for food relief actually received it. The coverage was even greater (over 95%) for the primary school children. Even though it is not known how many people out of the total targeted for Labour Based Relief projects were actually reached, research indicates that more women benefitted from these projects than men – a pleasing observation given the role of women as the most important health care providers at the household level.

A socio-economic assessment of the drought programme was carried out in 1985 and basically evaluated the process of the implementation of relief measures and their impact on the human population and the livestock sector. This study concluded that the Botswana Drought Relief Programme had been spectacularly successful in containing the nutritional consequences of household level food shortages and had made innovative progress, in the form of labour based relief projects.

**Staff Selection, Training and Supervision:** This programme utilized already existing personnel at both national and district levels. The positions of drought co-ordinators (10 in all) were the only ones created with subsequent staff recruitment. Since this was an emergency situation, very little organized staff training was undertaken. Training was largely on the job, except for selected training on food management issues given the volume of food that was handled during this time. Staff supervision was intensive due to the monitoring and reporting requirements of this programme.

**Community Participation:** Perhaps no other government programme mobilized communities like the drought relief project did (See Figure 1.1). The political will acted as a driving force and ensured that the different sectors gave the emergency activities the priority deserved. Organizationally, formal institutions were instituted to provide focal points for planning and entry points for the involvement of the communities at large. Community level organization relied more on the existing institutions, such as the Village Development Committees and the Kgotla (tribal authority).

**Figure 1.1 Institutional Organization for Social Mobilization**

Institution	Level & Number	Responsibility
Interministerial	National 1	Overall co-ordination donor support
District Drought Committees	District 10	District level co-ordination direct Kgotla involvement
Village Development Committees	Village	Direct community committee involvement Identification of labour based relief projects
Health Facilities	Village 600+	Food distribution points. Monitoring of nutritional status and food supplies.

**Management Information System:** Sec Part I, Chapter 4.

**Sustainability and Replicability:** A repeat of the programme will be undertaken every time the country undergoes an emergency situation. The form and the nature of the programme will be decided by the critical review of this experience planned for early 1990. However, there are already indications of applications of some of the lessons drawn from this experience – an effort to ensure better preparedness for future drought conditions. The Weaning Food Development Project already underway and designed to phase-out the use of donated foods is an activity that derives directly from this experience.

## 2. National Nutrition and Holistic Care Programme (NNHCP), COSTA RICA

**Dr L. Mata**

**Objectives:** Objectives are diffuse and often nondescript, except for the goal of eradicating third degree malnutrition. However, the programme was created in 1975, with the specific aim of gaining votes for the ruling party.

**Origin and Duration:** The Department of Nutrition of the Ministry of Health was created in 1951; UNICEF donated food targeted for malnourished individuals. A Nutrition Centre was developed in a nearby municipality, to provide support to preschool children and pregnant and lactating women. By the mid-sixties, 91 Nutrition Centres had been created for distribution of powdered milk and cheese from CARE. Late in 1974, the Law of Social Development and Family Allowances (DESAF) was passed to support food programmes, rural water supplies, primary health care and social development. The programme has rapidly evolved in the past 10 years.

**Implemented by:** The Ministry of Health, although the school dining rooms are under the Ministry of Public Education. DESAF is a powerful organization supported by 20% taxes on most consumer transactions in the country.

**Budget:** The 1982 budget is reliable at US\$ 8,715,035; this represents US\$ 20.8 per person per year, which is less than 50% of the total *per capita* expenditure in health or education. The Government supports the programme through the Law of DESAF and most of the budget is to support personnel. About 35% of the total DESAF budget is destined to buy food. In addition, the country receives food donations from the World Food Programme, CARE and USAID. No estimate was available on input from this donated food. The budget has increased steadily with time, to reach US\$ 12,330,814 in 1987, a 41.5% increase in 5 years. The bulk of the total budget (about 50%) is used to purchase food; infrastructure and personnel absorb 27%, and 1.2% is invested in evaluation and research.

**Programme Components:**

- School Dining Rooms (CE), with 53% of the budget;
- Centres of Education and Nutrition (CEN), with 22% of the budget;
- Centres of Comprehensive Child Care (CINAI), with 5%;
- Extramural distribution of milk and oil, with 20%;
- 22% for "other".

### Programme information on specific Workshop themes

**Evaluation:** Evaluation of the programme has been slow and deficient. There is good evidence that development of the NNHCP took place **after** the decline in infant malnutrition and mortality had taken place. Furthermore, there is good evidence to show that there is no difference in malnutrition or overnutrition rates among children in the programme, when contrasted with those who do not benefit from it. The nutrition status of children in remote rural areas where NNHCP does not exist is nutrition and survival as compared with Primary Health Care and, for instance, interventions aimed at control and eradication of infectious and parasitic diseases. However, the programme has been successful in correcting moderate malnutrition in children discovered through the routine public health action. The programme has also helped in locating children with severe malnutrition for referral to a hospital.

The CEN and CINAI components of the programme have an impact on nutrition, hygiene and health education of attending preschool children and pregnant and lactating mothers. Unfortunately, the CEN and CINAI are located near district seats and only those persons living within a radius of about 7 to 10 blocks can attend. Thus, with more than 3000 villages and only 500 Centres, most children are **outside** the programme (except when they are reached by the extramural food distribution). Claims that the distribution of powdered milk has interfered with the promotion of breast-feeding have been documented, in that mothers may wean their infants earlier in order to be eligible for milk distribution.

**Sustainability and Replicability:** (See Part I, Chapter 5.) The cost/benefit of the NNHCP is simply too high to be judged beneficial from that angle alone when compared with any other health or social development intervention.

### 3. Health and Social Development Programme (HSDP), COSTA RICA

#### Dr L. Mata

By contrast to the NNHCP, the Health and Social Development Programme (HSDP), although not described as such, appears to have had the greatest impact on promotion of mother and child health and survival. The programme in general has a preventive and a control component, the latter, in turn, also having an impact on prevention. The main components of the programme are:

- *Rural health intervention* – Development of the "silent army" of rural health workers and auxiliaries to cover the whole rural and semi-urban area of the nation; organization of community health committees; building aqueducts and latrines; immunization with most available vaccines to cover more than 80% of the susceptible population; antenatal care for most women, emphasizing health and nutrition education; treatment of anemia, diarrhoea, intestinal parasites, and other infections directly in the field; referral of serious cases (for instance, women with high-risk pregnancy).
- *Treatment and follow-up in clinics* – Development of a network of clinical facilities, namely, in urban centres, the Regional Hospitals and Peripheral Clinics; in rural areas, the Health Centres and Health Posts. This development was made by the Social Security Bureau and the Ministry of Health which have attempted a merging of facilities, for instance, the Health Centre (Ministry of Health) and Dispensary (Social Security). The network connects with the four Class A (University) and Provincial Hospitals.

**Evaluation:** There is good evidence to show that coverage, duration and intensity of the intervention of the HSDP correlated with the marked decline in infant mortality and increased life expectancy at birth in Costa Rica during the decade of 1970. The most significant change was a reduction in rates of infectious and parasitic diseases, while those of chronic and degenerative diseases remained high.

The absolute cost of the HSDP in the rural area is **7 times less** than that of food programmes. The cost of the HSDP per child actually is 12.5 times less than the cost of nutrition programmes. Thus, the cost/benefit of the HSDP is significantly lower when compared with that of the national nutrition programmes. Another consideration is that many of the health and social development interventions have a permanent effect once they are established, while nutritional interventions only have an effect if they are sustained.

Two types of interventions are compared in Tables 3.1 and 3.2. In Table 3.2, the NNHCP is identified as *Food and Nutrition Programme*, while the HSDP is identified as *Rural Health Programme*.

Table 3.1

COVERAGE AND COST OF FOOD PROGRAMMES SUPPORTED BY THE FAMILY ALLOWANCES FUND (OCAF) IN COSTA RICA, 1982.

Food Programme	Number of Beneficiaries	Cost, US dollars <sup>b</sup>		Per person/day <sup>c</sup>
		Total per year	Per person/year	
<b>Ministry of Education</b>				
(CE) School dining rooms (hot meals)				
School Children	305,375			
Teachers and Staff	11,030			
Subtotal	316,405	4,647,383.3	14.7	0.05
<b>Ministry of Health</b>				
(CEN) Centres of Education and Nutrition (hot meals and education)				
Preschool children	24,608			
School children	4,972			
Mothers	2,789			
Subtotal	32,369	1,901,991.7	58.8	0.20
(CINAI) Centres of Comprehensive Child Care (hot meals, education, stimulation, hygiene)				
Preschool children	1,112	454,750.3	408.9	1.4
Health Centres and Health				
Posts (milk distribution)				
Preschool children	69,171 <sup>a</sup>	1,710,909.7	24.7	0.08
Total	419,057	8,715,035.0	20.8	0.07

<sup>a</sup> Other members may consume the milk.

<sup>b</sup> Exchange rate US \$1 = 60 colones; cost of food donated by CARE was excluded.

<sup>c</sup> Estimated for 288 days.

Source: Fernandez *et al.* (1984).

Table 3.2

RESOURCES AND COSTS OF RURAL HEALTH, AND FOOD AND NUTRITION PROGRAMMES IN COSTA RICA, 1973–1983.

Programme	1973	1977	1980	1981	1982	1983
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	(8.6) <sup>a</sup>	(8.6)	(20.5)	(20.5)	(60)	(43)
<b>Rural Health Programme (RHP)</b>						
No. health centers	62		75	80	85	86
No. health posts	50	251	293	284	294	301
No. rural health assistance		231	256	238	238	250
No. auxilliary nurses		175	203	162	159	161
No. beneficiaries × 10 <sup>3</sup>	115	690	717	641	723	777
(% coverage)	(10)	(60)	(57)	(48)	(54)	(58)
Cost of programme, US\$ × 10 <sup>5</sup>		3,360	1,872	2,235	1,206	2,477
Cost per child per year		4.86	2.61	3.48	1.67	3.18
<b>Food and Nutrition Programme (FNP)</b>						
Centres Education–Nutrition (CEN)	147		538	558	520	520
Centres Comprehensive Child Care (CINAI)	0		33	33	34	34
School Dining Room (CE)			n.a.	n.a.	2,103	2,885
No. professionals, auxiliaries			n.a.	n.a.	367	370
No. cooks, helpers			n.a.	n.a.	2,926	3,000
No. beneficiaries × 10 <sup>3</sup>			n.a.	n.a.	419	498
Total cost of programme, US\$ × 10 <sup>3</sup>			n.a.	n.a.	8,715	n.a.
Cost per child per year			n.a.	n.a.	20.8	n.a.
<b>Ratio FNP/RHP</b>						
Total cost					7.2.	
Cost/child					12.5	

<sup>a</sup> Exchange rate with US \$ shown in parentheses

n.a. Data not available at FNP Headquarters

Source: Ministry of Health, Ministry of Education.

#### 4. Institutional Support for Health and Nutrition, THE GAMBIA

**Mr S. Taal**

##### Objectives:

- Institution building for the Gambia Food and Nutrition Association and the Community Management Committees.
- Retargeting of programme beneficiaries from under–fives to pregnant/lactating women and their children below two years of age.
- Integrating with the governmental PHC village health service system.
- Developing maternal and weaning supplements from locally available foods.

- Continuing to reduce CRS' operational role in the Health and Nutrition Programme.
- Phasing out imported food aid.
- Providing therapeutic diets for severely malnourished children admitted to health clinics.

**Duration:** 1989 to 1994 (projected).

**Implemented by:** The applicant was Catholic Relief Services/The Gambia Programme. The implementers are the Gambian Food and Nutrition Association (GAFNA), the Medical and Health Department of the Ministry of Health, and Community Management Committees.

**Budget:** Total project cost is US\$ 13,800,000: *Internal – 23%; External – 77%.*

**Programme Components:**

- Counterpart development at national and local levels.
- Integration into the PHC village health service system.
- Development of local maternal and weaning supplements.
- Participant retargeting.
- Growth monitoring.
- Health and nutrition education.
- Provision of food supplements. Home visits.
- Commitments to attend clinics monthly and to participate in food production activities.

**Most Successful Aspects:**

- *Community participation* – This is enhanced by the Community Management Committees set up by the programme.
- *Growth monitoring* – Monthly weighing sessions are well conducted and women participate highly, although feedback of analyzed data was initially a problem. Children found in the initial weaning period through to the age of 24 months have shown a more significant responsiveness in growth than others.

**Programme information on specific Workshop themes**

**Planning:** See attached sheet (Annex 4.1).

**Targeting:** The total population in the project area is 133,200 (333 villages × 400). The method of targeting is that all pregnant women are enrolled as soon as they discover they are pregnant and are followed through lactation. Targeted population estimates of monthly participant levels are as follows: Year 1, 24,000; Year 2, 30,300; Year 3, 31,400; Year 4, 25,900; and Year 5, 25,900. A stabilization in the level is anticipated for Years 4 and 5. Recent shifting of target groups poses no problems and has improved centre services. Evaluation will look into this at a later date.

**Staff Selection, Training and Supervision:**

*Staff involved in programme delivery*

Regional level:	3 Regional Coordinators
Central level:	1 Health and Nutrition Department Supervisor
	1 Project Officer (1 year only)
	1 Training Coordinator (50% time)
	2 Administrative Assistants
Counterpart staff:	93 Community Management Committees, each headed by a Lady President with a Recordkeeper

## GAFNA Staff (5)

### Medical and health technical staff at the village level

*Procedures for staff selection and training* involves public advertisement, followed by a written test, interviews and final screening. Professional candidates are given priority in staff selection and are given on-the-job training when appointed. Prior qualification must be relevant to the programme activities (e.g. Public Health and Nutrition with PHC experience).

*Supervision* is conducted from three levels, as described below.

- Regional staff, who spend 75% of their time in centre level supervision and the rest in report writing and visiting the central office once a month.
- Central level staff, who spend 35–50% of their time in field visits.
- Community Management Committees, in which supervision is an on-going daily activity.

**Community Participation:** See Part 1, Chapter 3.

**Management Information System:** Regular information is collected by Regional Coordinators who submit field reports on a monthly basis. Lady Presidents also submit monthly reports on centre level activities (e.g. growth monitoring, commodity status, etc.). These help management in the decision-making process during project implementation. An external programme evaluation was done in November 1988. The results led to a revision of the programme strategy for health/nutrition. (See Annex 4.2).

**Sustainability:** The programme should be sustained through the strengthening of local and national level counterparts. The main constraint is the ability of the Government to keep up its financial agreements, especially the delivery of goods. The programme components can be replicated elsewhere and this process is ongoing.

**Process Evaluation:** An assessment was undertaken for Catholic Relief Services in November 1988. A team of four reviewed a proposal to revise CRS/Gambia's existing food and nutrition programme. The team then divided into three groups to review areas of the proposal most appropriate to individual skills and experience. The purpose of the assessment was to provide possible options for implementing a five-year strategy which will enable CRS to phase out of the food and nutrition programme, while at the same time strengthening local institutions.

- *Targeting* – The target population before programme revision was rural children between four months and five years old. Mothers of the children were included both as an incentive to participate in activities and because the long-term goals are to promote prevention rather than the treatment of malnutrition. It was found that children of weaning age benefited most. Title II PL 480 food resources will now be targeted at the pregnant/lactating woman and her child up to the age of two years. This strategy was based on these premises: in the Gambia, especially during the rainy or hungry season, caloric consumption of the rural population decreases; it has been proven that during pregnancy decreased caloric intake, especially during the last trimester, produces a child of low birth weight; and it has also been proven that children of low birth weight have higher mortality risks. Birthweight will be used as an outcome indicator.
- *Delivery* – Assessment takes place at two levels, internal and external. Compared with programme aim, it is above average.

Enrollment is composed of more than 25,900 pregnant/lactating rural women and their children up to the age of two years, for a total of over 50,000. The programme involves more than 100 health professionals in one NGO and one Government Department, plus over 500 women community activists in over 93 community based management communities. Programme sessions are conducted once every month. Programme attendance has proved very high, varying from 92–99%. The number of clinic visits for childhood vaccinable diseases has increased quite significantly. Immunization coverage has increased from 60% to 70%.

- *Institution Building* – The establishment of an indigenous NGO that would assume a major

role in addressing nutritional constraints and food security in the Gambia, and which would serve as a national counterpart agency to CRS, is recommended along with the integration of the revised programme strategy into the national primary health care programme.

