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# Linking Community-based Programs and Service Delivery for Improving Maternal and Child Nutrition

Kraisid Tontisirin and Stuart Gillespie

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**Abstract.** *Generic lessons from past experience with community-based nutrition programming relate more to processes adopted than to specific actions implemented—more “how” than “what”—with proactive community participation being a sine qua non for success. Progress has been made where community-based programs are linked operationally to service delivery structures. Government employees at such levels may be oriented to act as facilitators of nutrition-relevant actions that are coordinated by locally elected community-based mobilizers. This mobilizer-facilitator nexus should be supported and managed by a series of organizational structures from the grassroots to national levels. Community-government partnerships need to be forged through broad-based social mobilization and communication strategies. Policymakers should be more open to learning from community-based success so as to know how best to enable and sustain it. This paper describes the ingredients and dynamics of successful community-based nutrition programs including consideration of social mobilization strategies, project planning and design, management structures, implementation mechanisms, issues of monitoring, sustainability, replicability, and the nature of supportive policy.*

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## Introduction

**C**hild malnutrition rates in Asia are the highest in the world. With Asia’s population size, this translates into a massive human development problem, with profound consequences at all levels, from the individual to the national level. The United Nation’s (UN) Fourth World Nutrition Situation Report

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Kraisid Tontisirin is director of the Food Policy and Nutrition Division of the Food and Agriculture Organization. Stuart Gillespie is a research fellow at the International Food Policy Research Institute in Washington D.C. The authors would like to thank Joseph Hunt, David Parker, and Olivia Yambi for comments received on an earlier draft.

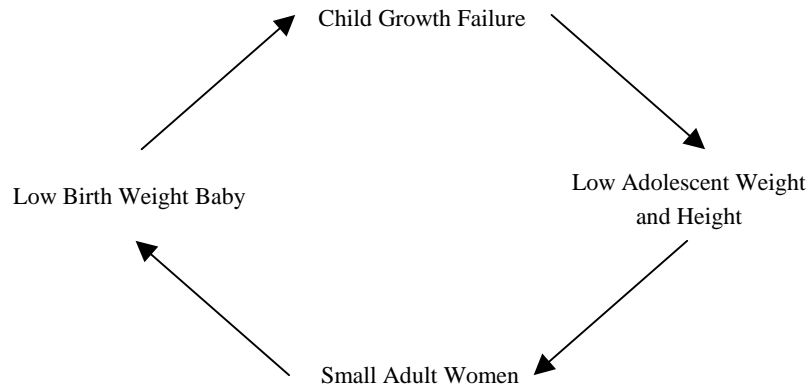
estimates that currently 72 percent of the world's 150 million underweight children live in Asia (ACC/SCN 2000).

Child underweight prevalence is strongly associated with low birth weight prevalence, which in turn is correlated with chronic energy deficiency rates among women. This paper argues that tackling such an intergenerational transmission of malnutrition requires sustained community-based nutrition action, oriented toward the prevention of malnutrition at critical phases in the life cycle.

### **The Intergenerational Transmission of Malnutrition**

Small women give birth to small babies, who are more likely to become small children, small adolescents, and ultimately small adults (see Figure 1). Smallness may be genetically inherited, but the majority of small individuals in most poor, developing countries are small because they have suffered, or are currently suffering, from malnutrition.

Figure 1: **The Intergenerational Cycle of Malnutrition**



Source: ACC/SCN (1992).

Malnutrition that occurs during childhood, adolescence, and pregnancy has an additive negative impact on the birth weight of the newborn (Gillespie 1997). A low birth weight baby who has suffered intrauterine growth retardation as a fetus is effectively born malnourished, and is at higher risk of dying in the neonatal period or later infancy. If s/he survives, s/he is unlikely to significantly catch up this lost growth later and will be more likely to experience a variety of developmental deficits. By age five, s/he is most likely to be stunted—a condition that will probably persist through adolescence and adulthood (Martorell et al. 1994). The adolescent

growth spurt offers a chance to compensate for earlier growth failure, although such potential is limited. The stunted child is likely to become a stunted adolescent, and later a stunted adult. Stunted pregnant women are more likely to give birth to low birth weight babies. And so the cycle turns.

### **Preventive, Community-based Action**

To combat the intergenerational transmission of malnutrition, issues of gender equity and care will need particular emphasis (see Engle 1999 and Haddad 1999). As Ramalingaswami et al. (1996) state, “the exceptionally high rates of malnutrition in South Asia are rooted deep in the soil of inequality between men and women”. Inadequacies in the capacity and practice of care (more so than the underlying food security and health-related determinants of malnutrition), will need to be addressed by preventive community and household-based action, with enabling support from external sources.

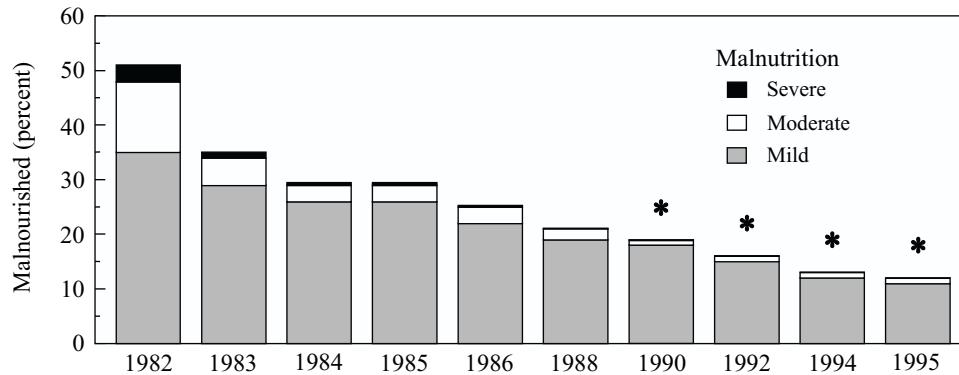
Community-based programming for child nutrition thus lies at the heart of the nutrition investment plans under the ADB-UNICEF Regional Technical Assistance Project on Reducing Child Malnutrition in Eight Asian Countries (hereafter referred to as the Project). Such programs, however, are not isolated, but linked to service delivery systems and broader management structures. This partnership between communities and government structures is considered, on the basis of past experience, to offer the best opportunity for accelerating progress toward malnutrition reduction goals in Asia. The working partnership needs to be facilitated and strengthened by enabling and supportive policies and programs.

This paper focuses on the ingredients and the dynamics of community-based programming for nutrition, and the nature of effective linkages with service delivery. The first two sections describe what we know from past experience, including national success stories such as Thailand as well as multiprogram reviews such as those carried out by the United Nations Sub-Committee on Nutrition (ACC/SCN) in the early 1990s and United Nations Children’s Fund (UNICEF) South Asia in 1995 (Kachondham et al. 1992, Gillespie and Mason 1991, Jennings et al. 1991, Gillespie et al. 1996, Jonsson 1997). Subsequent sections describe the key program “success factors” that have emerged from past experience, and how they interrelate. For each of these, best practices are described, along with examples of activities proposed within the Project’s investment plans.

### **The Case of Thailand**

During the nine years from 1982 to 1991, Thailand reduced malnutrition (underweight) rates among preschool children from over 50 percent to under 20 percent,

Figure 2: Trends in Preschool Child Malnutrition (weight for age) in Thailand



Note: \* Very low prevalence and is included in moderate PEM.  
Source: ACC/SCN (1999).

virtually eradicating severe and moderate malnutrition in the process (see Figure 2). The latest 1996 figure of 10 percent underweight shows further progress. Moreover, these gains have proved resilient to the recent shocks imposed by the severe financial crisis in Thailand.