One of the major achievements of the programme has been the establishment of programme management committees elected by participating mothers. This nationwide village level organization has created an institutional framework through which intervention in developmental activities, such as the production of sesame, has taken place. The enhancement of this structure is recommended.

- *Health education* – The education component addresses the women enrolled in the programme. They are taught simple health and nutrition techniques to improve their child's health and nutrition during a critical period. The lessons appear to be "something the mothers must endure to receive the food supplement". The talks or lectures are usually given by the programme manager who has received one week's training by CRS or a Community Health Nutritionist. There is no curriculum or planned schedule of lessons and the talks are memorized and presented in rote fashion with little participation of the mothers.

- *Growth monitoring* – Growth monitoring allows the mother to follow the progress of her child. However, the individual counseling provided to the mother is inadequate and often inappropriate. The feedback of information on master chart analysis is not used by the centres. As far as can be determined, there is no mechanism in the present programme for health and management personnel at centre level to utilize this information to improve activities. The analysis done by CRS staff is often too late to effect change in the community for the specific month.

- *Training* – Evaluation reported the training of the community programme managers, the responsibility of CRS, to be inadequate and ineffective with training time limited to one week and covering too much information. The classes are mostly lectures without provision for essential village-based practical experience.

- *Food Delivery Services* – The government, through an agreement with CRS, bears the cost of and is responsible for port clearance, warehousing, labour and inland transport of the food commodities. A verbal commitment to continue this support was given to the assessment team by His Excellency the Vice President of The Gambia. Nevertheless, the present food delivery services are less than adequate.

- At the port, clearance of the commodities is often delayed causing large demurrage costs (borne by the government), pilfering and spoilage.

- Inland transport of the commodities from the warehouse to the centre is often disrupted. The burden of this disruption is placed on the participating mothers who fund their own transport. If the government trucks are available, the mothers will pay for fuel. Labour charges for loading the commodities are also borne by the mothers despite the fact that the labourers are paid by the government.

- *Commodity Selection* – The CRS food aid package prior to programme revision consisted of rice, vegetable oil and non-fat dried milk (NFDM). The NFDM component of the package is no longer available and therefore corn-soy blend has just recently been ordered to replace it. Evaluation revealed that there are problems with the type of foods and the quantities of the food package. It has been found that the rice and the oil are consumed by all family members rather than the intended beneficiaries. Also, the quantities of rice and oil given are sometimes only sufficient for two to three days.

## **Outcome (Impact) Evaluation**

- Indicators: weight-for-age and now birth weight.
- Programme recipients, i.e. targeted recipients.
- Assessment of impact on various age groups and their duration in the programme.



For the new programme, evaluation is inbuilt to assess several bench marks as per objective set. (See Annex 4.2). The revised programme recently started and preliminary evaluation is due in mid-1991.

**Annex 4.1: Chronology of Factors leading to perceived Need for Changes in the Health and Nutrition Programme (HNP)/CRS – The Gambia**

<b>CRS/Africa Region</b>	<b>CRS/Gambia</b>	<b>GOTG Min. of Health</b>	<b>GOTG Drought Relief Prog.</b>	<b>USAID Mission</b>	<b>AID/W</b>
<i>Sept. 1986</i>	<i>1985–1988</i>	<i>1987–1988</i>	<i>1985–1988</i>	<i>May 1988</i>	<i>1989</i>
West Africa Regional Office criteria for management review of Title II PL480 programmes.	Success of sesame production by HNP participants.	Five Year National Health Plan with maternal supplementation and target for low birth weight.	ERP adjusts GOTG policies and expenditures	Present HNP strategy unsatisfactory. 1989–1991 MYOP conditionally approved based on a satisfactory 1988 evaluation.	Revised MYOP guidelines with emphasis on measurable programme objectives.
<b>Review Mandated</b>	<b>Increased Production and Consumption of Nutritious Food</b>	<b>GOTG Identification of Nutrition Strategy and request for Assistance.</b>	<i>1987</i>	Concerns: – disincentive to production	<b>Need to Quantity Impact of HNP.</b>
<i>May 1987</i>	<i>1981–1987</i>	<i>– 1987</i>	DRC advises intent reducing\eliminating GOTG provision of inland transport	– financial burden to GOTG	
Revised ADG Criteria for institution building and reduced operability.	Review of seven years Anthropometric Data	PHC System is introduced and developed.	<b>Uncertainty of Inland Transport</b>	Preference: – Monetization and/or phase out of food.	
<b>Identify Implementing Counterpart Institution</b>	<b>Rural Malnutrition remained High and Increased 1985–1987.</b>	<b>Technical Expertize at Community Level for Health and Nutrition</b>		<b>Satisfactory Evaluation required to continue Programme</b>	
<i>March 1988</i>	<i>May–Oct 1988</i>				
Participant Contributions must be managed by counterpart after 30 September 1989,	In-house discussions; Liaison with GOTG Medical and Health. USAID, potential counterpart agency;				
<b>Dissemination of Funds for CRS Management of HNP</b>	Sector studies on: Health Care System Nutrition Impact Study Socio-Agro-Economic				

	Study HNP actual management at centre level					
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*Acronyms*

- ADG – African Development Group
- CRS – Catholic Relief Services
- HNP – Health and Nutrition Programme
- GOTG – The Government of The Gambia
- ERP – Economic Recovery Programme
- DRC – Drought Relief Programme
- MYCP – Multi Year Operational Plan

**Annex 4.2:** Summary of Institutional Support for Health and Nutrition Project, the Gambia

The goal of this project is to improve the quality of life of rural Gambians by strengthening community groups and national institutions involved in health and nutrition with a simultaneous phase-over from imported food aid to local foods for use in interventions.

The project was designed after a year of discussion and debate on the appropriateness of the traditional CRS Health and Nutrition Programme. The new plan is based on current thinking and research and current CRS policy on its role in food programmes and building local capacity. Institution building is, in fact, the cornerstone strategy of the project as CRS phases out of its traditional operational role in the Title II Health and Nutrition Programme (HNP) and begins to support the efforts of local counterparts that are accepting responsibility for the programme. There are three counterparts in this phase-over and each is assuming a role that is appropriate for the organization and builds on its strengths. The three are linked in a manner that will encourage an efficient and effective partnership between the public and private sector in The Gambia.

The Gambian Food and Nutrition Association (GAFNA) is the primary counterpart and it will assume national level coordination of the Health and Nutrition Programme (HNP). GAFNA will assume responsibility for recipient contributions, phase-over of the target area to one that coincides with the MOH Primary Health Care System, phase-over of the target group to pregnant/lactating mothers, design and implementation of programmes for community based health and nutrition education, and research and development of weaning food mixes and maternal supplements.

The Medical and Health Department (MHD) of the Ministry of Health is the technical counterpart. The Primary Health Care System is its strategy for delivering care to the rural communities. The CRS HNP will be merged into this system to encourage an integrated approach in the targeting of resources to nutritionally vulnerable populations. The new HNP programme, coordinated by GAFNA, will rely on MHD personnel to provide all of the health and nutrition monitoring interventions.

Community management groups are the third counterpart. These groups of women are based on a traditional and strong grouping of women called *kafos*. They will collect the recipient contributions and assure that all of the nutrition and community activities are organized and implemented.

The second strategy in this project is a retargeting of resources. First, the geographic area will be shifted from the former CRS clinics to the area served by the Primary Health Care System. Second, the target group will change from children under-Five to pregnant/lactating mothers and their children until they are two years old.

The third strategy is the phase-over from imported Title II commodities to locally grown commodities to be used for maternal supplements and weaning food. Trials will be held in selected villages before the final recipe is developed and a plan for nationwide use is designed. Phase-out of Title II commodities is linked to the introduction of the locally grown supplement.

CRS will be responsible for the phase-out of Title II commodities in those villages that are not part of the PHC system and the provision of support to the villages that want to initiate other projects. CRS will also continue to be responsible for the management of the Title II food logistics as the commodities are shifted to the PHC villages. The Government of The Gambia (GOTG) will continue to be responsible for port clearances, central warehouse provision and inland transportation. In 1992, CRS will be in a position to project a time frame for the eventual phase out of Title II activities and to decide on its continuing role in food logistics.

Total cost of the five year programme is \$13,829,750 of which \$1,717,270 or 12.4% is requested of CRS. Other cash sources in the budget include \$534,600 in participant contributions, \$46,700 from GAFNA, and \$148,050 from USAID. In kind contributions include \$195,200 from participants; \$8,818,550 from USAID; and \$2,369,380 from the Government of The Gambia.

CRS is requesting a first phase three year financial commitment of \$990,230 (out of a total project cost of \$8,719,960). CRS funds will pay personnel costs, \$385,820; transportation, \$332,930; training, \$155,480; commodity costs, \$28,900; administration, \$85,190 and evaluation costs at \$1,910.

CRS believes this project is an appropriate intervention addressing two major problems in the country, i.e. high rates of malnutrition of the nutritionally vulnerable populations and the lack of capacity of local institutions to reduce these high rates.

## **5. Improving Child Nutrition, Weaning Food Project, GHANA**

### **Professor Orraca–Tetteh**

#### **Objectives:**

- To provide facilities for the preparation of community–based weaning food.
- To train community members to manage the project.
- To improve the nutrition of the weaned infants and thus prevent malnutrition.

**Duration:** 1986 up to the present.

**Implemented by:** The Nutrition Division, Ministry of Health, in collaboration with the Department of Community Development. The project has been in operation for three years.

**Budget:** Support for the project has been provided by UNICEF who have donated corn mills, vehicles and met programme expenses. The World Bank and the World Health Organization are also providing some support. The Government of Ghana provides technical and supervisory staff.

UNICEF	US\$ 600,000 and 45 Corn Mills
World Bank	US\$ 85,000 and 50 Corn Mills
WHO	US\$ 7,000 and 5 Corn Mills

#### **Programme Components:**

- Project site selection was based on the following: evidence of serious nutrition problems; no corn milling facility in the area; a sizeable population; a strong women's group; and community contribution.
- Baseline data collection.
- Provision of corn mills for the community.
- Training of workers, training of trainers, and training of community participants in operation of the mill and project management.
- Nutritional surveillance.
- Programme monitoring.
- Nutrition and health education.

#### **Most Successful Aspects:**

- Created awareness of the need to use local foods to formulate good weaning mixtures.
- Over one hundred communities in various parts of the country have initiated the project.
- Several requests, by various groups, for education and demonstration on the preparation of Weanimix.

### **Programme information on specific Workshop themes**

**Planning:** The project was initiated by the Nutrition Division of the Ministry of Health with support from UNICEF, World Bank, WHO, and the Government of Ghana. The project originated as a result of information on increasing malnutrition in weaned children due to use of poor weaning foods, preliminary data on nutritional status of infants and children obtained by Nutrition Officers in the regional areas and recommendations from the 1974 Nation of Nutrition Conference.

**Targeting:** Targeting is to whole village communities, with a focus on women of child-bearing age in each community.

**Staff Selection, Training and Supervision:** Staff included regional nutrition officers, nutrition officers, technical officers, community development officers, village health workers, community volunteers, members of the district health management teams, and active women's groups. Community volunteers and members of the district health management team were trained by nutrition officers and community development officers. Overall supervision was provided by the Nutrition Division, Ministry of Health.

**Community Participation:** Community participation included discussions with members of the community concerning the project and its implementation. Village Weaning Food Project Committees were involved in planning and implementation, including the running and maintenance of the mill, fixing of grinding fees, supervision of correct compounding of the Weanimix, and proper accounting.

**Management Information System:** Growth monitoring of beneficiary children in nutritional surveillance is conducted. Visits by nutrition officers and community development officers provide information on the state of the project. Evaluations of some of the projects are being undertaken. These will be used to decide what modifications and additional training are necessary.

**Sustainability:** The programme should continue, but with proper training of the community leaders in project management.

## **6. Integrated Child Development Services (ICDS), INDIA**

**Dr M. Chatterjee**

### **Objectives:**

- To improve the nutrition and health status of children aged 0–6 years.
- To lay the foundations for proper psychological, physical and social development of the child.
- To reduce the incidence of mortality, morbidity, malnutrition and school drop-out.
- To achieve effective coordinated policy and its implementation amongst the various departments to promote child development.
- To enhance the capability of the mother to look after the normal health and nutritional needs of the child through proper nutrition and health education.

**Duration:** The scheme commenced in 33 blocks<sup>1</sup> in 1975–76; 67 blocks were added in 1978–79. During 1979–1981, 100 more blocks were taken up. During the Sixth Five Year Plan (1980–85), the total number of project blocks was increased to 1000. It was planned to add a further 1,000 blocks during the Seventh Plan (1985–90), but in fact by 1990, there will be a total of around 2,452 project blocks in the country.

<sup>1</sup> A block is the smallest rural revenue unit consisting, on average, of about 100 villages and 120,000 people. There are a total of 5,417 blocks in the country.

**Implemented by:** State Governments, with monetary assistance from the Central Government. The nodal department may be Social Welfare, Women and Child Development, Rural Development or Health, depending on the state. Health departments always have responsibility for the health component.

**Budget:** *Internal financing* – The budget estimate for 1988–89 (covering 1,736 project blocks) is Rs. 1,595 million (approximately US\$100 million). These are largely central funds allocated to the states. The cost of the supplementary food is met by state governments and, although about 55% of the food is provided by CARE and WFP, the collection and distribution costs are borne by the states. The *external financing* component is small, with about 60 projects (3%) assisted by bilateral donors; and about 3.5% of total programme expenditures obtained through UNICEF assistance.

### **Programme Components:**

- *Supplementary Nutrition* is provided to 0–6 year olds and pregnant and lactating women. The "most needy and malnourished" are selected as beneficiaries. Women belonging to families of landless labourers, marginal farmers, scheduled castes or tribes, or very low income groups, or requiring feeding on health grounds are selected. Children are enlisted on the basis of mid–upper–arm circumference (MUAC under 13.5 cms) and weight–for–age (Grade II and below) measurements. Special attention is paid to screening children and mothers designated 'at risk' on the basis of a list of indicators. Children who come to the preschool centres (*anganwadis*) for preschool education are also fed.

Moderately malnourished children receive a food ration of 300 kcals and 8–10 grams protein per day for 300 days in the year, while severely malnourished children receive twice this amount. Pregnant/lactating women receive 500 kcals and 20–25 grams protein from the third trimester of pregnancy up to six months of lactation. Ready–to–eat supplements are used in some areas, while in others locally available cereals are cooked and fed on site.

Children aged 1–5 are also given six–monthly doses of vitamin A (200,000 IU). Iron supplements are provided for 100 day periods based on an assessment of need by the Auxiliary Nurse Midwife (ANM). Children receive daily doses of 20 mg iron +0.1 mg folate, while pregnant/lactating women receive 50 mg iron + 0.5 mg folate.

- *Immunization.* BCG, DPT, OPV and measles vaccinations are provided to all children under six according to the international schedule, and two doses of tetanus toxoid are provided to pregnant women. Immunization is carried out by health staff.

- *Health check–ups* include antenatal and postnatal care for women, care of neonates, and 3 to 6–monthly checks of all children under 6. These are provided by health staff. 'At risk' subjects receive special attention. *Anganwadi* workers (AWWs) also have a medical kit to provide a few simple treatments and first aid.

- *Referral services.* Serious ailments requiring specialized treatment or care are referred to PHCs or taluk/city/district hospitals by the MPWFs.

- *Nutrition and Health Education.* Basic health and nutrition messages are imparted to all women between 15 and 45 years in order to increase awareness of child care needs and capacities to care for children. Mothers of severely malnourished children are to receive special attention. Both the AWWs and health staff have roles in this component.

- *Non–formal Preschool Education.* Children between 3 and 6 years are provided preschool education to develop motor skills and coordination, social interaction, 'desirable attitudes', hygienic habits, etc. Play and other activities are organized with inexpensive locally available materials and toys by AWWs.

### **Programme information on specific Workshop themes**

#### **Planning:**

*Origin of Project* – In response to the recommendations of inter-ministerial study teams set up by the Planning Commission, and a National Policy for Children adopted by the Government of India in 1974, a blueprint for ICDS was drawn up by the Ministry of Social Welfare. The key 'trigger' for ICDS was the decision to integrate services for preschool children and pregnant/lactating women which had previously existed as separate welfare, nutrition or preschool schemes. Levels of malnutrition and child mortality were of great concern and there was an implicit admission that existing programmes did not deal with these effectively. Analysis of these schemes suggested (a) that 0–6 year olds should be the target group; (b) preschool centres (*anganwadis*) should be the focal points for service delivery; (c) health and nutrition services should be strong inputs; (d) the package of services should be integrated; (e) coverage of entire blocks was necessary rather than just a few 'model' villages in each block; (g) mothers' capacities should be strengthened through non-formal education.