Such success was not achieved indirectly, as a by-product of another policy or program change. Rather, it is a shining example of how prioritized, effective, and explicit nutrition-relevant action on the part of governments can transform the nutritional status of a nation within a decade. Political commitment, clear goals, good strategic and program planning, sustained integrated action and systematic monitoring, fuelled by a process of social mobilization and growing community ownership, were the driving forces.

Thailand recognized that strategies to prevent and control malnutrition in several developing countries had met with limited success. Programs were often relegated to merely service-driven initiatives, rather than integrated community-based programs aimed at reaching and involving vulnerable groups.

Once malnutrition had been recognized as an outcome of a multitude of interrelated factors, it was considered imperative to deliver essential services using a more holistic approach. Self-reliance was emphasized at the community level by developing need-based programs and strengthening the self-help capabilities of the rural and urban disadvantaged. It was also recognized that such an approach would lead to greater coverage of the target population. Thus nutrition interventions were integrated not only with existing primary health care activities, but also with overall

community development initiatives being planned and managed at both district and community levels.

Four elements—planning, integration, social mobilization, and local action-oriented surveillance—were critical to Thailand’s success.

## **Planning**

Planning was undertaken at both macro and micro levels. Difficulties and obstacles are often faced in implementing plans for decentralization and encouraging community participation. The breakthrough in Thailand came with the adoption of the basic minimum needs (BMN) approach in 1986, based on the use of simple indicators for village-based social planning. BMN indicators included both outcome indicators, e.g., child malnutrition rates, low birth weight, and micronutrient deficiency prevalences, as well as process indicators such as immunization coverage, provision of antenatal care services, availability of potable water supply, and sanitary services. These indicators served as a means of:

- (i) setting locally valid program objectives;
- (ii) empowering people to participate in community development activities;
- (iii) balancing the respective roles of the community and government;
- (iv) promoting better integration of multisectoral services at the community level;
- (v) targeting appropriate resources to areas of greatest need; and
- (vi) providing a framework for evaluation.

Micro level planning was undertaken by a team that included community leaders, nutrition and health professionals, middle level government officials, representatives from NGOs, and district/subdistrict chiefs of various sectors. This team decided upon key BMN indicators according to the community’s priorities, which were later transformed into locally valid goals and objectives to be monitored. The community-based planning process thus enabled service providers (“facilitators”) and community leaders to collectively set realistic goals and develop workable plans. Based on the particular problems revealed by the local BMN indicators, a series (or “menu”) of nutrition-relevant actions was initiated. Once the plan was in place, the program was tested for its feasibility, process of operation, and application in selected, most needy areas.

Macro level planning was geared to supporting these processes through promoting closer collaboration with relevant sectors such as health, agriculture, education, and rural development. Macro planning was undertaken by a core group of nutrition and health professionals, government officials, policymakers, and, in certain cases, senior representatives from international agencies. District chiefs were

re-oriented through training seminars and workshops on community-based nutrition programming, which were planned and implemented by multisectoral government officials, academics, NGO representatives, and community leaders. Training was later reinforced through field visits to the community where the program was in operation. International agencies or private agencies were approached to sponsor training workshops for the working team, or to provide support through seed money at the district/community level. Thailand's five-yearly National Economic and Social Development Plans now include separate national plans for nutrition with specific child malnutrition reduction goals.

### **Integration**

Nutrition was seen as encompassing components from several sectors, not just the health sector. In 1981, the Poverty Alleviation Plan was developed and adopted in poor regions of the country. Households and communities were empowered by several income generation schemes that converged in the areas of health, agriculture, and education. This led to the close involvement of these different sectors and enabled an integration of minimum basic services at national, regional, local, and community levels.

The context necessary for systematically planning, selecting, and then implementing community-based actions was thus one that combined the provision of multisectoral minimum basic services (in the health, agriculture, and education fields in particular), with local efforts, whereby individuals, families, and communities worked to provide for their own basic minimum needs. Health components focused both on short-term and long-term program goals, while agricultural activities and education aimed at long-term nutritional improvement through ensuring food security, income generation, and nutrition behavior change.

In health, service delivery focused particularly on prevention and promotion, including antenatal care for pregnant women in order to promote adequate maternal weight gain and ensure a healthy birth weight, control and prevent micronutrient deficiencies, and reduce the risk of preventable maternal mortality. Growth monitoring and promotion (GMP) to ensure proper child growth and development, and the protection, promotion and support of breastfeeding and appropriate complementary feeding, was also emphasized. Other related health services such as immunization, oral rehydration therapy, deworming, treatment of local endemic diseases, and provision of potable water and sanitary latrines, formed integral components of program activities.

In education, service delivery was formal and/or nonformal. Formal education programs in schools included incorporating nutrition modules in educational projects aimed at improving children's nutrition (school midday meals programs, micronutrient supplementation, and deworming), integrating nutrition/health education

materials and methods and techniques into existing curricula, making capital and other investments in school kitchens, and promoting the extension of school gardens and related food production activities. In nonformal educational programs, the service delivery approach centered on coordinating health and agriculture extension services, especially where they intersect (e.g., school agricultural projects to support lunch programs), developing an adequate information system to monitor communities in terms of the nutritional status of pregnant and lactating women, infants, young children, and adolescent girls, and, finally, on consumer education for appropriate food selection, purchase, preparation, and safe storage.

In agriculture, investments were made to strengthen service delivery approaches with regard to subsistence food production in communities, households, and schools via horticultural and animal husbandry activities, and to provide technical assistance in practical home gardening and community agricultural research to identify appropriate food sources and encourage their suitable production. These served as indigenous sources for preparation of supplementary foods for pregnant women and adolescent girls, and complementary weaning foods for young children.

### **Social Mobilization**

Service providers worked as a team with community leaders and gradually emerged as “facilitators” for community activities. The two groups of service providers and community leaders collectively set realistic goals and developed plans for tackling malnutrition in the target populations. In addition to providing basic services, a supportive system provided appropriate training and supervision at various levels for decisionmakers, field managers, service providers, and community health/nutrition volunteers. Implementation of appropriate “menus” of activities, as well as monitoring and evaluating the community-based program—all guided by the BMN indicators—were joint responsibilities of community leaders and facilitators.

The system was strengthened through periodic review meetings at the grassroots level, and annual or biannual meetings at more central levels, to supervise and monitor the program. A high degree of local level organization, through village nutrition committees or women’s groups, was crucial for promoting interaction between the community and the facilitators for management of activities and implementation of community-level initiatives.

#### *Mobilizers and Facilitators*

It was seen that a cluster of 10 to 20 households commonly depended on one or two well-respected individuals for guidance or assistance in emergency situations. Such individuals were selected by the communities themselves as community health nutrition volunteers or mobilizers, and given appropriate training. Mobilizers served

to link service delivery with the communities and to foster local community-based nutrition initiatives. Mobilizers were individuals, preferably women, with qualities of leadership and commitment who were capable of instilling confidence in community members and encouraging their involvement. A ratio of one mobilizer to 10-20 households was considered optimal for maximizing program effectiveness.

While mobilizers did not receive any cash incentives or salary, they benefited from free medical services for themselves and their families, and organized visits to other communities. Recognition was also given in the form of volunteer badges, uniforms, certificates, and awards for meritorious performance.

Training of mobilizers was a pivotal element of successful programming. An initial training of about two weeks was given, covering theoretical and practical aspects of basic nutrition and health facts, including emphasis on the importance of antenatal and postnatal care, maternal and child care practices, birth spacing, breast-feeding, immunization, complementary feeding, growth monitoring and promotion, etc. Communication skills were instilled to foster adequate care and nutrition of women and children, and to motivate self-help activities among local community members, particularly women's groups.

On-the-spot refresher training and monitoring of specific activities was then undertaken every one to two months, and the mobilizers were motivated to strengthen supportive links between themselves and the community on nutrition activities. Communities were encouraged over time to take increasing responsibility for influencing growth of their own children using simple, attractive growth charts.

The success of the mobilizer system depended largely on supervision at all levels, especially at the community level. Supervision was oriented toward support, rather than policing, including on-the-spot training, problem-solving, motivation, legitimization, and the sharing of technical and managerial information between facilitators and mobilizers. Interpersonal supervision on a regular basis was found to be most effective, along with periodic monthly or bimonthly review meetings of mobilizers and facilitators. Additional methods of supervision included communication through meetings, social events, and distance supervision through printed media.

Based on the functions and tasks set, impact indicators were tracked and evaluation collectively undertaken, leading to recommendations for improvement. Evaluation was seen as an ongoing process that included both qualitative and quantitative indicators.

### **Local Surveillance for Action**

Comprehensive nutritional surveillance was instituted through growth monitoring and promotion. All preschool children were weighed and their health checked every three months at community weighing posts. This surveillance served as a screening, educational, remedial, and integrative tool for both mobilizers and



mothers. The fundamental approach was to move the responsibility from the health service providers to the community and place greater emphasis on community education and involvement. When mothers were able to visualize their children's growth, they took greater responsibility for their nutritional improvement. The challenge was to introduce the concept of the rate of weight gain as an indicator of healthy growth to the communities.

Other surveillance tools included the BMN indicators, described above, which were used for community-based monitoring as well as planning. In Thailand, more than 95 percent of villages are now using BMN indicators to guide their developmental activities. In rapidly improving areas, new indicators are being added and success criteria are being raised (Tontisirin 1995, Gillespie et al. 1996).

### **Resilience of Community-based Nutrition**

The economic crisis that engulfed much of Southeast Asia in the late 1990s has impacted on various spheres of development. While information on the specific impact on the nutritional status of the population in Thailand is not yet available, it is known that effects on the food security status of the Thai population have been mitigated by the existence of a food safety net—established through the long-term efforts of the Royal Family, the Government, and various NGOs—along with several remedial actions (Tontisirin and Bhattacharjee 1999). The Royal Family has been closely promoting food self-sufficiency through improvement of agriculture and food production programs throughout the country, with special efforts directed to the vulnerable regions bordering Thailand. Subsistence food production has been prioritized, and integrated farming systems introduced to optimize the use of available land.

Government support schemes have been set up in an effort to address the crisis, (e.g., a “social investment fund”) which helps to link communities with NGOs for community-based activities such as small-scale farming, food business enterprises, fruit processing, and other self-help activities. Various food production, processing, and marketing schemes for the unemployed are also available. Provision of training and the establishment of credit co-operatives to both rural and urban groups at the community level have helped to meet both nutrition and income needs of economically disadvantaged populations.

Nutritional gains in Thailand are likely to have proven resilient. Given the solid community base to nutrition programming, along with food security-oriented efforts designed to mitigate the effects of the crisis on the most nutritionally vulnerable households and communities, it is considered unlikely that there will be any lasting serious nutrition consequences.

In sum, Thailand is an enduring example of the successful integration of macro level planning with micro level action. Strong political will at the governmental level,

in close coordination with various sectors and academic institutions, has enabled much of the success in community-based programming. Specifically, the widespread selection, training, mobilization and support of community health nutrition volunteers, backed up by enabling sectoral policies and programs, has been pivotal.

### **Syntheses and Reviews**

Past experiences of attempts to initiate and implement community-based nutrition programs in Asian countries have been documented in various syntheses and reviews, particularly during the 1990s. Three main reviews carried out by the United Nations ACC/SCN have attempted to unravel the dynamics underpinning success in nutrition—either at a national level or with regard to a specific program. *Nutrition-Relevant Actions* (1991) focused on national policy and its effect on nutrition outcomes, differentiating direct from indirect actions; *Managing Successful Nutrition Programmes* (1991) comprised a synthesis of experiences from 17 nutrition programs in 12 countries that were discussed at the 1989 International Union of Nutritional Sciences (IUNS) Congress in Seoul; while *How Nutrition Improves* (1996) synthesized the findings from 11 case studies of national-level approaches to improve nutrition, presented at the 1993 IUNS Congress in Adelaide (Gillespie and Mason 1991, Jennings et al. 1991, Gillespie et al. 1996).

In the latter study, Asian case studies included those for Thailand, Indonesia, Pakistan, India, and Malaysia. The following are some key findings from these country case studies:

- (i) Nutrition programs give constituency to nutrition and may even promote a broader awareness of the problem of malnutrition. Those programs that emphasize the process of nutrition programming (the “how”), and those that are strongly rooted at the community level, tend to be more successful and more sustainable. Decentralized decision-making power, not just responsibility, is crucial. National-level impact of programs in the 1970s and 1980s, however, remained limited by coverage. Program expenditures are around \$10 per beneficiary.
- (ii) Additional important programmatic issues include problem definition and analysis, design, infrastructure, coverage, intensity, management, and ownership.
- (iii) A mix of top-down and bottom-up nutrition planning is pragmatic and effective, with beneficial synergisms likely between the two.

- (iv) A duality of institutional support for nutrition (with the research/advocacy/monitoring and planning institutions separated from the operational agencies) seems to be effective.
- (v) Nutrition considerations have influenced broader development policies, generally through relevant functional information on the malnourished catalyzing an awareness of malnutrition, and its linkages and indirect effects. Democratization and a freeing up of the media have supported this.
- (vi) The process of developing a nutrition policy is at least as important as the immediate outcome. If the formulation of a policy does not include the time necessary to promote awareness and mobilize sectors, it may fail to achieve a significant impact.

### **Model Programs**

There are remarkably few well-documented evaluations of single large-scale nutrition programs in the literature, but two stand out, although they are both quite old now—the Tamil Nadu Integrated Nutrition program (TINP) in South India (Shekar 1991, Gillespie and Measham 1998) and the Iringa Program in Tanzania (Kavishe 1992).

The Tamil Nadu Integrated Nutrition Project (TINP-I) initiated in 1980 was a forerunner of the Bangladesh Integrated Nutrition Project. TINP-I became well known in international nutrition circles during the 1980s as a “success story”, having achieved a highly significant reduction in severe early childhood malnutrition. Evaluations indicated a decrease in underweight prevalence of about 1.5 percentage points per year in participating districts, twice the rate of nonparticipating ones (Shekar 1991). The success of TINP-I was founded on several factors, including selective feeding (careful focus on supplementing the dietary intake of young children when their growth faltered and until their growth resumed), favorable worker-supervisor ratios, clear job descriptions, and a well-focused monitoring system.