*Pre-programme Planning* – The Department of Women and Child Development (Ministry of Human Resource Development) indicates the number of additional project blocks to be covered in any given year to the state government. The nodal department at the state-level then prepares a list of possible project blocks in consultation with District Coordination Committees. Preference is given to areas which are predominantly inhabited by scheduled castes or tribes, which are economically backward or drought-prone, which have widely prevalent nutrition deficiencies or poorly-developed social services, and to urban slums. During the Sixth Plan period, emphasis was also placed on converting existing supplementary nutrition centres into ICDS *anganwadis*. The final selection is made by the central ministry. After the selection of project blocks, a detailed project proposal is prepared by a Block Development Officer (BDO) or Child Development Project Officer (CDPO). The Block-level Committees are involved in the process of selecting villages and *anganwadi* workers.

Planning is largely normative. States are allocated project blocks according to their population share of the total number to be sanctioned in any given fiscal year. The number of *anganwadi* centres (AWC) to be established in each block is decided by location. A rural or urban project consists of 100 AWCs (one per 1,000 people); a tribal project consists of 50 AWCs (one per 700 people). However, flexibility is maintained to ensure as complete coverage of the blocks as possible. The number of AWCs may be increased in populated blocks and the AWC to population ratio may be decreased in the case of small villages or sparsely populated areas. In large villages, additional AWCs are established for every 1,000 people. Budgetary allocations are according to the total number of AWCs in a block, but include certain fixed amounts for block-level administration.

During a pre-project phase of about three months, project staff (e.g., CDPO, and field supervisors) are to establish contact with village communities, undertake surveys to select AWC sites along with community members, identify local women to be appointed as AWWs and orient them. Community cooperation and contributions are also to be sought at this time, and information about the programme is conveyed to communities.

*Implementation/Modification Procedures* – The ICDS pattern is largely standard, but modifications are made through iterative processes between central and state levels, and between state and block levels. They depend largely on the identification of special problems and constraints by the affected level and negotiations with the sanctioning authority. 'Feeddown' is provided as a result of management information collected on infrastructural positions at the block level and passed up through state to centre. (In some areas, there is also a district layer.)

### **Targeting:**

*Method of Targeting* – The programme is targeted by area, according to socio-economic criteria, and on 0–6 year olds and pregnant/lactating women, as described above. Within project blocks, attention is also focussed on children and mothers with socio-economic disadvantages. In principle, the programme provides food supplements for children in the moderate and severe malnourished categories (although, in practice, all children who come to AWCs are fed). It is widely believed that self-exclusion of better-off groups takes place, so that the programme's objective of focussing on the disadvantaged is also met in practice.

*Total and target populations, and coverage* – In March 1989, there were 1,952 project blocks, with an estimated total population of 165 million, including 28 million 0–6 year-old children, and 6.6 million pregnant/lactating women. In the current fiscal year this coverage may increase by as much as 25%, with the addition of 500 more project blocks. Available data summarize the expected coverage of beneficiaries with specific services, with less attention being paid to actual population denominators. As illustration, in March 1989, the supplementary nutrition component extended to an estimated 13.6 million beneficiaries – 11.4 million children aged 0–6 years (40% of the target group), and 2.2 million mothers (30%). While variations in

coverage with food supplements are observed in relation to food supply interruptions, there is little if any monthly variation in coverage of the preschool education component. Coverage with health services varies markedly by state and block due largely to infrastructural factors. For example, immunization achievements are higher in blocks within districts which have been covered by the Universal Immunization Programme.

**Staff Selection, Training and Supervision:** The *staffing pattern* is described below.

Village/Field level

Anganwadi Worker (AWW)	1 per AWC	Part-time field workers paid honoraria
Helper	1 per AWC	
Mukhya Sevika (MS)	1 per 20 rural or 17 tribal AWWs	Field Supervisors

Block level

Chief Development Project Officer (CDPO)	1 per block	Administrative in charge
Assistant CDPO	1 in rural blocks with more than 150 AWCs or tribal blocks with more than 100 AWCs	

(In addition, there are 5 clerical workers/support staff at the block level.)

District level

District Programme Officer (DPO)	1 per district in which more than 80% of blocks are covered by the programme	
District Training Team:	1 team per district in which more than 80% of blocks are covered by the programme	
1 Nutritionist		
1 Preschool Instructor		
1 Health Instructor		
1 Social Work Instructor		

(In addition, 8 clerical workers at the district level.)

Slate level

ICDS Director	1 per slate
Programme Officer/Deputy/Joint/	2-4 per state

Additional Director

(There are an additional 12-18 office workers at the state level.)

Central level

Joint Secretary	1
Director	1
Deputy Secretary	1
Under Secretary	1

Programme Officer	1
Research Officer	2
Section Officer	3
Assistants	7
Senior Research Inv.	2
Research Inv.	1
Clerical Staff	19

Except for AWWs and Helpers, all staff are full-time salaried government employees. The village workers are paid an honorarium and are expected to work about 4 hours per day, 6 days in the week. Lines of command are clearly vertical. In March 1989, there were 1,923 CDPO posts, 11,182 MS posts and 221,369 AWW posts sanctioned, of which about 80%, 76% and 83% respectively, were filled.

In addition to ICDS staff, various *Health staff* have programme responsibilities:

#### Village/Field level

Multipurpose Worker Female (MPWF) or Auxiliary Nurse Midwife	1 per 5,000 population, i.e. 4–5 villages or AWCs
Health Supervisor or Lady Health Visitor (LHV) or Public Health Nurse (PHN)	1 per Primary Health Centre for 30,000 people, 30 villages or 6 MPWFs
Medical Officer	1 per Primary Health Centre for 30,000 as above. (This is part of a proposed, not yet fully implemented, pattern.)
Medical Officer (PHC)	1–2 per 'upgraded' PHC/Community Health Centre (CHC) at the block level (120,000 population)

These workers interdigitate with the ICDS workers, but a separate vertical line of command is maintained within the health system from field to block, district, state and central levels. At all levels, there are coordinating committees which include, in addition to ICDS and health staff, other officials such as the Block Development Officer, District Collector, etc.

#### **Staff Selection Procedures:**

*Anganwadi Workers (AWW)* are selected from within village communities, by the CDPO on the recommendation of village leaders. Other officials such as the BDO, *Panchayat* president, etc. may also be involved in the selection process. They are expected to be women who have matriculated (i.e. with 10 years of schooling), aged between 21 and 45 years, who reside in the village. However, the educational qualification may be relaxed to 8 or even 5 years in areas where more educated women are unavailable. In practice, the residential requirement is often also relaxed, sometimes in order to recruit more educated women.

#### **Helpers are local women identified by the AWW and MS.**

*Mukhya Sevikas/Supervisors (MS)* are also selected from among existing cadres (e.g. Gram Sevikas of the Rural Development departments) where these exist, or by direct recruitment. Women between 21 and 45 years of age who are college graduates in Social Work, Home Science, etc. are chosen. Supervisory skills and mobility are valued.

*Child Development Project Officers (CDPO)* are selected from among existing state cadres or by direct recruitment following public advertising. Preference is to be accorded to women, and a Master's degree in Child Development/Social Work/Home Science/Nutrition or an allied field is required. Candidates are interviewed for their 'dynamism', team-work, managerial and leadership abilities.

#### **Staff Training:**



*Anganwadi Workers (AWW)* are trained for three months pre-service, usually at district-level Anganwadi Training Centres. The training syllabus covers the tasks they have to perform at AWCs, encompassing an orientation to ICDS, child development, non-formal preschool education, health and nutrition, population education and community contact and communication. Practical field training is stressed and hands-on training is to be given in subjects such as growth monitoring. Literacy and numeracy are included in the training of semi-literate or illiterate workers.

*Helpers* are oriented to their roles for one week at Anganwadi Training Centres.

*Mukhya Sevikas (MS)* are also trained for three months at a state Middle-level Training Centre. The syllabus is also job-oriented, and stresses the development of supervisory skills, programme management, administration and public relations.

*Child Development Project Officers (CDPO)* are trained for 3 weeks at the National Institute of Public Cooperation and Child Development, Delhi (NIPCCD) and its three regional centres. They are oriented to the content of the ICDS scheme and trained in administration and management, supervision and monitoring, coordination and communication, public relations and community contact, team work and leadership, and recording and reporting. They are placed in the field for a brief period to familiarize themselves with the implementation of ICDS.

The major responsibility for training is vested in the NIPCCD and its three regional centres. It trains CDPOs, MSs, and the instructors for the Anganwadi Training Centres. It identifies and guides both the Middle-level Training Centres (of which there are 22) and the district-level Anganwadi Training Centres (of which there are over 300) in the country.

In addition to training these line ICDS workers. Block Development Officers and Health staff receive a one-week orientation to ICDS. While the former group is trained by NIPCCD, the latter receive training from medical consultants appointed to ICDS from among medical colleges dispersed throughout the country. The state departments of health and the Central Technical Committee at the All-India Institute of Medical Sciences, Delhi, coordinate this training. State, regional and district level officials concerned with ICDS are also oriented by NIPCCD and the Central Technical Committee.

*Refresher Training* is provided to AWWs for two weeks after two years on the job, while MSs and AWTCLs are retrained "from time to time". The system of monthly meetings at the sector level for AWWs and at the block-level for MS, MPWFs, and Health Supervisors is also intended to provide in-service training.

**Supervision:** The supervisory structure and ratios are given above. Supervision is strictly a line affair from village through block to the state level. The main supervisory strategies are: field (inspection) visits carried out by MSs to each of the AWWs in their sector at least once a month, and a monthly meeting for all AWWs in each sector. During field visits, the records, registers, stocks, and accounts are checked and the AWW's monthly progress report is reviewed. Other community contact tasks are also to be performed at this time. AWWs also attend a monthly meeting at the block level led by the CDPO, possibly at the block Public Health Centre. MSs attend these monthly meetings and also have another monthly contact with the CDPO. The CDPO supervises MSs by field visits and also pays surprise visits to AWWs in her block. MPWFs are supervised by Health Supervisors, usually through the mechanism of monthly or twice-monthly meetings at the block level, at which the block leader may also be present.

**Community Participation:** ICDS defines community participation as: community awareness of the needs of the young child; participation in programme planning; awareness of the scheme and conviction about the impact of the services; and adoption of new child care practices. While the entire community is to be involved, the focus is on mothers of young children. Initially, the CDPO is responsible for eliciting community involvement, while later, the AWW, MS and CDPO are responsible for continuing it. As described above, local representatives in block and district level committees are involved in the selection of project sites, workers, etc.

The AWW is a community member who undertakes the programme's work for a small honorarium. She is selected by village leaders along with the CDPO or block-level committee. Local village committees are intended to have responsibility for running AWCs and supervising AWWs. Communities are also involved in the selection of sites for AWCs, and may sometimes donate space for use as an AWC. In some instances, communities have contributed building materials or labour for AWC construction, provision of water supply to AWCs or the creation of sanitary conditions. Womens groups, youth clubs or farmers clubs are sometimes associated with the programme and help to raise contributions in cash or kind. Such groups may also assist

the AWW to identify needy beneficiaries in the community.

**Management Information System:** An MIS system flows from AWW to sector, block, district, state and central levels. The AWW maintains seven registers for Survey, Immunization, Services to Pregnant/Lactating Women, Service to Children, Food Stocks, Diary and Visits, and non-food Stocks, in addition to child health cards and growth charts. A monthly progress report provides data on project infrastructure and stocks, personnel and supervisory visits, beneficiaries (including children's MAC zones), services provided (including immunization, vitamin A, iron-folate), health checks and referrals, births and deaths and community participation. A monthly monitoring report also deals with health staff, services, supplies and vital events. The formats for these have evolved over the life of the programme. While the initial emphasis was on health and nutrition services, attention has been paid more recently to the development of 'social component' indicators. It is also proposed to integrate monitoring of all components so that only one report emanates from the AWC.

The monthly progress reports are consolidated by the Department of Women and Child Development, and the monthly monitoring reports by the Central Technical Committee. A quarterly progress report is prepared at the centre. Computerized output is now available, which is used to provide feedback to the states. Some states are undertaking the same process to feedback to the district or block levels. These reports are used primarily to ensure administrative follow-up of lacunae that may emerge with regard to, for example, staff positions or food supplies. At the lower levels, these reports have an educational purpose which is carried out within the context of monthly meetings and field supervision visits. While there are inbuilt denominators for certain services (e.g. supplementary feeding), this aspect of the system is less well developed.

Subjective monitoring occurs as reports are prepared up the levels, and feedback is provided within both the health and ICDS systems.

An evaluation of the initial 33 pilot ICDS blocks was carried out by the Programme Evaluation organization of the Planning Commission in 1977 which rates projects according to programme inputs and coverage (process indicators). There is no regular system of independent evaluation. However, the Central Technical Committee conducted Annual Surveys on health and nutrition status through its medical consultants between 1976 and 1988. In 1987 and 1988, studies were carried out on infant and child mortality in the project blocks. Numerous reports of micro-studies conducted by independent researchers in institutions such as medical or home science colleges are available. All these have fed into a 'collective wisdom' on which policy and management changes have been proposed and implemented over the 14 year life of the programme. Such changes are incremental rather than related to programme expansion or phasing. They may emanate also from small-scale innovative/operations research efforts.

**Sustainability and Replicability:** There is little doubt that ICDS should and will continue – first, because of its excellent concept and feasible implementation, and second, because there is today widespread interest in and political commitment to its goals in general and to its contents in particular. Per capita expenditure on ICDS is roughly 15% of per capita expenditure on health and family welfare (based on 1985–86 levels). The figures are not strictly comparable as the ICDS budget is largely allocated under Women and Child Development; they are used here to suggest that ICDS is an affordable large-scale public sector programme.

There is also no doubt that a large number of improvements are required in the programme to fructify its mandate, particularly in the matter of integrating health and nutrition components, but also generally in terms of improving process and performance related to preschool education, nutrition and health care. Most of these requirements are issues of quality control and may not require large additional funds. However, continued expansion of the programme will depend on larger allocations and perhaps call for re-allocations within the health and nutrition sectors.

The major constraint to continued expansion is likely to lie in the arena of human and institutional resources required (for example, to keep up with training requirements) rather than in finance. While decentralization provides a partial answer to this problem, attention to building up local capacities has not been adequate.

## 7. Tamil Nadu Integrated Nutrition Project (TINP), INDIA

**Ms J. Balachander**

**Objectives:** To reduce malnutrition and consequent high mortality in children under-three; to improve their health and nutritional status and that of pregnant and lactating women.

## Operational objectives:

- Nutrition surveillance through regular growth monitoring of all children in the age group 6–36 months.
- Help rehabilitate the malnourished and head off proximate malnourishment through short term food supplementation.
- Reduce the mortality and morbidity due to protein–energy malnutrition and specific nutrient deficiencies.
- Improve the nutritional status of pregnant and nursing women.
- Strengthen health services to provide adequate back–up support to the nutrition effort.
- Improve home child care and feeding practices through education.
- Improve the efficiency and the impact of the above through sustained performance monitoring and evaluation.

**Duration:** October, 1980 to March, 1989.

**Implemented by:** The Government of Tamil Nadu/Department of Social Welfare and TINP Project Coordinator's Office through the Directorate of Social Welfare and the Directorate of Public Health and Preventive Medicine, with external support from the World Bank.

**Budget:** The programme was designed to be highly cost–effective. It has been estimated that "adjusted" annual costs of TINP are roughly Rs. 113 million, or Rs. 12,500 per centre. This works out to a cost of nearly Rs. 10 per person living in the target area per year. Thus the per capita (not per beneficiary) cost of the program is roughly US\$ 0.75 per year at current exchange rates (Dapice, 1986). A detailed budget is included in Annex 7.1.

**Programme Components:** The project had three major components to achieve the operational objectives already outlined: nutrition, health, and communications. Project implementation was to be continuously monitored by the monitoring wing and periodically evaluated by an outside agency.

- **Nutrition services delivery** formed the core of TINP I. A Community Nutrition Centre was established in each village (population 1500) and run by a Community Nutrition Worker (CNW). The CNW surveyed all households in the area (survey updated every quarter) and registered target children in the age group 6–36 months. These children were weighed each month and their weights plotted on growth charts to determine their nutritional status on a weight–for–age basis and to monitor their growth. Children determined to be at risk (i.e. with Grade III/IV severe malnutrition, or showing signs of growth faltering – losing weight, failing to gain weight or showing inadequate weight gain between successive weighings) were admitted to a short term supplementary feeding programme. Pregnant women were also selectively fed. The supplement consisted of a cereal–pulse mix which was roasted, ground and sweetened with jaggery. The CNW administered Vitamin A prophylaxis (a 200,000 IU mega–dose every six months) to all children, along with deworming treatment (piperazine citrate, three times a year). Iron and folic acid was distributed to pregnant/lactating women. Monthly weighing sessions also provided workers the opportunity to check on the children's health needs (e.g. immunisation, management of diarrhoeal episodes) and to educate mothers.

- In recognition of the synergism between nutrition and health, it was decided to simultaneously upgrade the infrastructure, supply position, and worker skills in the existing health system, in order to *improve the delivery of mother & child health services*. The project helped to deploy and train one female multi–purpose health worker (MPHW) in a health sub centre for a population of 5000 (4–5 villages), and in the absence of a village based health care worker, sought to establish a functional linkage between the nutrition and health care systems through the CNW. Specifically, those children who failed to respond to supplementation were to be referred to the health worker by the CNW for diagnosis, treatment and referral upward if necessary. The MPHW was also expected to deliver her

package of MCH services through the Community Nutrition Centre, with the help of records and contacts made by the CNW. They were to make joint house visits for the purposes of nutrition and health education.

- Both the health and nutrition components were to be reinforced by a *Communications Component* which was designed to: i) make mothers more fully aware of the nutritional needs of children; ii) bring about better intra-family food distribution; and iii) enable the community to better handle its health and nutritional needs. The strategy used was to encourage families to adopt a limited number of specific practices to improve the nutrition and health status of children. These included the importance of colostrum and breast feeding, timely introduction of solid foods to supplement breast milk, home management of diarrhoea, immunization, and improved environmental hygiene.

### **Programme information on specific Workshop themes**

**Impact Evaluation:** The project covered about 43% of the state's rural population, reaching 1.1 million children (in the age group 6–36 months) and 0.28 million pregnant/lactating women. The terminal evaluation of the project found that the results with regard to changes in the nutritional status of children were impressive. A 55.5% reduction in severe malnutrition (Grade III/IV) was noticed over a period of 72 months in Phase I of the project. The reduction in subsequent phases was 24% over a period of 48 months in Phase II, and 35% over a period of 38 months in Phase III. In each phase, there was a corresponding upward shift in the overall grade distribution with an increase in the higher grades. The percentage of children in feeding (number of children fed/number of children weighed) declined from 40% to 25% by the end of the project. The evaluation also found the effect of the project to be long lasting. Children in the age group 37–60 months, who had been in the project, were enjoying better nutritional status than their counterparts who had not. Project impact as measured by the monitoring wing was even more impressive, owing to differences in baseline estimates.

The evaluation results show a spectacular fall in the clinical signs of malnutrition from 21.4% in the pilot block at the time of base line survey to only 3.4% at the time of terminal evaluation. The infant mortality rate in the project districts was found to have declined 29% in Phase I and 27% in Phase II. The reduction in Phase III was estimated to be 13%.

**Process Evaluation:** The terminal evaluation estimates that the effective participation rate (i.e. % of children weighed) was 77.2%. The measure of coverage as revealed by monitoring data was higher at 89%. The difference arises from the difference in the denominators (i.e. target population). While monitoring data used the CNC survey registers to determine the number of children in the target age group, evaluation was by sampling. The evaluation revealed that the CNWs survey may have been incomplete, excluding hamlets and less accessible areas of the village. However, coverage has increased remarkably and consistently over time so that one may expect that these levels will be reached in the later phases in the next few years. Reasons for exclusion are estimated to be problems of access (78%), refusal by mothers for reasons of sentiment (14%) and social status (3%). Overall coverage of target children has been excellent.

The monthly weighing was found to have been carried out regularly both on the basis of records and enquiry. The participation rate in supplementary feeding was 96.7% for the project area. On the basis of the evaluation sample, it is estimated that the rate of eligible children not participating in feeding was a low 7.5%. Children ineligible but participating was put at 2%. By and large the pattern of food distribution was deemed to have conformed to the ideal. Practically all mothers interviewed for the purpose of evaluation stated that the supplement was palatable and there had been no problems with digestibility. Most reported little sharing of the supplement or substitution for home feeding.

Although growth monitoring by the CNW was found to be regular and accurate, the maintenance of growth cards by mothers was disappointing. Enrollment of pregnant/lactating women in supplementary feeding was also poor, estimated at only 51% of those eligible. The low enrollment was attributed to the assigning of responsibility for their selection to the MPHWS, whose multiple responsibilities made her an infrequent visitor to the Community Nutrition Centre.

Coverage for deworming was estimated to have been good, while Vitamin A coverage, which had improved after the responsibility was transferred to the CNW from the MPHWS midway through the project, was still beset with problems of supply.

In respect to health services delivery, it was determined that there had been a reduction in the infant mortality rate and a clear decline in the incidence and hospital treatment of diarrhoea. DPT immunization was found satisfactory. In respect to other services, however, the coverage was determined to have been quite low and the nature of services provided quite weak. The input special to the project on the health side (i.e. the referral of children to the Primary Health Care system on failure to respond to supplementation) was also poorly implemented. Health service delivery was hampered by a number of structural problems within the health department, including multiple directorates, duality of control over key functionaries, a large number of vacancies, frequent transfers and lack of adequate training. The Government of Tamil Nadu has independently appointed an expert committee to go into the structural deficiencies of the health system. It is likely that significant changes in the existing structure will be recommended.

The Communications Component was evaluated to have been fairly effective. Significant improvements in knowledge, attitudes, and practices (KAP) of diarrhoea management and immunization were recorded. A wide range of skillfully packaged, appropriately targeted and appealingly presented communication materials was developed. Instructional materials for project functionaries and their training in communication skills have been particularly good. The component also played a significant role in bringing about inter-agency coordination at various levels in the organization. It was felt that consistent monitoring and the development of a coherent communication strategy with frequent feedback of results could improve the effectiveness of the component.

**Planning:** The Government of Tamil Nadu has been among the most aggressive of Indian States in its concern about malnutrition and interventions to effectively deal with the problem. Between 1970 to 1973, a Tamil Nadu Nutrition Survey (TNNS) was carried out under the joint auspices of the Central and State Governments and the United States Agency for International Development (USAID). The study was both a nutrition status report and an applied research study, and one of the most comprehensive and systematic efforts ever undertaken to assess the nutrition situation in the State. The TNNS principal conclusions were:

- About half the families in Tamil Nadu consume less than 80% of their calorie requirements.
- While some protein shortages occur, the most pressing need was for calories.
- Although economic growth and greater food production were necessary to close the calorie gap in the long run, some groups required urgent attention.
- The highest priority was for children under-three in whom malnutrition was a major cause of mortality.
- Pregnant/lactating women were the next highest priority because of the influence on the health and growth of the infant
- Food habits are major nutrition status determinants in Tamil Nadu, particularly among weaning children whose growth faltered dramatically across all income groups.

In addition, the Institute of Child Health at Madras had established the morbidity patterns among infants in the state which are contributing factors to malnourishment and a TNNS testing of a weaning supplement in one Tamil Nadu district demonstrated that food habits were amenable to change.

The Government of Tamil Nadu was fortunate to have its nutrition problems so clearly defined and the priorities spelt out. However about 25 nutrition projects were already being implemented in the State at an annual cost of about \$ 9 million. The Government was therefore unable to make any substantial additional commitment financially speaking, for nutrition and there was some uncertainty about the efficiency and impact of the existing interventions. Tamil Nadu sought IDA support to develop and install an improved system which would improve the targeting and lower the unit cost of the intervention.

The Government of Tamil Nadu proposed an intervention drawing on its own experience and from lessons learned in other developing countries. The project was discussed over 16 months of intense dialogue between IDA and the Government of Tamil Nadu and there was substantial refinement of the original project design.

The project adopted a focussed approach both in determining objectives and in ways of achieving them. The project was implemented on a block-by-block basis and phased in gradually over five years. In the first year the project design was tested in the pilot block and changes were made based on the pilot block review. The detailed monitoring and evaluation systems provided good information on aspects that worked and those that

did not and sufficient flexibility was built into project design to make changes as necessary. After the pilot block, the village rather than the population of 1500 was treated as the catchment for a CNC. It was originally proposed that the supervision would check weigh children and confirm the CNWs selection of children for supplementation. This was dropped in favour of enhancing the skills of the CNW and enabling her to do the job right. Instead of an average of three weights for selection to supplementation, a single weight was used for practical considerations. The communications component that was to be run by outside consultants was retained in-house and made use of the vast human resources within the project. The Project Coordinator was allowed a small discretionary Project Management Fund to carry out innovative experiments. The delay and uncertainty of bureaucratic procedure was side stepped by an Empowered Committee consisting of principal secretaries to Government to clear proposals expeditiously. Recruitment and training of personnel and procurement of materials was carefully scheduled in advance of each phase so that project implementation could proceed apace. In general, planning enabled the smooth transition of the project from a single block phenomenon to a programme covering 173 blocks in nearly one half of Tamil Nadu.

**Targeting:** TINP was a highly targeted programme. Although caloric deficiencies are common almost across the board in Tamil Nadu, the Tamilnadu Nutrition Survey (TNNS) identified the weaning child (under threes) and the pregnant and nursing mothers as the most vulnerable groups. Amongst these groups it was decided to identify those at risk by applying a set of entry criteria for supplementary feeding. For the under threes, these included at risk grade classification (grades III/IV – immediate entry into feeding) or signs of growth faltering –i.e. if a child loses weight or maintains the same weight between 2 successive monthly weighings in the case of children 6–12 months and three successive weighings in the case of those 12–36 months. There was also an inadequate weight gain criteria for children who gained less than 300 gms. on the basis of weighings as above. In that case, a child was placed in special observation for a month after the necessary weighings and brought into supplementation in the succeeding month if weight gain continued to be less than 300 gms. The child would exit the feeding program after 90 days if he/she had gained 500 gms. If not, she would continue on supplementation and would be referred to the health worker to determine reasons for nonresponse. The weight gain was preferred over the grade method for selection after the pilot project in 1980. However since the impact of the project on moderate malnutrition (grade II) has been lesser and slower than on severe malnutrition, it is proposed to modify entry criteria to include those with moderate malnutrition, for feeding, rather than only those who fail to gain weight.

In the case of PNW's a set of six criteria was used for selection to feeding:

- i) having a child currently enrolled for supplement
- ii) lactating simultaneously with pregnancy
- iii) fourth or more pregnancy
- iv) having oedema
- v) one parent families and
- vi) having twins

Targeting greatly improved the nutrition education component of the programme. Growth monitoring and promotion was implemented since feeding hinged on the results of weighing and mothers had to be educated as to why some children were selected for feeding and not others. It led to cost effectiveness since the percentage of children being fed was only a third of all children (the percentage further fell to use fourth of all children at the end of the project). Further, selectivity ensured that the few children who required special attention got it. There was an active effort to recruit those at risk by house visits rather than operate the centre on a drop in basis. Targeting also helped maintain the CNW's workload at a manageable level, enhancing the quality of her output. Selection was important in terms of preventing social and psychological dependency on the supplement and caused the project to focus on information and education as a means of sustaining community interest.

**Human Resources Development:** The success of TINP is in large part due to the outstanding human resources development of the nutrition staff. The focus, motivation and training of the individuals was clearly and consistently maintained to ensure excellent service delivery. The key players were the CNW and the CNI (Community Nutrition Instructress), both categories recruited exclusively for the project (see Annex 7.2). For the CNW, great emphasis was placed on her residence in the village and age and educational qualifications were often overlooked at the time of recruitment in order to meet this criterion. As a local woman and mother of a healthy child, the CNW enjoyed considerable credibility in the community and her own motivation to serve was high. Her presence in the village made it possible to establish contact with mothers outside normal working hours when most of them were unavailable or preoccupied with other duties.

An outstanding innovation in the project was the methodology of training for CNWs. Instead of the usual residential program in a training institution, CNWs were trained at the block headquarters (population 0.1 million). This arrangement enabled the CNW to commute daily and obviated the necessity of requiring village mothers to stay away from their families for any length of time. Secondly, the syllabus and training plan were designed by the CNI's who were both instructresses and second level supervisors. This had a double advantage: i) the training programme exhibited great familiarity with field situations; and ii) it enabled the instructress to continue to monitor the trainees and provide support in the field after the formal training was over. Great emphasis was placed in developing the communication skills of CNWs during training. Role play, group discussions and training in the use of communication materials were all carried out.

The last ten days of the CNWs training was done jointly with the Multipurpose Health Worker (MPHW) and the workers were taught to put project objectives in the context of their own villages. The training culminated in a meeting of the CNW with the village leaders to explain the programme and win endorsement for the project. A comprehensive manual for the field workers was developed by the communication wing.

As already mentioned, the CNI made continuous in-service training of the CNW possible throughout the life of the project. Bimonthly review sessions were used to sharpen skills in taking weights, plotting charts and keeping records. Special attention was paid to workers whose performance was identified as weak. As the basic skills and knowledge of the CNWs improved, in-service training was formalized by devising modules for training in specific skills and using district training teams of nutrition, health and communication staff in each block.

The high quality of the CNWs in TINP is directly attributable to the CNI. A young and highly qualified hand, she was expected to play two distinct roles – that of trainer and of "supervisor of supervisors", monitoring program implementation. Each task enhanced her capacity to do the other better and both linked her directly to individual workers and the CNCs. Since she was not the first level supervisor, she could perform the dual functions quite comfortably. It was also possible to remove her periodically from the field to update her skills without disrupting programme implementation.

**Community Participation:** The very design of TINP necessitated the full cooperation and acceptance of the community for project implementation. Basic to project design were at least three activities that flouted convention and were highly unacceptable to the community. The first was weighing, that was thought to attract the evil eye; the second, selection for supplementation that went contrary to all other feeding programmes then implemented; and the third was nutrition education by the relatively young CNW in the face of conventional wisdom and traditional practices recommended by village elders. The success of TINP can be judged by the extent to which these three activities have become fully institutionalised. It is indeed remarkable that the project staff were able to persist with an unpopular design and subsequently win full acceptance and participation in the project.

The project employed a series of mechanisms to be able to win community support. First, the CNW was a local mother who had a healthy child of her own and, as such, enjoyed high credibility in the community to begin with. Her ability to communicate effectively was a criteria for her selection and these skills were further enhanced by constant training and a wide range of communication materials to assist her in her role as educator. She received back-up support and reinforcement from the MPHW, the Community Nutrition Supervisor (CNS) and the Community Nutrition Instructress (CNI), the block level trainer, in her recruitment and education activities.

A second mechanism to win community support was the Women's Working Group (WWG). A group of 15–20 women identified by the CNW as progressive, capable of working together and interested in the activities of the CNC was formed to promote project activities. The group was initially given health and nutrition training and some members are now quite proficient in using flipcharts and flannelgraphs. The group meets once a month at a cooking demonstration where nutritious and easy-to-make weaning food recipes are demonstrated by the CNW. To sustain the interest of the WWG members over the years, the project recently experimented with community self-survey and "adoption" of families by the WWG members.

One of the most significant experiments in the project was the use of the WWG for local food production. The preparation of the weaning food for supply to local centres by WWG members under the guidance and supervision of the Taluk Project Nutrition Officer brought the community much closer to actual project implementation. It also had the side benefit of providing some economic incentive to women who had been actively promoting the project activities on a voluntary basis. The educational impact in terms of the preparation of appropriate weaning foods must also have been considerable. Local food production met about a third of the project's need for the supplement. Standardization and quality control were problems with this

type of production and it is now proposed to transfer local production to better equipped and better monitored women's cooperative societies in each block.

A later innovation in the communications effort was the formation of children's working groups. The facility with which children communicate and the enthusiasm with which they learn and relay project messages in the form of poems, songs and skits made this a highly successful activity. The project also arranged for workshops for village leaders and village influentials (presidents, teachers, village accountants, etc).