The Second Tamil Nadu Integrated Nutrition Project (TINP-II) launched in 1991 in 318 of Tamil Nadu’s 385 rural blocks, sought to move beyond reducing severe malnutrition to making a significant dent in the high prevalences of children suffering from *moderate* malnutrition, i.e., shifting toward a more preventive focus. The core strategies were regular growth monitoring and promotion, nutrition education, and health checks for all children, with supplementary feeding of moderately and severely malnourished and growth-faltering children, and high-risk pregnant and lactating women.

While the project was successful in achieving its objectives of reducing severe malnutrition and infant mortality rates, moderate malnutrition and low birth weight prevalences were not reduced significantly, although some progress was made (Gillespie and Measham 1998).

The main lesson learned from TINP-II concerned the need to intensify the focus on localized capacity-building, community mobilization, and targeted, interpersonal communications aimed at improving home-based care and feeding of 6-24 month-old children in order to prevent their becoming malnourished. Overall, supportive counseling of caregivers and high-quality service delivery, allied with a concerted move toward social mobilization and participatory planning, should be the pillars of future nutrition improvement strategy.

Most of these substantive lessons are relevant beyond Tamil Nadu. TINP-I has shown that nutrition interventions that are targeted using nutritional criteria, integrated within a broader health system, and effectively supervised and managed can significantly reduce severe malnutrition. TINP-II has also shown that to go further and prevent children from becoming moderately malnourished is in many ways a harder task and one that requires a significant shift in emphasis. Nutrition programming in Tamil Nadu is still evolving toward an approach that stresses human capacity-building for home-based action, a proactive integration with the health system, and the mobilization of communities to sustain the process beyond the project.

### **UNICEF South Asia Multi-program Review of Community-based Nutrition Programs**

The most directly relevant study focusing on success in community-based nutrition in South Asia was commissioned in 1995 by UNICEF's Regional Office for South Asia. The study appraised 21 community-based nutrition programs or projects from five countries: Bangladesh, India, Nepal, Pakistan, and Sri Lanka, in order to distil common reasons behind their success (Jonsson 1997). A carefully drawn up protocol was used to structure the appraisals, which divided success factors into those that were contextual or pre-existing, and those that were programmed, i.e., brought about by the program or project.

These factors, outlined below, also provide guidance in what to consider in designing and evaluating a community-based nutrition project. Not all these factors are relevant in every situation, nor are they all necessary simultaneously to reduce malnutrition. Yet it is likely to be difficult to design effective nutrition programs in situations where few of the indicated contextual success factors exist.

*Key Contextual Success Factors*

- (i) Political commitment at all levels of society was considered essential for social mobilization at the start of the program or project and for future sustainability. The integration of nutritional goals in development programs in general is a clear manifestation of genuine awareness and political commitment.
- (ii) A culture where people, particularly women, are involved in decision making was a prerequisite for people's participation and the creation of articulate bottom-up demands. A high level of literacy, especially among women, was also associated strongly with participation and organizational capabilities.
- (iii) The presence of community organization, (e.g., women's groups, people's NGOs, credit associations, youth clubs, peasant associations) along with good infrastructure for the delivery of basic services, including committed and capable staff.
- (iv) The presence of charismatic community leaders, who can mobilize and motivate people to do more for themselves in a genuinely self-reliant way.
- (v) The parallel implementation of poverty-reducing programs, particularly those integrated with nutrition-oriented programs or projects.

*Key Program Success Factors*

- (i) The creation of awareness of the high prevalence, serious consequences, and causes of malnutrition, including the hierarchy of immediate, underlying, and basic causes, and the need to address causes at all three levels.
- (ii) The initiation, promotion and support of a process whereby individuals and communities participate in assessing the nutrition problem and decide on how to use their own and additional outside resources for actions (see discussion below of the "Triple A process").
- (iii) Clear identification and definition of time-bound goals (targets) at all levels of the program/project. Young children from birth up to two to three years of age, pregnant and lactating women, and adolescent girls were normally the focus.

- (iv) The identification and support of facilitators and community mobilizers, providing a sense of joint ownership of the program/project by the community and government.
- (v) Good management of the program/project, including effective leadership, training and supervision of facilitators and mobilizers, an appropriate balance between top-down and bottom-up actions, and effective community-based monitoring.
- (vi) The involvement of local NGOs, who often provided excellent facilitators as well as culture-relevant training. They were usually accountable to the community, which facilitated sustainability.

It is interesting to compare the result of the UNICEF South Asia multiprogram review with the earlier studies on factors/elements associated with successful nutrition programs and projects. The recommendations from all these studies are very similar, implying the existence of a broad consensus on what determines a successful community-based nutrition program or project.

The main programmatic success factors that have emerged from these reviews will now be discussed in detail in the remainder of this paper, interspersed with examples of actual or proposed activities within the Project's country nutrition investment plans. The contextual factors are dealt with elsewhere, e.g., Mason, Hunt et al. (2001) and Haddad (1999) on gender.

### **Linking Outcomes with Processes**

Past experience strongly supports the notion that success in nutrition requires the achievement of certain desirable *outcomes* by means of an adequate *process*. During this decade, a number of desirable outcomes have been specified in the form of time-bound malnutrition reduction goals, e.g., those that emerged from the World Summit for Children in 1990 and the International Conference on Nutrition in 1992.

Process, on the other hand, has been increasingly specified with regard to participation, local ownership, and empowerment. A focus on process thus aligns with the human rights rationale for action whereby "beneficiaries" are considered as subjects of their own growth and development, rather than passive recipients of welfare-oriented transfers.

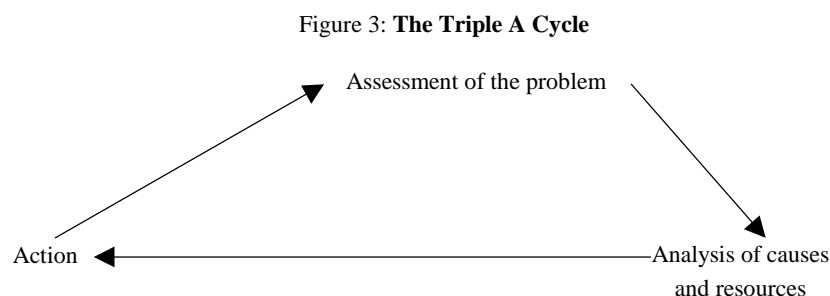
Top-down, outcome-focused service delivery or nutrition interventions have tended to dominate the field of nutrition in the past. With limited community ownership and little attention, if any, to the strengthening of local nutrition-improving processes, long-term effectiveness is consequently weak and sustainability dubious.

Process-focused development projects, on the other hand, are more bottom-up in their emphasis on participation and empowerment, and often supported by NGOs. While they may be sustainable and effective, their impact may nonetheless be constrained by their limited coverage.

How can the outcome and process orientations be effectively integrated?

Effective processes clearly already exist, in the form of coping and survival strategies that have evolved over generations. In these internal processes, nutritionally vulnerable individuals themselves are the prime movers or key actors. When an individual becomes aware of the nature and causes of malnutrition, she or he normally changes decisions on how available resources are used so as to improve nutritional outcomes.