In TINP, a wide variety of communication materials was produced and used effectively as a back-up support to the interpersonal contact established by the front line project functionaries. The use of mass media such as films, filmstrips, slides, posters and a wide range of printed matter (including flipcharts, flashcards, pamphlets, etc.) was effective. Traditional folk media was used not only by enabling project messages to be incorporated in scripts used by professional troupes but also by organizing competitions, skits and performances in the villages.

TINP Phase I did not envisage any major role for the community in needs assessment, planning, supervision or evaluation of the program.

**Political Commitment:** As a government sponsored project, TINP enjoyed the full support of authorities at all levels. Two existing government departments – the Directorates of Social Welfare and of Public Health and Preventive Medicine were responsible for implementing the nutrition and health components respectively. The Project Coordination office, which was set up exclusively for the project, was responsible for coordination and communication and monitoring activities. On the nutrition side, project activities did not overlap with any other programmes in the Directorate, most of which were small, scattered and directed at older children. Some of these programs were discontinued when the project began. An excellent hierarchy was also newly established and project implementation proceeded apace. Mid-way through the project, nutrition services were further strengthened by the appointment of the Project Coordinator as Additional Director of Social Welfare.

On the health side, there was considerable overlap with existing MCH services and the project was mainly seen as providing additional infrastructure and drugs. Although the MPH (female) was originally hired under the project, she was soon entrusted with a gamut of public health responsibilities, including those of the male workers, many of whom were not in place. Further, she was also made responsible for achieving family planning targets set by the Directorate of Family Welfare.

A series of mechanisms to bring about coordination between health and nutrition personnel at various levels were planned. The MPH was intended to supervise and visit the CNW frequently. At the Primary Health Centre, monthly meetings were to be convened by the Medical Officer with the health and nutrition supervisors. The Taluk Project Nutrition Officer, the Medical Officer and the District Health Officer were also expected to meet once a month. Similarly, monthly component manager's meetings were planned at the state level and meetings of Secretaries to Government through an empowered committee chaired by the Chief Secretary were planned for each quarter, more often if necessary.

**Management Information Systems (MIS):** The MIS was devised to support the regular collection, interpretation and appropriate dissemination of analytic information required by the Project Manager. Project monitoring and evaluation was intended to cover seven areas:

- Input delivery
- Recruitment of target groups
- Input utilization
- Adoption of recommended behaviour
- Nutritional status changes Health status changes
- IMR changes

Monitoring was intended to measure, concurrently with the project, the degree to which nutrition, health and communication services were producing desired results. A set of key indicators (ratios of the number of recipients of particular services to the target population) was developed for different project components on a monthly, quarterly or half yearly basis. These included: percentages of children weighed, children in feeding, children graduating from the feeding programme, registration of pregnant women, immunization coverage over time, and trends in the nutritional and health status of the target population. It also helped provide timely identification of areas requiring special attention because of emerging or continuing nutrition problems.



The information for compilation of the indicators flows from the CNWs and the MPHWS through the first level supervisors to the CNIs and the block health supervisors respectively. The CNIs and the block health supervisor at the PHC forward the information to the statistical inspector of the monitoring unit in each district. The statistical inspectors in turn send the information to the Project Coordination office where a review of the key indicators is undertaken.

The MIS feedback loops are many. At the village center, an information blackboard is maintained by the CNW which gives the village health and nutrition profile. On the 25th of each month, a group of 10 CNWs meet with their supervisor to furnish monthly figures and discuss their implications. Around the 28th, the supervisors meet the CNIs and consolidate the block report. A monthly performance review is conducted in each district on the 3rd of each month. Instructions following from the review then flow back at a meeting of the CNIs with all the CNWs in the block on the 5th or 6th of each month. (Incidentally, this is also the meeting where the CNWs salary is disbursed).

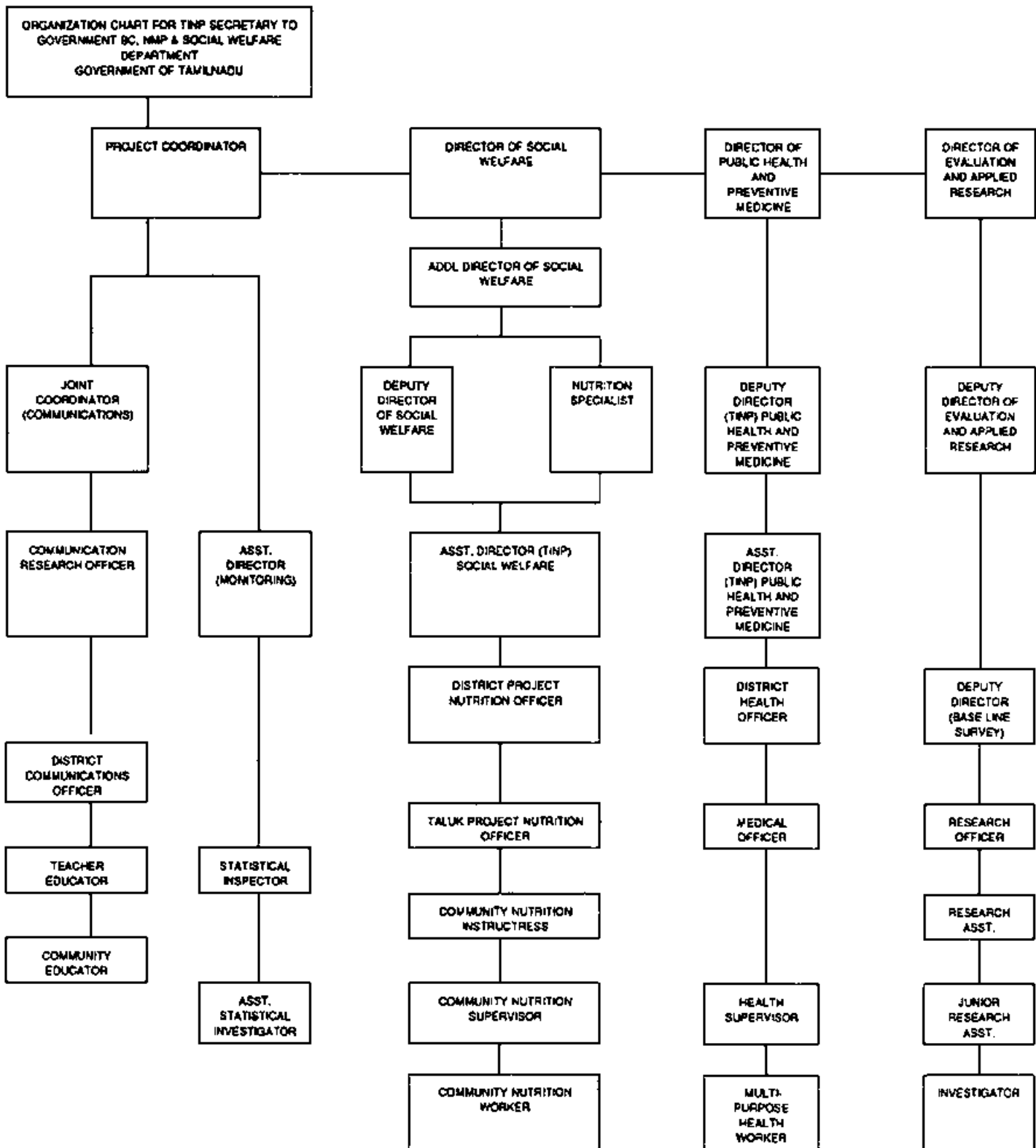
Special studies were also entrusted to the monitoring wing, on the basis of reviews of the monitoring data by the Project Coordination office and on expert advice, especially of visiting World Bank Missions.

**Replicability and sustainability:** The project is highly replicable, but dependent on successfully training and motivating the CNW and establishing a cadre of well qualified nutrition instructresses. Administrative systems also need to be in place and working well to ensure delivery of service inputs and flow of information.

Being a cost-effective approach to the problem of malnutrition, the project makes only a modest demand on resources and to that extent, is fairly sustainable. The emphasis on nutrition education, likewise, is expected to influence knowledge, attitudes, and practices sufficiently to reduce the need for the intervention over time. However, greater "community ownership" of the programme will be the key to ensuring its long term sustainability and in this respect a future project is in a good position to build on the foundation laid in TINP Phase I.

**Annex 7.1:** Budget (1980–89)

<i>Externally funded</i>	<i>Rs.</i>	<i>\$</i>	<i>% of total cost (in millions)</i>
Civil Works	185	15.4	18.3
Drugs & Supplies	135	11.3	13.4
Vehicles, equipment & furniture	57	4.8	5.7
Training	34	2.8	3.4
Project Management	28	2.3	2.8
Contract services & Technical Asst.	7	0.6	0.7
Total	446	37.2	44.3
<i>State funded</i>			
Food supplement	168	14.0	16.6
Staff salaries & POL	395	32.9	39.1
Total	563	46.9	55.7
Grand Total	1009	84.1	100.0



Annex 7.2: Organizational Chart for TINP

## 8. Family Nutrition Improvement (UPGK), INDONESIA

Dr B. Kodyat

**Objectives:** The general objective of the UPGK Programme is to improve the health and nutritional status of the people, especially children under five years old and pregnant/lactating women, through modifications in the nutrition oriented behaviour of mothers. The specific objectives are:

- To increase community participation and expand coverage of the programme.
- To effect behavioural changes that will result in improved family nutrition.
- To improve the nutritional status of children under five years old.

**Duration:** While much preliminary work went into the development of the UPGK programme it was included explicitly as a part of the national development strategy in the Second National Development Plan (1974–1979). In 1989, the programme covered over 58,355 villages, 5,642 Health Centres, and 214,025 Community Integrated Health Service Posts (*Pos Yandu*).

**Implemented by:** Nutrition Directorate, Ministry of Health, Republic of Indonesia.

**Budget:** The Government of Indonesia provided US\$ 11,000,000 and donors provided US\$ 24,200,000 to cover capital costs for 150,421 new *Pos Yandu* in 26,702 new programme villages and for maintenance in 58,355 villages during the Fourth Development Plan (1984–1989).

**Programme Components:** The UPGK programme strategy focuses on nutrition and health education through active community participation with inputs from the Ministry of Health, the National Family Planning Coordination Board, the Ministry of the Interior, the Ministry of Agriculture and the Ministry of Religious Affairs. The basic strategy of UPGK is premised on the simple nutrition concept that a healthy child gains weight every month. Based on this theme, a basic package of UPGK activities is comprised of monthly weighing of children under five years, nutrition and health education, nutritional first aids (high dosage vitamin A capsules for children once every six months, iron supplementation for pregnant/lactating women, and oral rehydration) and home gardening. The focus of these activities is a weighing post managed by community leaders and operated by volunteers using a growth chart card as a monitoring tool.

#### **Programme information on specific Workshop themes**

**Evaluation:** Both process and outcome (impact) evaluations have been performed on the UPGK programme. The major studies include: i) an evaluation of the integrated UPGK–Family Planning project from a sample of households in East Java and Bali which investigated child and nutrition status outcomes and knowledge, attitudes and practices; and ii) a study of the integrated weighing posts (which also include immunization, MCH services, family planning, integrated health care and diarrheal disease control) in South Sumatra, South Sulawesi, and West Java.

The longitudinal study in Bali showed positive changes in health practices, such as the use of latrines and the boiling of drinking water, an increase in immunization coverage, and an increased average age at weaning. However, the degree to which these changes can be attributed to the programme and to any changes in the nutritional status of the under–fives is not defined. The household survey in the two provinces revealed that the incidence of acute malnutrition is low, while chronic malnutrition is a more prevalent condition. Despite poor age measurement, and consequently distorted nutritional status measures, there is a relationship between having ever attended a UPGK weighing session and the weight–for–age of the youngest child under five years old which suggests a positive programme effect. Wealth was found to be a significant positive covariate of child nutritional status.

The other evaluation study on service coverage and mothers' knowledge, attitudes and practices was conducted in 36 selected weighing posts located in the province of West Java, South Sulawesi and South Sumatra, representing high, medium and low programme coverage relative to the rates in the UPGK priority provinces. The results indicate a high level of programme coverage in the three provinces: 98% in West Java, 85% in South Sulawesi and 81% in South Sumatra. However, active continued participation over long periods of time varied from 69% in West Java to 37% and 34% respectively in South Sulawesi and South Sumatra.

**Programme Achievements:** At the beginning of the Fourth Five Year Development Plan in 1984, the UPGK programmes were underway in 27 provinces, covering 31,595 villages and a total of 63,604 *Pos Yandu*. The cumulative coverage at the end of the Fourth Five Year Development Plan is 214,025 *Pos Yandu* in 58,355 villages.

The overall programme data of the UPGK activities in the past year showed that access is provided to 81% of all children under five years in Indonesia (about 21 million children). Of these children, approximately 77% received some services. In addition, 11.6 million or 47% of the total under–five populations are reported to be weighed regularly every month, and an average of 54% of the children who regularly attended the monthly *Pos Yandu* services showed consistent weight gain.

## 9. Project COPACA, PERU

**Ms P. Windisch**

**Objectives:** To improve the nutrition situation of rural populations through improved intra-family food distribution, increased utilization of the families' own resources, and increased production and consumption of indigenous food crops.

**Duration:** 1989 to the present (pilot project 1985 to 1989).

**Implemented by:** German Agency for Technical Cooperation (GTZ)

### **Programme information on specific Workshop themes**

**Targeting:** Development projects sponsored by GTZ are planned and implemented on the basis of the Objective-Orientated Project Planning approach, described below. Within this framework the impact of project activities can be verified and the achievement of project objectives measured.

- Project activities at different levels (goal, purpose, output) are defined.
- Indicators for the respective levels of objectives are determined.
- Baseline data for the indicators/variables are collected.
- Targets for the indicators/variables are specified.

With regard to Project COPACA, altogether eight indicators were defined in order to operationalize both the project goal (improvement of the nutrition situation of the rural population) and the project purposes (improved intra-family food distribution, increased utilization of the families' own resources, increased production and consumption of indigenous food crops). The identification and quantification of indicators was the result of a search process during the project's orientation phase. The different steps will be described below; the explanations will mainly concentrate on two indicators.

The starting points were the available official statistics on the nutritional status of the population. Data from a National Health Survey, carried out in 1984, revealed that on an average 37.5% of the children under 6 years were chronically malnourished. The corresponding rate only for the Department of Cusco was 54.7%. A more detailed survey indicated specially high rates of malnutrition in children aged between 6 and 24 months.

In its initial phase the project carried out three surveys in the intervention areas (22 communities) to identify possible reasons for these nutrition problems. It was found that:

- More than 60% of the surveyed mothers started supplementary feeding (in addition to breast-feeding) before their children were 6 months old.
- The intra-family food distribution was biased against the children between 6 and 24 months. In general they got less nutritious food than other family members. The weaning food consisted mainly of potatoes, herbal teas and watery broth – all with very low energy and nutrient densities.
- Children between 6 and 24 months were covered for only 80% of their energy requirements.
- Anthropometric data (weight-for-age) for children between 6 and 24 months were particularly unfavourable compared to other age groups, with 48% of the children having values below -2 standard deviation compared to the NCHS reference population.

Besides this research on nutrition problems, the project designed and implemented various activities and tested their possible contribution towards improving the nutrition situation. It emerged that the only valid concept to improve the weaning practices was "to feed the child from the family pot". Attempts to establish special feeding programmes at community level to reach these children were only partly successful. The concept of shifting the intra-family food distribution by feeding the child with more nutritious food from the family pot and of improving the diet composition at the household/family level is being disseminated through nutrition education and agricultural extension (including credit), focussing on a change of the cropping pattern towards highly nutritious indigenous food crops. It seems to be worthwhile mentioning that the nutritious food

recommended to preferentially feed the children has no high social prestige like meat or eggs.

The research results, as well as the experience with the implementation of project activities in the area of nutrition education and agricultural extension, were used to define two central indicators for measuring any improvement of the nutrition situation:

- Percentage of children between 6 and 24 months with normal weight-for-age values to increase.
- Percentage of children who get inadequate weaning food (potatoes, herbal teas, watery broth) before 6 months of age to decrease.

To quantify these indicators (apart from the other six indicators mentioned above) a baseline survey was conducted in 1989. Anthropometric and health data were collected from 754 children and data of weaning practices were obtained from 323 households with children under 6 years. The sampled households represent about 6% of the total number of households in the project area whereas about 17% of all children less than 6 years were included in the sample. According to the data obtained the indicators were quantified (for the project's consolidation phase) as follows:

- Percentage of children (between 6 and 24 months) with normal weight-for-age values increases from 59% (1989) to 72% (1992).
- Percentage of children who get weaning food before 6 months decreases from 55% (1989) to 36% (1992) and percentage of children who get nutritious weaning food (cereal, fat or oil, legumes, vegetables) increases from 26% (1989) to 45% (1992).

**Sustainability and Replicability:** See Pan I, Chapter 5. At the project level, **sustainability** is hoped to be achieved by aiming all project activities at strengthening the farming families' reliance on their own resources to improve their nutrition situation. At the household level, the project intends to improve the family diet by providing economic alternatives to the actual consumption pattern, starting with investigating the actual consumption pattern and then through extension services to diminish dependencies on existing markets and institutions, e.g. food donors. The promoted crops are already known by the farmers but presently neglected in the daily family diet. The production and consumption pattern is dominated by several kinds of tubers (mainly potatoes).

At the national level, sustainability is hoped to be achieved by providing strategies to diminish the country's high dependency on food imports. Peru has to import high quantities of wheat to meet the national wheat demand while suffering from a foreign currency shortage.

Within the project context, **replicability** is defined as the possibility to continue project activities within the structure and capacity of the existing public institutions, even without or with only limited external funding. Their replicability is a leading criterion for the choice of project activities.

Within the actual project region (22 communities), the replicability is taken into account by the following facts:

- Extension staff work under similar conditions to public health institution employees (e.g. salary). They also have similar professional backgrounds as employees of public institutions;
- The developed extension/education methods are not sophisticated and, thus, can be applied by local staff. The project costs of the education material are relatively low so that the public sector can afford to produce them at a larger scale;
- The developed extension/education methods can be integrated into the overall programmes of the public institutions (e.g. school curricula).

The project has already started to replicate its developed methods and strategies in another region (the replication, or control, region) without project staff and with only limited external funding. The project only offers training courses and interdisciplinary planning workshops for representatives of public institutions already working in this region.

## 10. Alternative School Nutrition Programme (ASNP), THE PHILIPPINES

### Professor C. Florencio

**Objectives:** To develop local capability to undertake a self-sustaining national nutrition programme, with emphasis on supplementary feeding supported by income-generating activities of the schools and families.

**Duration:** 1983 up to the present.

**Implemented by:** The Department of Education in 1,047 public elementary schools in 11 regions of the Philippines, with external support from CARE and DECS.

**Budget:** *Internal*, approximately 60% at US\$ 71,500 (P 1,500,000); *External*, approximately 40% at US\$ 47,000 (P988.000).

**Programme Components:** Like many other school nutrition programmes, the ASNP has five dimensions. These are nutrition education, supplementary feeding, food production, income-generating activities and environmental sanitation. What distinguishes the ASNP is its approach toward the provision of supplementary food to moderately and severely underweight school children. Participating schools are provided with seed money to be invested in school canteen operations and income-generating activities through family cooperators and food production. The income generated from the use of the seed money is used in five ways: for supplementary feeding, seed money repayment, revolving fund capital build-up, improvement of canteen and food production facilities and clinic fund. The seed money is turned over to the next eligible school within the district at the end of a two-year implementation period.

**Most Successful Aspects:** Of the six themes or issues in managing nutrition programmes, **sustainability** is considered the most successful aspect of the ASNP that is worth communicating to others. Records indicate that about 80% of the primary recipients of seed money had been able to turn over the amount to secondary recipients and some of those in the latter group in turn were able to pass on the seed money to tertiary recipients. In addition, most of the schools which had turned over their seed money continue to engage in income-generating activities, from which funds for the supplementary feeding of moderately and severely underweight children are taken. A weight survey in one region showed that 75% of the severely underweight children who participated in the ASNP improved their weights significantly.

### Programme information on specific Workshop themes

**Planning:** A nutrition survey among 8 million schoolchildren showed 3% to be severely underweight, 21% moderately underweight, and 35% mildly.

**Staff:** The programme is administered by a committee chaired by the school principal. Other committee members include the Food Service teacher and the Food Production teacher, together with the help of other teachers who handle bookkeeping, auditing, and other recordkeeping procedures. The amount of seed money given to each school depends on the particular project to be undertaken, the size of the school, and other factors, such as the availability of facilities for the project. The schools receive the money only after project staff have received training.

**Sustainability and Replicability:** (See above. Most Successful Aspects). Besides the programme design in which seed money was used for income generation, other factors which may have contributed to the sustainability and replicability of the programme are:

- Prudent objectives which matched available resources.
- Very clear and specific guidelines with accompanying forms which made it easy for teachers to participate in the programme.
- A reasonable spacing of training for project staff before seed money was received and activities could begin.
- Regular monitoring of the programme, the results of which were used to make appropriate adjustments to programme implementation.

- The political will to promote a self-sustaining programme in order to instill a sense of pride and self-respect within communities.

## 11. Pilot Food Price Subsidy Scheme, THE PHILIPPINES

**Dr M. Garcia**

**Objectives:** The principal objective of the project was to reduce the caloric deficits among low-income households through the provision of consumer subsidies on rice and cooking oil. The pilot scheme was designed to evaluate the technical, economic and administrative feasibility of implementing a targeted food subsidy programme in the context of the Philippine environment.

**Duration:** The programme was conducted for three and a half years (1983–1986). Actual food subsidies were implemented in 1983–1984 while the study and evaluation of delivery mechanism and programme impact was conducted from 1983 to 1986.

**Implemented by:** The National Nutrition Council (Philippines), the Department of Agriculture (Philippines), and the International Food Policy Research Institute.

**Budget:** US\$ 355,000 (75% from UNDP).

**Programme Components:** There were three main components: consumer food subsidy on rice and cooking oil; nutrition education; and technical, economic and administrative evaluation.

**Most Successful Aspects:** As the project itself was a pilot scheme, its strongest aspects were on the methods and management of monitoring and evaluation of the programme. A carefully drawn sample of households was analyzed in detail to determine the impact of the subsidies on food consumption and nutrition of the targeted populations. The project permitted an analysis of the cost of the delivery system, and comparisons to be made between the programme and other means of targeting, regarding its effectiveness in dealing with the nutrition problem.

### Programme information on specific Workshop themes

**Targeting:** Targeting was by geographic location. Villages with a high concentration of malnutrition were selected and all households within the targeted villages were beneficiaries. This method of targeting removed the added administrative burden of selecting individual households through a means test. Geographic targeting, however, could only be successful where areas with high concentration of malnutrition could be identified. Child weighing programmes, such as that in the Philippines, are useful guides in determining such areas.

**Staff Selection, Training and Supervision:** The existing infrastructure of Home Management Technicians (HMTs), under the Department of Agriculture, formed the core of the staff that managed the scheme at the village level. They were trained by national and regional officers on the mechanics of the programme. Project supervision by the HMTs used up two days out of their five-day work week. This allowed the project to lower the cost of supervision since the tasks were dovetailed into the usual activities of the HMTs. Building up a separate administrative infrastructure would have considerably increased the cost.

**Community Participation:** As the programme required adequate understanding by programme actors (beneficiaries, retail store owners, local councils) of the objectives and mechanics of the scheme, substantial social preparation activities were conducted by the HMTs. Village assemblies were held in cooperation with local councils. Meetings with retail storeowners were conducted. Feedback from beneficiaries were useful in assuring uninterrupted flow of the food subsidies. Slackness in supply of the food commodities were reported to the HMTs for appropriate action.

**Planning:** National nutrition surveys by the Food and Nutrition Research Institute in the Philippines indicated that the most important nutritional problem was inadequate calories. It is most severe in low income groups whose consumption is 400 calories below the recommended daily levels. The project evolved from a national planning exercise. The scheme was conceived as one of the alternatives at bringing about immediate improvements in caloric intakes of the malnourished. It was recognized as a short term stop-gap measure to alleviate malnutrition in poor households, with phase-out linked to the success of other programmes on

livelihood and income– generating schemes.

**Evaluation:** With respect to the evaluation of impact (outcome), the following procedures were taken, as described below.

- Subsidies in the form of price discounts on rice and cooking oil were made available to half of 14 villages selected for their high incidence of malnutrition, while the other half acted as a control population. The method of targeting was thus by geographic location (village). Each household in the targeted village was guaranteed access to the food subsidies.
- To evaluate the effects of the scheme, a sample of 841 households from the 14 villages was surveyed once prior to giving the subsidies, twice during the 12–month implementation, and once after the termination of the programme. Both comparative and multivariate analyses were conducted to estimate the impact of the scheme on household food expenditures and household calorie consumption. Effects on calorie consumption of preschoolers and their nutritional status were also evaluated. Data on a variety of socio–economic, environmental and biological variables relating to food consumption and nutrition were also monitored. Preschool children's weights and heights were also monitored monthly during the implementation period.

Results of the impact evaluation (Garcia and Pinstруп–Andersen, 1987) indicate that the scheme resulted in increases in calorie consumption of 138 calories per adult equivalent unit per day, which is roughly 7% of the current calorie consumption. The scheme also reduced the prevalence of underweight preschoolers from 32% to 20%. Nutrition education had a small positive effect in households where it was accompanied by the subsidy.

After accounting for all the delivery costs, it was feasible to assess the relative cost–effectiveness of the scheme. Administrative costs were estimated at about 16% of the total costs, with the remaining as the cost of food subsidy itself. The fiscal cost of transferring an equivalent of \$1.00 of food subsidy was estimated at \$1.19. However, if only the transfers received by households with malnourished preschool children are considered as a benefit, whereas the transfers received by others in the village as leakages, the cost increases to \$3.61. Assuring a net increase in calorie consumption of about 100 calories per day for one year would be roughly \$6.76.

Information on the processes of delivery of the food subsidies to target groups were monitored by the local home management technicians (HMTs) of the Department of Agriculture with assistance from the village para–professionals called the "Barangay Nutrition Scholars". Since the programme operated through privately owned village stores, the monitoring of delivery focussed on the ability of the accredited stores to keep an uninterrupted supply of subsidized rice and cooking oil. The process evaluation indicated that the efficiency of these stores was dependent on the following factors: i) the size of the population served, ii) store capital and supply of credit from rice and cooking oil wholesalers, iii) location in relation to the target population, and iv) character and community acceptance of the accredited retailers.

One of the key instruments to monitor accountability was the use of food discount cards given to participating households. Participation in the programme was estimated at 92% of the targeted households in the target villages. The rest were unable to participate due to: i) an inability to take advantage of the lower price because of their distance from the participating stores, and ii) insufficient cash during any given month.

The administrative and food cost of the scheme is considered low compared to other consumer food subsidy schemes. Several elements are considered important in the design: first, the choice of commodities (rice and cooking oil) which provided cheap sources of calories; second, the use of an existing administrative infrastructure to monitor the programme; and third, the mobilization of the private sector in the procurement and distribution of the subsidized food.

**Management Information System:** The monitoring and evaluation techniques used in the pilot programme provided important parameters on cost and cost–effectiveness which are necessary in determining the viability of using a geographically targeted food subsidy programme. These are important data that governments could use in assessing various alternatives of assuring that benefits go to the malnourished.



## **12. Barangay Integrated Development Approach for Nutrition Improvement of the Rural Poor (BIDANI), THE PHILIPPINES**

**Dr Eusebio**

**Objectives:** To improve the nutritional status and general well-being of populations at risk.

**Duration:** The program started in 6 pilot villages in 1978 and was expanded to 122 villages by 1986. It has now been replicated in 136 villages in other regions. The integration of the main features of the scheme into existing national programs has now been institutionalized through a national policy focussing on nutritionally depressed areas.

**Programme Components:** The integrated development approach to nutrition improvement postulates that development planning at all levels should be oriented to satisfy nutritional objectives. Malnutrition is attacked from the socio-economic angle to address the basic causes, i.e. low income, underemployment, ignorance, poor water supply and environmental sanitation, and inadequate community participation and organization. The approach at the community level calls for proper selection, training and leadership of indigenous workers, and the organization and involvement of planning/implementing committees at the village level.

### **Most Successful Aspects:**

- The involvement of a network of academic institutions acting as innovating and catalyzing agents in piloting and sustaining the program with the intraining of others from development agencies as technical support to the national program is one key feature for the continuing success of the approach.
- The programme has remained effective when replicated in 136 villages in other ecological settings around the country.

### **Programme information on specific Workshop themes**

**Targeting:** Malnutrition as a problem is defined in socio-economic terms. The populations at risk of malnutrition are identified by geographic location and in relation to source of income and major occupation of the head of the family. Landless service workers and highland families generally have the most number of malnourished children. The development strategy incorporates nutrition as an objective, tool, component and indicator of development programs. Priority problems and their causes and solutions are identified by the people themselves, who translate these into their projects and activities which are documented in an annual village integrated development framework plan. Implementation schemes choose those families at risk of malnutrition as the priority target beneficiaries of development projects.

**Staff Selection and Training:** The indigenous workers are taught extension and communication approaches to help link people to resources and services of the government and private agencies for project realization. Together with sectoral agencies, he/she motivates people to self-help and the provision of counterpart community support in the form of labor, available raw materials, and other resources in the supplementary feeding, nutrition education, home food production, related health services, and other complementary development projects, e.g. land reform, irrigation, road construction, crop and animal production, marketing and distribution, community food processing, income and employment generation, environmental sanitation, safe water supply, skills training, and manpower development. Peace and order, political stability and spiritual development are also included.

**Impact Evaluation:** The combined effects of development efforts participated in by the people have had a significant influence on the nutritional status and general well-being of the population at risk. From 1983 to 1985, there was an overall reduction in undernutrition (Grade II and Grade III) from 28.3% to 18.7%. Breastfeeding practices were maintained at 79%. The diet rating of mothers and preschoolers increased by 20%. Consumption of root crops doubled, whereas intakes of fats and oils quadrupled. Intakes of beans and nuts rose eight-fold. A linear increase in the proportion of families with intakes above 80% RDA for different nutrients was noted. There was a 50% increase in people's awareness of government services, and the proportion of families utilizing health services rose by 28–32% in all villages. However, the levels of food consumption are still low; foods produced are sold for cash income which is used for non-food commodities. Hence, an intensification of nutrition advocacy is needed.

### 13. Joint WHO/UNICEF Nutrition Support Programme (JNSP), IRINGA REGION, TANZANIA

**Dr Mtalo**

#### **Objectives:**

- Reduction of infant and young child mortality and morbidity.
- Better child growth and development.
- Improvement of maternal health and nutrition.
- Improvement in the capabilities at all levels of society to assess and to analyze nutrition problems and to design appropriate actions.

**Duration:** 1984 to the present.

**Implemented by:** A national programme implemented as a pilot programme in Iringa Region – covering six districts and 1 urban area which has 8 divisions, 28 wards, and 168 villages – by the Government of Tanzania, (Iringa Region), supported by UNICEF and WHO. External support has been provided by the Government of Italy.

**Budget:** *External* – US\$ 5,663,000; *Internal* – US\$ 70,000 (Tshs. 50 million); 2/3 community contributions, 1/3 district and region contributions.

#### **Programme Components:**

- *Systems Development and Support* – to increase and sustain the capability to plan, implement and monitor child survival and development actions in Iringa.
- *Maternal and Child Health* – to expand and improve health services in the programme area, with special emphasis on controlling those disease factors responsible for maternal and child malnutrition and infant mortality.
- *Water and Environmental Sanitation* – to improve the environment of the households, with special reference to the child, in order to reduce disease related risk factors. This was to be done by training in the construction of affordable pit latrines and by promoting an understanding of the role of sanitation in sustaining good health.
- *Household Food Security* – to improve child care, especially to promote regular and frequent feeding of children.
- *Child Care and Development* – to improve child care, especially to promote regular and frequent feeding of children.
- *Income-Generating Actions* – to support women's groups in starting income-generation activities, thereby increasing income to be spent on improving family welfare, particularly that of children.
- *Research* – to improve national nutrition oriented research capability through the co-ordination of research meetings, by enabling participation in scientific meetings, and through direct support to relevant research studies.
- *Management and Staff* – to assure effective management of the Iringa Nutrition Programme at regional, district, ward and village level.

#### **Most Successful Aspects:**

- Establishment of a village-based growth monitoring system to monitor child nutritional status and deaths, with a decrease seen in the rates of total malnutrition from 50% – 30% and a decrease in the number of deaths due to diarrhoea and measles.

- Creation of awareness among the community of their nutritional problems and of actions necessary to overcome them.
- Strengthening of support services, with a decrease in incidences of diseases preventable through immunization;
- Full immunization coverage, with an increase from 50% to 96%.
- Establishment of a community-based child care system.