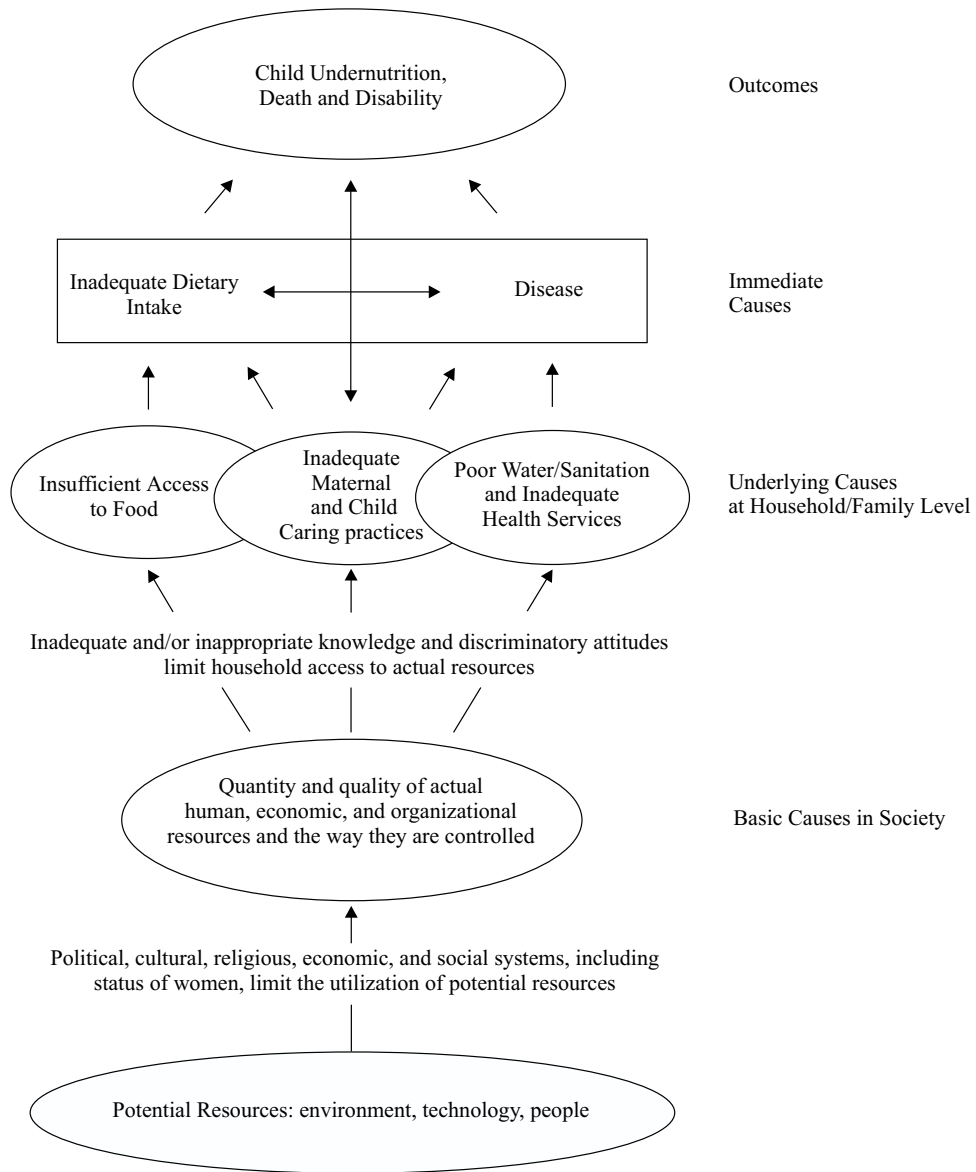
An ideal process would consist of a correct assessment of the problem, followed by an appropriate analysis of the causes of the problem and the resources available to combat it. Based on these causal and resource analyses, actions would then be taken and the result, including the achievement of a particular desirable outcome, measured. This would in turn provide an opportunity for further analysis and better action. As this “Triple A” process of Assessment-Analysis-Action iterates, outcomes progressively improve (see Figure 3).



Source: UNICEF (1990).

The use of a conceptual framework showing the causes of malnutrition and how they relate to each other (see Figure 4), is essential for the problem analysis within the Triple A process. In this framework, causal factors and their interactions are shown at three main societal levels—immediate, underlying, and basic. The synergistic interaction between the two immediate causes, inadequate dietary intake and disease, fuels a vicious cycle that accounts for much of the high morbidity and mortality in developing countries. Three groups of underlying factors contribute to

Figure 4: Conceptual Framework of the Causes of Child Malnutrition



Source: Adapted from UNICEF (1998).



inadequate dietary intake and infectious disease: household food insecurity, inadequate maternal and child care and poor health services, and an unhealthy environment. These underlying causes are in turn underpinned by basic causes that relate to the amount, quality, control, and use of various resources (UNICEF 1998).

In order to strengthen nutrition-improving processes, outsiders may be effective in a catalytic, facilitating role, but not as implementers, which precludes the imposition of externally designed, prepackaged interventions. As argued in the next section, services can be implemented with a high degree of social mobilization and participation such that communities are empowered, processes strengthened, and outcomes progressively achieved through building and strengthening linkages between service-delivery structures and their frontline workers on the one hand, and community-based programs and local mobilizers on the other.

A central challenge for nutrition programs is finding a balance of approaches that work. While a shift toward a more bottom-up approach to nutrition programming is usually required, there are nonetheless some nutrition-relevant actions that can be appropriately formulated at higher levels, using wider and more top-down application of appropriate strategies and technologies based on the best scientific knowledge, e.g., iodization of salt or immunization. It is thus not an “either/or” question as *both* top-down and bottom-up approaches are potentially relevant and appropriate. The main consideration is how to integrate these two approaches for maximal long-term impact on nutrition. Service delivery programs, which tend to focus on the immediate causes of malnutrition, should be designed and implemented in such a way that they create opportunities for capacity-building and empowerment—which will in turn impact on the underlying and basic causes (see Figure 4).

Thus outcome and processes should be viewed as dual objectives. In a sense, the process should not merely be seen as a means to an end, but as part of the end itself. The Triple A cycle provides guidance in strengthening or facilitating nutrition-improving decision-making processes in communities, while the conceptual framework—as a hierarchical structure of causes and outcomes—provides another tool to guide and focus problem analysis and choice of appropriate actions.

### **Forging a Community–Government Partnership**

Given such a focus on processes, what type of human infrastructure is most appropriate for implementation and management?

The operational nexus of many successful community-based nutrition projects is a fully functional link between service delivery outlets and the communities themselves. This link tends to be forged through a partnership between frontline government employees as facilitators and community-level workers as mobilizers, although names will differ.