### Programme information on specific Workshop themes

#### Targeting

- Characteristics of recipient pregnant mothers and children from birth to five years of age.
- Other assessments of targeting.

**Procedure:** Programme procedures were implemented as planned (there was no distribution in this programme). Deviations from planned procedures would not have affected outcomes, as they were planned with flexibility to accommodate any changes deemed necessary to improve implementation. For example, a recommendation from the mid-term review was adopted. Government procedures were adopted, with modifications when necessary.

**Process Evaluation of Delivery:** The number of beneficiaries receiving goods and services from the programme was assessed from a total population of 250,000 with a target population of 46,000 children 0–5 years (1984).

• Number of beneficiaries:	<u>1984</u>	<u>1988</u>
Children 0–5 years weighed	30,600	33,701
• Nutritional status improvement:	<u>1984</u>	<u>1988</u>
Total underweight %	55.9	38.0
Severely underweight %	6.3	1.8
Infant Mortality Rate (IMR)	152	107

- The process evaluation of frequency/regularity revealed a quarterly basis for both nutrition monitoring and monitoring of deaths, with about 80% of the villages reporting regularly.

#### Outcome (Impact) Evaluation:

##### *Measurements used, how obtained*

- Continuous assessment through quarterly growth monitoring system (weight-for-age).
- Quarterly programme implementation/evaluation reports.
- Mid-term internal review and external evaluation.
- Special studies on impact by national institutions.

##### *Who was measured*

- Targeted population – children under five years old.
- Pregnant mothers through village health days.

##### *Evaluation design, with comparisons made for example*

- Evaluation of the programme recipients before implementation of the programme showed minimal knowledge of the problems of child mortality and malnutrition among the community.
- Evaluation during the programme implementation showed an awareness of these problems among the community, created through: i) the continuous growth monitoring system; ii) the

showing of films; and iii) seminars, village meetings and training.

#### *Progressive implementation*

- Programme activities expanded from 168 villages (1984) to 610 villages (1987), covering the whole region.

#### *Results – changes in outcome considered due to programme*

- Reduction in total and severe malnutrition from 50% – 35% and 6% – 1.8% respectively.
- From nil village health workers to 2 VHWs in every village.
- Immunization coverage increase from 50% – 90% (high in the country).
- Establishment of a community based growth monitoring system adopted by other regions in the country.
- Establishment of a village based nutrition rehabilitation system for severely malnourished children.
- Multisectoral approach to the problems of malnutrition and child mortality.
- National decision to adopt the Iringa experience in other regions so as to deal with nutrition problems there.

## **14. Nutrition and Primary Health Care, THAILAND**

### **Dr C. Suntikitrunguang**

**Objective:** A national nutrition programme designed to improve nutritional status of mothers, infants, preschool and school children.

#### PROGRAMME OBJECTIVES

<b>Malnutrition</b>	<b>1982–1986</b>	<b>1987–1991</b>	<b>1992–2001</b>
a) Pregnant women			
– birth weight			
<2500 gram	–	<8%	<4%
– anaemia	<30%	<20%	<10%
– IDD (urine)	–	<10%	<5%
b) under-five children			
– protein energy malnutrition			
Grade I	–	<10%	<5%
Grade II	<7%	<1%	0%
Grade III	0%	0%	0%
– anaemia	<30%	<20%	<10%
– IDD (goiter)	–	<10%	<5%
– neonatal hypothyroidism	–	<1%	<0.1%

	– subclinical vit. A deficiency	–	–	*
c) children age 6–14 yrs				
	– underweight	<25%	<8%	<1%
	– underheight	–	–	*
	– anaemia	<30%	<20%	<10%
	–IDD (goiter)	<10%	<5%	<1%

PEM: 0–5 yrs = Gomez's classification

6–14 yrs, underweight = <P10 weight for age standard

6–14 yrs, underheight = <P10 height for age standard

Anaemia: WHO classification

IDD: Goiter = WHO & ICCIDD classification; urine iodine <100 Mcg/dl \*:

\*: Objectives will be set after situation analysis in 1990

**Duration:** 1982 to the present (5th National Economic & Social Development Plan for 1982–1986, 6th National Economic & Social Development Plan for 1987–1991, and the 7th and 8th National Economic & Social Development Plan for 1992–2001).

**Implemented by:** The Ministry of Public Health, the Ministry of Agriculture and Cooperatives, the Ministry of Education, the Ministry of the Interior and the University Bureau.

**Budget:** The Nutrition Division's budget for costs is US\$ 1,000,000.

FUNDING AGENCY	1982–1986	1987–1991	1992–2001*
ROYAL THAI GOVERNMENT			
– Regular programme	6.96	14.01	40.00
– Poverty eradication programme	3.04	–	–
USAID	1.20	0.08	0.20
UNICEF	1.93	0.85**	1.50
TOTAL	13.13	14.94	41.70

\* Estimated Budget

\*\* 1989–1993

**Programme Components:** The three major activities in the nutrition programme are described below.

- *Growth monitoring and nutrition surveillance activities* – This includes a periodic community assessment of nutritional status of the vulnerable population group and a management information system for all related levels. For example, in the case of protein–energy malnutrition of the under–fives, quarterly weighing of the child is practiced in the community by the community health volunteers. The underweight children are given food coupons which can be exchanged for high protein/calorie food at the local grocery store. Nutritional status information is then sent to decision makers at each level for action adjustments.

- *Nutrition training and education* – Community workers, village leaders and volunteers are oriented and trained for planning, implementing, monitoring and evaluating the nutrition programme. Nutrition education is also given through individual counselling, printed materials, audio–visual aids and mass medias.

- *Nutrition supplementation* – Supplementation of underweight children is done by using the food coupon approach and through food demonstration to improve the mothers' knowledge and capability in providing adequate food for the growing child. Iron tablets, iodized oil tablets, iodized salt and iodized water are also used in controlling anaemia and iodine deficiency disorders.

### Programme information on specific Workshop themes

**Planning:** Nutrition is one of the major determinants of growth and development. A wide variety of socio-economic and environmental factors can interfere with the amount and pattern of food intake of the individuals. Nutrition, therefore, is not an issue in which the health sector can handle alone. In the Thai National Nutrition Programme, **integration** has thus become the key strategy in implementation and the following efforts have been made to achieve the integration concept:

- The formulation of the National Food and Nutrition Committee since 1970. The committee is at present chaired by the Minister of Health with members from every food and nutrition related agency.
- Primary health care has been chosen to be the main implementing strategy since 1982 for the purpose of full integration with other health and health related programmes and its basic concept of community participation.
- Nutrition of the children has become one of the basic minimal needs of the Thai people since the cabinet approved the Quality of Life campaign project in 1985. From that time on, nutrition, as well as the other seven basic minimal needs, has become a common target issue for every community development programme. Another aspect of nutrition is its role of assessment of the development of the community.

Together with the above mentioned programme components are a wide variety of supporting programmes:

- *Agricultural food production programme*
  - Legumes and high protein & high fat crops production.
  - Dairy and poultry products production.
  - Fish production.
  - Food processing and preservation.
- *School nutrition programme*
  - School lunch.
  - School agricultural food production.
  - nutrition in school education.
  - Mother class.
  - Maternal literacy campaign.
  - Community nutrition education.
- *Community preparation programme*
  - Generating community nutrition awareness.
  - Formulation of community organization.
  - Strengthening community planning, monitoring and evaluation capability.
- *Child care centres*
  - Gathering malnourished children for group feeding.
  - Growth and development screening and monitoring.
- *Other maternal and child care services*

- ORS & diarrheal control actions.
- Immunization.
- Antenatal care.
- Accessible health and medical care services.
- Parasitic infestation control actions.
- Acute respiratory tract diseases control actions.

**Coverage:**

Area		1982-1986	1987-1991	1992-2001*
Protein energy malnutrition				
Rural				
- poverty area		100%	**	**
- general area		80%	100%	100%
Urban				
- Bangkok		100% (slum)	100% (slum)	100% (slum)
- other cities		-	80% (slum)	100% (slum)
Anaemia				
pregnant women		50%	80%	100%
under-fives		-	50%	80%
children 6-14 yrs		-	50%	80%
IDD***				
goiter>10%		10%	100%	100%
goiter<10%		10%	80%	100%

\* Estimated figures.

\*\* Poverty area becomes part of general rural area.

\*\*\* 15 endemic provinces with priority given to mothers, women of fertile age women, and children.

**Evaluation:** Impact evaluations were performed to evaluate the programme's effect on protein energy malnutrition, anaemia, and iodine deficiency disorders.

• *Protein energy malnutrition in under-five children in rural areas* – The quarterly child weighing report reveals a gradual increasing trend in the number of villages and number of under-five children attending the weighing session. In the latest weighing session during Jan-Mar 1989, 84.77% of overall under-five children and 98.4% of rural villages were engaged in the child weighing action. The nutritional status of the children, although not exactly the same group of children at each weighing session, clearly demonstrates an improving trend:

**ANTHROPOMETRIC TRENDS FOR UNDER-FIVE CHILDREN IN RURAL AREAS**

Year	Vill No	Child No	Child/Vill	Normal	Nutritional Status		
					Grade I	Grade II	Grade III
1982*	-	1,000,000	-	49.21	35.66	13.00	2.13
1983	-	1,578,399	-	51.98	34.27	11.84	1.91

1984	33,987	1,270,393	37.4	64.77	28.53	5.90	0.80
1985	36,893	1,620,517	43.9	71.55	24.35	3.90	0.21
1986	52,030	2,277,908	43.8	74.91	21.84	3.12	0.13
1987	55,244	2,305,337	41.7	76.53	20.99	2.41	0.06
1988	57,746	2,413,314	41.8	78.00	19.99	1.97	0.04
1989**	59,719	2,514,443	42.1	79.08	19.66	1.25	0.01

Source: Nutrition Division Surveillance Report.

\* = Aggregated figure of those who first attended the weighing session during 1979–1982.

\*\* = Pre-confirmed data.

The weighing results revealed differences among regions in the latest report (Jan–Mar 1989). The Central and Eastern regions have the best nutritional status while the Northeast and Northern regions have the poorest results. The child/village ratio reveals the effects of the family planning programme and the differences in village size among different regions. The child weighing sessions for the slum dwellers in Bangkok and other municipality areas in big cities are organized by the Ministry of Interior. The latest figure reveal a better nutritional status than seen among the children in the central rural region.

#### UNDER-FIVE CHILD ANTHROPOMETRY BY REGION (1989)

Region	Vill No	Quid No	Child/Vill	Nutritional Status			
				Normal	1st deg	2nd deg	3rd deg
Northeast	25,568	1,138,441	44.5	73.42	24.91	1.67	0.00
North	12,158	512,172	42.1	78.34	20.37	1.26	0.04
Eastern	4,590	186,688	40.7	89.82	9.78	0.40	0.00
Central	10,334	333,430	32.3	90.32	9.47	0.21	0.00
South	7,069	343,712	48.6	82.17	16.45	1.34	0.03

Source: Nutrition Division Surveillance Report.

#### CHILD ANTHROPOMETRY IN URBAN AREAS

Place/Yr	Children No	Nutritional Status			
		Normal	1st deg	2nd deg	3rd deg
Bangkok/1987@	288,258	90.55	8.68	0.73	0.04
Other cities/1989*	13,652	92.26	6.95	0.78	0.01

Source: @ = Health Department, Bangkok Municipality Office.

\* = Department of Local Administration, Ministry of Interior \*only 16 from 130 cities)

• *Protein energy malnutrition in school children (6–14 years)* – The weighing report from the primary schools in 1986 (using the 1975 weight–for–age standard) revealed a prevalence of underweight of 12.66%. When disaggregated by residential area, Bangkok school children had the best nutritional status while the rural school children had the worst.

#### WEIGHT RESULTS FOR SCHOOL CHILDREN AGE 6–14 YEARS



Area	No of cases	Underweight (%)
Rural primary school	4,274,233	13.45
		5.99
Urban primary school	164,042	1.18
Bangkok primary school	200,762	

Source: National Primary Education Office, Ministry of Education.

• *Anemia* – Anaemia, using WHO criteria for diagnosis, was 27.32% for pregnant women and 27.29% for children aged 6–14 years in a 1988 survey. The highest prevalence was in the North–eastern region. However, in the Southern and Central regions pregnant women showed the highest prevalence figures because of: i) a greater accessibility of antenatal care for rural mothers and a greater trend for mothers with problems to access hospital care through referral systems in the Central region, and ii) a high prevalence of hookworm infestation in the Southern region.

#### ANEMIA. BY REGION, 1988

Region	Children 6–14 years		Pregnant women	
	No of exam	Anaemia (%)*	No of exam	Anaemia (%)*
North–east	1,881	35.62	11,500	26.61
North	1,916	26.30	12,896	20.69
Central	2,467	23.51	21,616	29.95
South	1,805	24.81	11,377	30.58
Total	8,070	27.29	57,681	27.32

Source: Nutrition Division Surveillance Report.

\* = hematocrit <33%

\*\* = hematocrit <36%

• *Iodine deficiency disorders* – Fifteen provinces (14 in the Northern region and 1 in the North–eastern region) were identified as IDD endemic areas. A survey on primary school children goiter prevalence in 1987 revealed an overall figure of 12.07%. However, 65 districts in these 15 provinces were found to have a goiter prevalence of over 10%. A resurvey of primary school children in these highly endemic districts revealed a figure of 43.11% in 1988.

A review of the primary school children examination performance showed a higher than national average exam failure rate in grade 1 and grade 2 in these 15 provinces. In early 1989, a study of cord blood from women who delivered at the local district hospitals in these highly IDD endemic districts revealed an incidence of 1.86% neonatal hypothyroidism.

In summary, PEM is well controlled by the existing implementing strategy. IDD control is the second undernutrition problem which is expected to be under control by the use of iodized salt, iodized water and iodized oil capsules through a primary health care approach. However, the iron deficiency anaemia problem is rather complicated to control. The strategy for implementation is still not quite clear and there is a need to separate Thalassaemic cases from iron deficiency cases before treatment or supplementation.

## 15. Community Based Nutrition Intervention, NORTH–EAST THAILAND

**Professor F. Schelp**

**Objective:** A pilot project designed to improve the nutritional status of children from birth to 5 years old.

**Duration:** June 1982 – September 1985.

**Implemented by:** Faculty of Tropical Medicine, Mahidol University, Bangkok, with external support from the German Agency for Technical Cooperation (GTZ).

**Budget:** External funding.

**Programme Components:** Nutritional education, supplementary feeding, introducing growth charts, establishing drug cooperative stores, and home visits.

**Most Successful Aspects:** *Home visits* – special problems referring to the child at risk or the child already undernourished can be discussed with mothers to correct the situation. The reasons for undernutrition are manifold; the family approach is therefore the most appropriate way to implement intervention measures.

### Programme information on specific Workshop themes

**Planning:** Nutritional intervention was undertaken in line with a parasite control programme, which was very much in the interest of the villagers and under special consideration by the Faculty of Tropical Medicine, Mahidol University, Bangkok and the Ministry of Public Health and Rural Development in Thailand.

**Staff Selection, Training, and Supervision:** The project was mainly based on a policy set by the Ministry of Public Health in Thailand to improve the nutritional status of the population. The project supported the efforts made by the local health authorities in this connection. Academic staff members from the Faculty of Tropical Medicine helped to train local health personnel and these were motivated to cooperate with the project.

**Community Participation:** The main issue for community participation is the interest of the villagers to receive support to control an endemic parasite (liver fluke) which is much feared by the villagers. As the programme was mainly aimed at controlling this parasitic infection, other health measures, such as nutritional intervention, were also readily accepted by most of the villagers. A village with good cooperation was defined as one in which the village headman and the village health volunteer took an active interest in the project and most of the mothers participated regularly in the taking of anthropometric measurements without having to be followed up. These mothers often also sought advice in matters related to nutrition and attended mothers' clubs regularly and prepared supplementary food there.

**Management Information System:** The main source of information was the children's anthropometric measurements from continuous growth monitoring. If no progress in the children's measurements was observed for some time, meetings were held to explain the situation to the villagers.

**Sustainability and Replicability:** The parasite control programme has now been taken over by the government of Thailand and implemented in several provinces in the north–east. An attempt is also made to link nutritional measures with this parasite control programme. Since all the intervention measures introduced in the pilot project are now considered by the Ministry of Public Health as official policies, it is necessary when implementing these measures to motivate local health authorities to launch nutritional programmes as well. A major constraint is that, in Thailand, officially only weight–for–age measurements are taken. However, an attempt has been undertaken, at least on a trial basis, to take also height measurements so that a better and more meaningful indicator can be found to record improvement in the nutritional status and outcome of nutritional projects.

### Process Evaluation

- *Delivery* – The programme concentrated on approximately 270 children (age range from birth to 5 years) in 4 intervention villages and approximately 120 children in another 3 neighbouring villages. At the start of the programme, health and nutrition education was taught and drug cooperative stores were established. Growth charts were introduced. Measurements were taken every month and weaning food was prepared in mothers' clubs. Health personnel from the nearest health stations were advised to visit the implementation

villages, whenever possible, every second week. The programme was supervised monthly by the project team.

- *Targeting* – Preschool children were the main target. Home visits were paid to families with either undernourished children or children at risk of becoming undernourished (determined by growth monitoring indices). The mothers were asked for possible reasons which might have contributed to the diminished nutritional status of their children so that ways and means could be found to correct the situation.

- *Monitoring* – In 3 out of 4 implementation villages the programme procedures were implemented as planned. Evaluation of the whole project was, however, made more difficult when the people in one of the 3 villages considered as a control village started to implement programmes on their own to improve the situation in their village.

**Outcome (Impact) Evaluation:** The children were measured according to their weight-for-height and height-for-age every month. However, reporting was done only every third month. The best indicator to determine the project outcome was height-for-age. Cooperation from the villages was the most important factor that contributed to the successful outcome of the project. In those villages where cooperation was good, a marked decline in frequency of illness was observed.

## 16. Women, Infants and Children (WIC) Programme, U.S.A.

**Dr E. Kennedy**

**Objectives:** A national programme designed to improve the health and nutritional status of vulnerable pregnant and lactating women, infants and children up to age 5.

**Duration:** Started as a two year pilot project in 1972 and is now a permanent programme.

**Implemented by:** A variety of local agencies' health centres and community action agencies with external support from the US Department of Agriculture.

**Budget:** US\$ 1.9 billion (1989).

### Programme Components

- Supplemental food.
- Nutrition education and nutrition counseling.
- Adjunct to health care.

### Most Successful Aspects

- Targeted to high risk individuals.
- Provision of a package of services (food, health care, nutrition education) tailored to the individual needs of the participants.
- High level of political support at national and local level.

The Special Supplemental Food Programme for Women, Infants and Children (better known as WIC) was initiated as a response to the 1969 White House Conference on Food, Nutrition and Health. The WIC programme began as a two year pilot project in 1972 with an annual funding level of US\$ 20 million. In 1974 the WIC programme was authorized as a permanent programme and as of 1989 had a funding level of US\$ 1.9 billion, serving approximately 3.6 million participants.

One reason for the exponential growth of the WIC programme is that it is one of the few programmes that has had bipartisan support from both the Congress and the president. This high level of political support is related in part to the perception that the programme is serving those most in need. This ability to reach the most vulnerable of the maternal and child population is due to the aggressive targeting strategies used at both the

national, state and local level.

### **Programme information on specific Workshop themes**

**Targeting:** The WIC programme has undergone rapid expansion. However, even with this growth in the number of individuals participating in the programme, only about half of the eligible women, infants and children can be served with the current funding level. In addition, extensive research shows that the WIC programme has a greater impact on participants who are at highest risk. Evidence to date suggests that the health impacts of the WIC programme are most significant in pregnant women (particularly those who begin participation in the first trimester of pregnancy) and for infants than they are for children past their first birthday. Therefore, given the financial constraints, the targeting of programme funds to serve those who are most nutritionally needy appears warranted.

Fortunately, targeting strategies have been built into the operation of the WIC programme since its inception. The federal government gives grants to individual states (usually through state health departments) who contact local agencies to provide WIC services. Priority was given to establishing WIC programmes in areas with greatest need (low income areas). Area targeting was thus one form of targeting that was used.

An individual is certified as eligible for WIC based on an income criterion and a nutritional risk criterion. An individual must have at least one nutritional risk factor that includes:

- Detrimental or abnormal nutritional conditions detectable by biochemical or anthropometric measurements (e.g. anemia, inadequate pregnancy weight gain or low weight-for-height).
- Other documented nutrition related medical conditions.
- Dietary deficiencies that impair or endanger health.
- Conditions that predispose people to inadequate nutritional patterns or related medical problems (e.g. a history of high risk pregnancies).

Due to funding limitations, federal policy has established a nutritional risk priority system which is used to select participants for a local programme when the maximum caseload has been reached. Annex 16.1 outlines the priority system.

Once high risk individuals are certified for WIC, a range of services tailored to the needs of the participant are provided, including a substantial level of caloric supplementation. Pregnant women are given approximately 900 additional calories per day. There is close coordination of WIC with other services, particularly pediatric and obstetric services. In addition, most WIC programmes routinely refer participants to food stamps, family planning and other services as appropriate.

There is evidence that on a national basis WIC targeting has improved. Annex 16.2 shows that while the size of the WIC programme has grown substantially from 1981 to 1987, the proportion of the national WIC caseload consisting of children has not increased at all. Since children are generally considered to be a lower risk than women and infants, programme growth, accompanied by a decrease in the proportion of the caseload comprised of children and an increase in the proportion of the caseload consisting of women and infants, indicates that the targeting of WIC benefits has improved.

WIC, with the targeting strategies, has been able to serve a generally higher risk group of participants. For example, about one-seventh (14 %) of the pregnant and postpartum women in 1984 were under 18 years of age (see Annex 16.3). This is in contrast to only 5% of the national teenage births and 11% of black teenage births. Similarly, younger children (one year of age) were more likely to be served than older children (4 years of age).

Effective targeting combined with well coordinated nutrition and health services has made the WIC programme one of the more successful federally funded nutrition programmes.

**Staff Selection:** There are established criteria to ensure certain minimum requirements for technical competency of certain staff members.

**Community Participation:** Assessment of participant satisfaction is done annually. **Replicability:** The present nationwide programme was drawn from the pilot project.

**Evaluation:** Monitoring and evaluation was built into WIC from its inception. There have been two nationwide evaluations conducted to date, as well as numerous local level evaluations.

### **Annex 16.1: The Nutritional Risk Priority System**

#### **Priority I**

Pregnant women, breastfeeding women and infants at nutritional risk as demonstrated by hematological or anthropometric measurements, or other documented nutritionally related medical conditions which demonstrate the need for supplemental foods.

#### **Priority II**

Except those infants who qualify for Priority I, infant up to six months of age of programme participants who participated during pregnancy, and infants up to six months of age born of women who were not programme participants during pregnancy but whose medical records document that they were at nutritional risk during pregnancy due to nutritional conditions detectable by biochemical or anthropometric measurements or other documented nutritionally related medical conditions which demonstrated the person's need for supplemental foods.

#### **Priority III**

Children at nutritional risk as demonstrated by hematological or anthropometric measurements or other documented medical conditions which demonstrate the child's need for supplemental foods.

#### **Priority IV**

Pregnant women, breastfeeding women, and infants at nutritional risk because of an inadequate dietary pattern.

#### **Priority V**

Children at nutritional risk because of an inadequate dietary pattern.

#### **Priority VI**

Postpartum women at nutritional risk.

#### **Priority VII (state agency option)**

Previously certified participants who might regress in nutritional status without continued provision of supplemental foods.

Source: *Federal Register*, 7 C.F.R., Part 246, Special Supplemental Food Programme for Women, Infants and Children; Final Rule, February 13, 1985.

### **Annex 16.2: National Participation Trends in the WIC Programme**

<b>Average Monthly Participation</b>							
<b>Fiscal Year</b>	<b>Women</b>	<b>Percentage of Total</b>	<b>Infants</b>	<b>Percentage of Total</b>	<b>Children</b>	<b>Percentage of Total</b>	<b>Total</b>
1981	445,559	21.0%	585,058	27.6%	1,088,201	51.4%	2,113,818
1982	477,476	21.8	623,277	28.5	1,087,908	49.7	2,188,661
1983	541,826	21.4	729,933	28.8	1,265,207	49.9	2,536,965
1984	656,643	21.6	825,053	27.1	1,563,078	51.3	3,044,774
1985	656,971	21.2	865,629	27.9	1,577,034	50.9	3,099,635

1986	713,855	21.5	948,808	28.6	1,654,807	49.9	3,317,470
1987	742,448	21.7	1,014,217	29.6	1,665,569	48.7	3,422,234

Source: FNS Programme #W1129, October–September, FY 1981–FY 1986; October–June, FY1987.

As reported in Summer, Laura (1988). Targeting Benefits in the WIC Programme. Centre on Budget and Policy Priorities, Washington, D.C.

**Annex 16.3:** Distribution of WIC programme participants by category and age: August to December 1984

<b>Participant Category/Age</b>	<b>Percent of Category</b>	<b>Percent of Total</b>		
<b>WOMEN</b>				
Pregnant Women				
Less than 18 Years	14.4%			
18 Years or More	85.6%			
Pregnant – All Ages	100.0%	53.7%	12.5%	
Breastfeeding Women				
Less than 18 Years	3.0%			
18 Years or More	97.0%			
Breastfeeding – All Ages	100.0%	16.3%	3.8%	
Postpartum Women				
Less than 18 Years	13.4%			
18 Years or More	86.6%			
Postpartum – All Ages	100.0%	30.0%	6.9%	
<b>ALL WOMEN</b>				
Less than 18 Years	12.2%			
18 Years or More	87.8%			
TOTAL WOMEN – ALL AGES	100.0%	100.0%	23.3%	23.3%
<b>INFANTS</b>				
0–3 Months	46.6%		11.8%	
4–12 Months	53.4%		13.6%	
INFANTS – ALL AGES	100.0%		25.4%	25.4%
<b>CHILDREN</b>				
1 Year Olds	35.7%		18.3%	
2 Year Olds	28.0%		14.4%	
3 Year Olds	20.2%		10.4%	
4 Year Olds	16.0%		8.2%	
CHILDREN – ALL AGES	100.0%		51.3%	51.3%
			100.0%	

TOTAL PARTICIPANTS – ALL AGES AND CATEGORIES		
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Source: Richman, Lee (1986). Study of WIC Participant and Programme Characteristics. USDA, Mimeo.

## 17. Supplementary Food Production Programme (SFPP), ZIMBABWE

**Mrs J. Tagwireyi**

### Objectives:

- On a national scale, to encourage communities to work together in order to meet the demand for nutritious foods, particularly for young children.
- To promote the use of foods such as groundnuts, beans and vegetables in the diet.
- To promote community awareness of nutritional problems of children under-five years and to encourage community action to address these problems through self-reliance instead of depending on food handouts. To facilitate the inclusion of nutrition in the community's development plans.
- To assist in the identification of ways in which problems of malnutrition can be tackled through intersectoral action.

**Duration:** The programme was initiated on a pilot scale in 1981, and was evaluated in 1984 when recommendations for strengthening the programme were made. The programme has since expanded to cover most districts in the country with over 6,000 ongoing projects nationwide. These comprise programmes aimed at improving rainfed crops, vegetable gardens and small animal production.

**Implemented by:** The projects are implemented by intersectoral committees under the chairmanship of the Ministry of Agriculture with the Nutrition Unit performing secretariat functions. External support has been received from the Swedish International Development Agency (SIDA) through the Nutrition Unit in the Ministry of Health.

### Budget:

*External*

	US\$
1981/1985	140 957
1985/1986	140 750
1986/1987	673 450
1987/1988	750 000
1988/1989	750 000
1989/1990	500 000
Total:	2 955 175

The *external* funds cover such costs as inputs, training, material production, evaluations and transport. The *internal* budget covers salaries for programme implementors, transport, and subsistence allowances.

### Programme Components

- *Management* – Intersectoral management committees were set at all levels to ensure

effective programme implementation. Training is a major element for the extension workers who are members of the management teams.

- *Community Mobilization* – This aims to increase awareness of nutrition and facilitates active participation in the programme.
- *Nutrition Education* – The programme emphasizes nutrition messages on appropriate food production and consumption habits, particularly for young children, through community participation in the food production project.
- *Food Production* – The SFPP was initiated to increase community self-reliance in production of nutritious foods for consumption by children and other family and community members. This is aimed at weaning the communities from dependency on food handouts, such as the Child Supplementary Feeding Programme. The SFPP promotes communal production of groundnuts, beans, vegetables and small livestock, i.e. rabbits and chickens. Communities also pool their resources, making the project affordable for interested communities.
- *Appropriate Technologies* – Technologies for food production, processing, preservation and preparation are developed to improve food and nutrition security at the community level.
- *Child Supplementary Feeding* – The programme ensures communal feeding of children under-five at a community based feeding point or preschool with a daily supplementary meal 5 days/week. The children's weight is also regularly monitored.
- *Monitoring and Evaluation* – The programme is monitored continuously and evaluated periodically to facilitate the design and implementation of future nutrition programmes. Operational research is a component of the programme which is still to be developed further. However, data collection has been augmented under the programme.

### **Most Successful Aspects**

- The SFPP helped in the establishment of an intersectoral collaboration towards meeting nutrition goals. There is an active participation of key sectors, such as Agriculture, Community Development, Local Government, and Education, in Nutrition projects. The SFPP is now integrated into the Agriculture Sector plans, indicating a level of involvement and support from agricultural extension work.

This intersectoral approach has strengthened the service offered to communities by extension workers with regard to food and nutrition and other PHC components.

- Community participation and awareness of nutrition issues has increased. An evaluation conducted in May 1989 indicated a high level of community participation in the project which augurs well for the sustainability of the project. A number of projects have been sustained through community efforts, such as labour, implements and even cash contributions.
- Nutrition issues have been brought into the development arena at various levels. The recent evaluation indicated that this project had been discussed in development committee meetings at village, ward, district and provincial levels. The members were aware of the project and its objectives and supported it.
- This programme has created the appropriate climate to introduce a National Food and Nutrition Policy. The National Intersectoral Committee has already been mandated to initiate activities towards the development of a Food and Nutrition Policy. A cabinet paper will be tabled on the Food and Nutrition issue, in order to obtain cabinet mandate to proceed more vigorously with policy development.

### **Programme information on specific Workshop themes**

**Evaluation:** In 1984, the SFPP pilot project was evaluated by a joint SIDA/Zimbabwe team to assess organizational aspects of the programme and the feasibility and effectiveness of the strategies adopted to implement the pilot project. Two thousand projects had been established under the pilot programme. The



evaluation noted that the SFPP was beginning to integrate nutrition into the broader development process. It also noted the potential for the programme to address the problem of childhood malnutrition through intersectoral collaboration. A number of weaknesses in the planning and implementation of the programme were identified, chiefly:

- Limited planning with a lack of a detailed plan of operation with clearly defined goals.
- Lack of clear objectives and guidelines for programme implementation.
- Lack of clear definitions of roles of sectors in the programme.
- Inadequate organization and management skills on the part of programme implementors.
- Lack of a clear agricultural management structure to support the food production component of the programme.
- No clearly defined mechanism for monitoring the programme.
- Lack of coordinating structures at all levels to ensure the adequate input of the various sectors which needed to be involved in the programme.
- Criteria for each section of the target area and group was not often well understood. The target group was not clearly defined and this led to variation in targeting. In some cases the target group was the families of malnourished children and in other cases the whole community in an at-risk area.

This evaluation facilitated the National Nutrition Unit in restructuring the programme, paying particular attention to strengthening organizational and management structures and clarifying roles and responsibilities of the various sectors. A management handbook was developed along with a training strategy to ensure that all members of the intersectoral committees were fully appraised regarding the objectives of the programme and their roles within it.

In May 1989, the National Nutrition Unit undertook a process evaluation of the programme, with the general objective to improve and strengthen the SFPP programme to better identify and address the problem of malnutrition in Zimbabwe. Specific objectives were:

- To assess the extent to which targeting of vulnerable communities and malnourished children is occurring.
- To assess the extent of participation in SFPP at all levels.
- To examine the management of SFPP at all levels.
- To assess progress in integrating SFPP into ongoing planning activities of all sectors.
- To examine the extent to which SFPP projects actually focus on malnutrition as a problem in operational terms, including raising community awareness in nutrition.
- To examine ways in which SFPP projects could be self-sustaining.
- To determine ways in which SFPP could be monitored regularly.

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