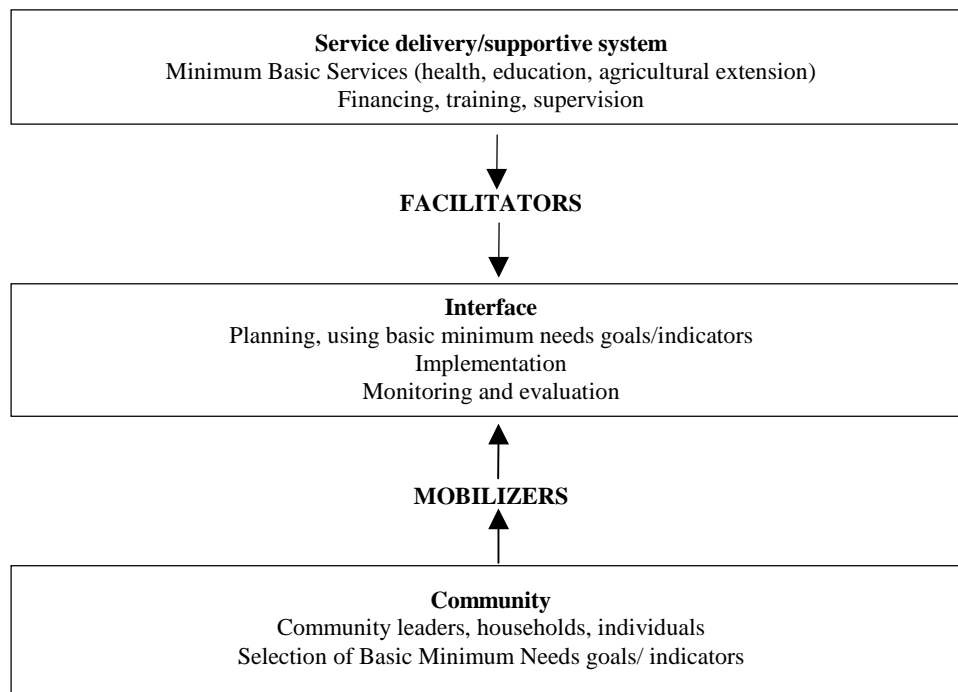
### Mobilizers and Facilitators

The community mobilizers are usually respected members of the community, most often volunteers or at least not remunerated from outside. As described above, the success in Thailand was crucially dependent on the use of such village-based volunteers, who were well-respected women chosen from within and by the communities, who then mobilized support and developed self-help systems within these communities.

Facilitators, on the other hand, are usually paid frontline primary health care workers, NGO employees, or even staff from universities or other institutions of learning, who may support, supervise, and train mobilizers. They normally do not live in the community but visit the community frequently; they know the local language, and are familiar with and positive toward the local culture.

The ratios of mobilizers to households and facilitators to mobilizers are important factors. Drawing on the Thai experience, 1:20 at each link is taken as a benchmark. Figure 5 portrays the nature of the linkage between service delivery structures and the community, mediated by the facilitators and mobilizers, and the type of work done at the interface.

Figure 5: **Community-based Nutrition Operational Nexus**



In drawing up their nutrition investment plans, the study countries drew on past experience of what has worked elsewhere in Asia, and why, and considered the nature and causes of child malnutrition and the relevance and feasibility of different remedial strategies. Table 1 shows the different tasks of the mobilizers and facilitators as proposed by selected countries in their investment plans.

Table 1: Roles and Responsibilities of Mobilizers and Facilitators in Proposed Nutrition Investment Plans

Country	Mobilizer	Facilitator
Bangladesh	Conduct monthly growth monitoring and promotion; micronutrient supplementation (iron, vitamin A); nutrition and health counseling and referral.	Support and supervise mobilizers.
Cambodia	Promote home-based care; utilization of health services including growth monitoring, promotion of food safety and hygiene; promotion of appropriate feeding practices; deworming and micronutrient supplementation; IMCI.	To ensure that mobilizers have adequate capacity to promote household-level activities.
India	Village-based <i>anganwadi</i> workers (AWWs) of the ICDS program are the closest existing approximation of a mobilizer, but at 1 per 200 households, they are overstretched. Community volunteers are thus proposed as additional resources in the investment plan. AWWs provide five services to 0-6 year-old children and mothers: supplementary feeding; immunization; health check-ups and referral; health and nutrition education to adult women; and preschool education to 3-6 year-olds.	ICDS supervisors at block-level supervise AWWs through regular on-site support and monthly review meetings. AWWs also link with auxiliary nurse midwives for health-related activities.
Pakistan	Community health nutrition volunteers (CHNVs) and <i>dais</i> (traditional birth attendants) aim to provide the missing link between health care outlets and the users of such services. They will undertake tasks relating to maternal care, child growth monitoring and promotion, and counseling mothers on infant feeding and care, birth spacing, hygiene and sanitation etc.	Lady health workers deliver primary health care and nutrition services including community organization, disease control and prevention, maternal and child nutrition and health care, and personal and family hygiene.
Sri Lanka	Social mobilization through women's group formation; nutrition and health counseling; promotion of health service utilization; participation in community development plan preparation; quarterly evaluation meetings; integration of nutrition-relevant activities within poverty alleviation program.	External facilitators are staff of the Divisional Secretariat offices, including managers of the poverty alleviation program ( <i>Samurdhi</i> ). MOH staff provide additional technical support.

*continued next page.*

Table 1. (cont'd.)

<b>Country</b>	<b>Mobilizer</b>	<b>Facilitator</b>
Viet Nam	Register young children and pregnant women; mobilize pregnant women for ANC; undertake nutrition counseling; growth monitoring and promotion; compile monthly report; participate in monthly meetings.	Draft commune Plan of Action; act as a secretary to Commune Steering Committee; assist in work of mobilizers; organize monthly review meetings with mobilizers; report regularly to district level.

It is the relationship between facilitators and community mobilizers that determines the extent to which outside support can become catalytic and empowering, rather than creating a new dependency that cannot be sustained. The facilitator channels the outside support to the community through community mobilizers, while the mobilizer in turn internalizes this support in such a way that community processes are strengthened and accelerated (Jonsson 1997).

The selection and training of facilitators and community mobilizers is key. Facilitators should not train mobilizers in what to do, but rather strive to empower them. This requires both participatory training methods and a power-shift from the outside supporter to the facilitators and the mobilizers. Outside support channeled through facilitators includes advocacy, information, education, training, and direct service delivery.

The empowerment of community mobilizers is strongly facilitated by the existence of community organizations, an important contextual success factor identified in the UNICEF South Asia study (and discussed in detail in Mason, Hunt et al. 2001). If such organizations do not exist, they need to be created. It is important that these organizations represent the nutritionally vulnerable people in the community. Women's groups or organizations are often the most committed and efficient organizations for addressing nutrition problems. Indeed, the involvement of women is another prevalent contextual success factor, though it is important to combat the perception that solving the nutrition problem is the sole responsibility of women. Successful programs are thus "gender-focused" not "women-focused" (as discussed in Haddad 1999).

### **Management Structures and Systems**

Examples of the different types of organizational structures and implementation and management systems of community-based programs in the study countries—from community to national levels—are shown in Table 2.

Table 2: Examples of Management Structures and Systems

Country	Management Structures
Bangladesh	<p>The proposed Community-based Nutrition Component of the National Nutrition Program in Bangladesh operates through Community Nutrition Centers, which are each staffed by one volunteer community nutrition promoter (CNP). CNPs report to community nutrition organizers (CNOs) who each oversee ten CNPs. CNOs in turn report to the <i>thana</i> manager, who coordinates all Bangladesh Integrated Nutrition Project activities within the <i>thana</i>. At the central level, the project is administered through a project director and deputy project directors for MIS and program, training, IEC, and administration. At the village, union, <i>thana</i>, and national levels, nutrition management committees, comprising community leaders and representatives of related sectors (e.g., health, agriculture), provide inputs to project activities.</p>
Cambodia	<p>The existing Community Action for Social Development (CASD) program in Cambodia supports the establishment of village development committees (VDCs) as instruments for community development, through a gender-sensitive, free and fair election of VDC members. The CASD is a cross-sectoral program implemented with support from several ministries, notably the Ministries of Planning, Rural Development, Women Affairs, Agriculture, Education, Health, and Interior (in charge of local government). This process of “building from below” is supported by national, provincial, district, and commune structures of government in the relevant ministries. For the community-based strategy, family members will be the main implementers at the household level, while the VDC will be the main implementers at the village level. Village action plans would then be compiled into commune action plans whose implementation will be supported by multisectoral commune-district-provincial working groups. At the national level, the Ministry of Planning will coordinate through the National Food and Nutrition Committee, which has a ministerial sub-committee backed up by an interministerial technical committee. Nutrition focal points in relevant ministries will be appointed to incorporate the national level strategies into their specific sectoral plans and support the community-based strategies from their particular sectoral vantage points.</p>
PRC	<p>The management structure for the investment program builds interdisciplinary and cross-sectoral teams at all levels of the system. There will be three distinct organizational structures with different roles. The national-level supervisory policy group, comprising intersectoral policy leaders, will formulate plans, develop legislation, and oversee financing. The management group, comprising representatives of organizations involved in operations management, will coordinate and implement project activities. Finally, the technical group, comprising experts from national and international agencies, will provide technical guidance.</p>
Pakistan	<p>The implementation of the community-based component of the nutrition investment plan will be the responsibility of the Ministry of Health. From province to village levels, functional committees will be organized for management, coordination, monitoring, and evaluation. The Director General of Health will act as the secretary of the National Implementation Committee, and also as the project director. The functional committees will be directly involved in management and the selection, training, and supervision of <i>dais</i>, community health nutrition volunteers and lady health workers.</p>

### **Social Mobilization**

Social mobilization is the process of bringing together all feasible intersectoral social partners to determine felt need, and raise demand for and sustain progress toward a particular development objective, in this case, child malnutrition reduction. It involves enlisting the participation of such actors as institutions, communities, and social and religious groups in identifying, raising, and managing human, economic, and organizational resources to increase and strengthen participation in nutrition-relevant activities. Through social mobilization, the pursuit of common goals and objectives becomes progressively rooted in the community's conscience, thus ensuring sustainability.

While the emphasis in community-based programming will be on community mobilization to foster a growing sense of ownership, social mobilization does not only apply to communities. The mobilization of strategic allies also is a very important tool in creating a supportive environment for change.

The social mobilization component of the Bangladesh program is one example. This involves various nutrition committees at village, ward, union, and *thana* levels, who follow the Triple A approach at each level as they focus attention on malnutrition, its causes, and its local solutions. Through local government-community partnerships, mobilization and participation is promoted and supported at each level. A continuous interaction and feedback operates between the service providers and recipients through mobilizers. The social mobilization also strengthens local organization and enrolls the broader community to work for nutrition.

### **Community Participation and Community Ownership**

Active community participation leads to community ownership. Yet the concept has been abused in the past where "community participation" has been covertly viewed as a way of co-opting local people to undertake certain tasks cheaply, so as to further goals set by external programmers. In such approaches, community participation in implementation was usually not matched with power over decision-making or control over the use of resources. Consequently, there was little sustainability. Active (or proactive) community participation should thus be differentiated from passive (or coerced) participation.

In addressing malnutrition, there is no substitute for assessment and analysis done with the full and active participation of the families most threatened by nutritional problems and most familiar with their effects and causes. Not only does this make sense with regard to efficiency, effectiveness, and long-term sustainability (Bamberger 1988), it is also an imperative from a human rights perspective. Children's rights give them valid claims on society. In order for households and commu-

nities to carry out their duties toward children, they must be recognized as key actors rather than as passive beneficiaries.

Community participation has been defined as having three main elements: the sharing of power and resources, deliberate efforts by social groups to control their own destinies, and the opening up of opportunities from below (Dillon and Steifel 1987, Ghai 1988). In the long run, active community participation, almost by definition, is essential for real community-based nutrition programming to succeed and sustain itself. It routinely emerges as a key success factor in many reviews of nutrition programs (e.g., Gillespie et al. 1996, Jennings et al. 1991).

Participation may also be measured. Shrimpton (1995) has provided an analytical framework that enables the following ingredients of participation at different stages of program planning, implementation, and monitoring to be graded according to the degree to which the community actively participate: needs assessment and choice of action, organization, leadership, training, resource mobilization, management, orientation of actions, and monitoring evaluation/information exchange.

### **Communication**

Communication plays a special role in social mobilization through arming parents, educators and other caregivers, not only with basic nutrition information but also with the ability to make informed decisions and the skills and knowledge needed to take action to strengthen nutrition-improving processes in their communities.

Communication should be carried out simultaneously at various levels to include parents, other family members, teachers, volunteers, and community leaders, who can in turn teach and support good practices. In addition, personnel of provincial and district health offices, staff in agriculture, rural development, and education, media representatives, researchers, and persons in positions of power of any kind must be reached and their help enlisted.

In order to fulfil their obligations and duties with regard to the protection of child rights, it is necessary for all actors, from governments down to individuals within households, to become aware of the nutrition problem, its causes and consequences, and the possible solutions (what to do and how to do it). Advocacy, information, education, and training are all important communication strategies to create or increase this awareness.

Governments and international agencies can set conditions in place that will help foster public participation and facilitate bottom-up approaches, through empowering individuals with accessible and relevant information so that they can in turn mobilize communities; through establishing mechanisms for recognizing and gathering the views of all nutritionally vulnerable people, particularly those whose voices often go unheard; and through strengthening democracy and encouraging political participation at all levels. Processes for the public to be consulted on and to have an

input into the policy making process are needed, including free elections, freedom of speech, and a vigilant free press. Finally, governments and international agencies should support NGOs as effective interfaces between the interlocking top-down and bottom-up approaches.

## **Project Design**

### **Scope and Content**

There are numerous options for relevant community-based action to address problems of malnutrition which depend on the actual nature and distribution of the malnutrition problem, its causes, and the type of resources that are available or can be mobilized. There is no blueprint design, as no one intervention or mix of interventions should ever be prescribed in isolation from a participatory Triple A process.

Because malnutrition is usually the result of many factors, it is not surprising that it has been attacked most effectively in situations in which several sectors and strategies have been brought to bear. Combining improved infant feeding, better household access to food, and improved and more accessible health services and sanitation is clearly more effective in reducing malnutrition where food, health, and care are all problems than any of these measures taken alone. Given the well-documented synergies between many such actions, the combined effects are often not merely additive, but multiplicative. Actions can be initiated to impact on different levels of the problem—immediate, underlying, or basic. The scope and content of community-based programs has been further discussed in Mason, Hunt et al. (2001).

Community-based programs within the proposed country nutrition investment plans included a range of activities. For children, these may include growth promotion (comprising growth monitoring, protection and promotion of breastfeeding, and the promotion of appropriate complementary feeding practices), disease management, including feeding during and after diarrhea and oral rehydration therapy; micronutrient supplementation including vitamin A megadoses for children from 6 months, and possibly iron supplements where anemia is prevalent; the promotion of consumption of iodized salt; deworming; and food supplementation, if found to be relevant, feasible, and cost-effective.

For women, activities within antenatal and postnatal care strategies may include tetanus toxoid immunization, micronutrient supplementation (including iron and folic acid tablets for pregnant women and possibly postpartum vitamin A megadoses where vitamin A deficiency is known to be a problem), iodized salt consumption, food supplementation during pregnancy (if found to be relevant and feasible), malaria chemoprophylaxis in endemic areas, and reproductive health education including the need to ensure safe birth intervals.



### **Prioritizing and Phasing**

What comes first when initiating community-based nutrition programs and linking them with service-delivery systems? Which components are essential and which are desirable? How should the program be phased over time with respect to both geographical coverage and targeting as well as in terms of the sequence in which things are actually done? These are all important considerations in any planning process.

The answers are to a large extent situation-specific. Participatory Triple A processes will reveal the main causes of malnutrition and the type and amount of resources available to combat it. Some prioritizing will be required initially with regard to the target groups and the actions actually chosen on the basis of this situation analysis. Target groups may need to be narrowly defined to focus on those who are most needy and most responsive. For example, despite evidence to suggest malnutrition is a problem throughout the life cycle, only 6-24 month-old children may initially be targeted, or 6-36 month-olds if resources permit, as these are both the most responsive and the most vulnerable age groups. Pregnant women will also usually be included, given their relative nutritional vulnerability, the known links between their nutritional status and birth weight, and the fact that they may be more accessible during pregnancy. Adolescent girls, albeit often at nutritional risk, may only be targeted later in the evolution of a program.

The type of actions chosen and the tasks of community mobilizers need to be decided so as to avoid overload and maximize effectiveness. Of the array of potential activities, as described in the previous section, the key ones need to be selected on the basis of their relevance to the problem, their feasibility, potential effectiveness, and efficiency. Additional or different activities may be initiated at later stages depending on the results obtained in the first phase.

### **Coverage, Targeting, and Intensity**

Both current and proposed community-based programs in the study countries were analyzed with regard to their coverage, targeting, and intensity. Coverage relates to the percent of the at-risk population participating in the program, while targeting concerns the degree to which this coverage is oriented toward the most needy among those who are able to respond. The issue of intensity concerns the resources used per participant, either expressed financially as dollars per participant per year, or with regard to population and worker ratios, e.g., number of children per mobilizer, number of facilitators per mobilizer. Past experience has suggested that around US\$5-15 per participant per year seems to be associated with effective programs, at least those that do not include provision of additional food, which about doubles the cost. In many cases, well-conceived programs may be ineffective simply

because their coverage is too low to have a broad impact on the problem, or they do not reach those most in need. In other cases, the principles may be correct but an unrealistically low level of resources is committed, so nothing much really happens.

Issues of coverage, intensity, and targeting of proposed community-based programs within investment plans and what it would take financially to expand relevant community-based programs to fully cover areas of need with appropriate intensity, are discussed more fully in Mason, Hunt et al. (2001). In most cases, this calls for a massive recruitment, training, and mobilization of frontline workers in these countries.

### **Monitoring**

Good nutrition fundamentally relates to the availability, control, and utilization of resources. As parents provide most of the resources needed to ensure the survival and development of their children, it is most important that they have a good monitoring system to track the development of their children, so they can identify the need for immediate action when problems emerge. Growth monitoring and promotion is one example of such a monitoring system.

At the next level, it is important that the community has a monitoring system that will enable it to identify households with problems of malnutrition. These households will need additional support in order to ensure the well-being of their children. At community level, local leaders can then decide to what extent targeted support to specific families or more general actions that support large groups of families are required. Community-level monitoring may be effectively carried out through the use of a community growth chart and regular feedback sessions with community leaders and community mobilizers. Such systems, however, should be demand-driven, i.e., designed to provide information that will improve local decision making. Thailand's system of basic minimum needs monitoring, described above, is exemplary in the way it links key, locally relevant information to participatory planning and monitoring processes. If the community-based monitoring system is linked to higher level monitoring, it is essential that the demand from the higher levels does not disturb the community system, particularly with regard to growth monitoring-based surveillance systems. Growth monitoring and promotion data should primarily be used where they are collected, not merely sent to higher levels.

At district and higher levels, the monitoring system should help to identify communities that are not able to control child malnutrition successfully, and guide the authorities in setting priorities for resource allocations. Monitoring systems should not only identify problem households or communities, but also provide a means for reassessment, i.e., to measure the effect of control actions that have been implemented.

In sum, a monitoring system should be built up from below to provide the necessary information for analysis and action to all those who can contribute to improving the situation. Key basic principles for the use of information for action include the requirements to: only collect data that will be used; maximize the use of data at the level they are collected; and to collect the minimum, feasible amount of data required to inform and improve decisions leading to action.

### **Growth Monitoring and Promotion**

Growth monitoring and promotion (more appropriately referred to as “growth promotion” or GMP) is a specific communications approach aimed at behavioral change through making the impact of preventive actions visible to families and to others in the community and health services. Through monthly weighing of a child and plotting the weight on a growth chart, adequate or inadequate changes in weight can be revealed, discussed, and used to reinforce positive practices, motivate changes in harmful ones, reward and sustain new behaviors, and target nutrition and health advice and services to particular individuals, households, and communities.

Growth monitoring is effective only when the information is actually used in this way, hence the switch to the term “growth promotion”, which is the ultimate objective. It is usually only effective when carried out at the community level by community mobilizers (e.g., trained mothers, adolescent girls) who can weigh accurately, understand and interpret growth, and use the information in counseling or in advocating for more community resources for nutrition. Its *raison d’être* is one of prevention, through identifying growth faltering early on.

In 1990, UNICEF conducted a multicountry evaluation using a common protocol that viewed GMP programs as an effort to incorporate a Triple A cycle into existing decision-making processes at household and community levels (Pearson 1995). The main findings were as follows:

- (i) GMP has been viewed as an objective in its own right, rather than an important tool to facilitate a process. Weighing and plotting technologies have often been disseminated (for assessment) without proper attention or support to the other components of the GMP-based Triple A cycle (analysis of causes, communication with decisionmakers, linkage to action).
- (ii) The weakest stages of GMP have been analysis and action. Analysis has been impaired by the lack of a well-understood conceptual framework to guide the search for causes and solutions, and often by the lack of time for the health worker to conduct the analysis with the child’s care-taker. This problem is particularly acute in clinic settings, where time is short and action is limited to what can be done in the clinic (e.g., supplementary feed-

ing), actions that may not be appropriate for the causes of malnutrition in every child.

- (iii) Most GMP programs have not forged effective links with the individuals and institutions that control resources for action. The separation of clinics from relevant community institutions and decisionmakers is a particularly acute problem.
- (iv) The successful introduction of a “new” Triple A cycle—in the form of GMP—requires a significant effort to sensitize household or community decisionmakers to the existence of a broad social problem, to relate it to familiar aspects of life that concern them (including consequences of illness and death), and, finally, to mobilize a demand for the information and action that can be derived from GMP.
- (v) Transmitting data from GMP to higher administrative levels often has a negative impact on their use at lower levels. This is partly because of the time required to make use of the data, but also, and equally importantly, because transmitting data elsewhere gives the impression that the data—indeed, the entire exercise—is for “someone else” at the higher levels that receive the data. In any event, GMP data are seldom used at higher levels, except for monitoring attendance, and are seldom communicated back to the communities.

A comprehensive discussion of the role of nutrition information systems, including GMP, within country nutrition investment plans is provided in Mock and Mason (1999).

### **Operational Research**

Operational research needs should be determined on the basis of the problems with project implementation that are identified over time by the management information system. Qualitative monitoring in particular should reveal priority research needs. Research should be simple, timely and participatory.

The absence of evaluation research on the impact of large-scale nutrition-oriented programs has been highlighted in the overview (Mason, Hunt et al. 2001), as has the need to address one recurring question: what is the role, if any, of supplementary feeding in community-based nutrition programs? This is particularly important given the highly political aspect of food distribution and its high economic and opportunity costs. Supplementary feeding typically takes about half the budget in food costs, plus

large amounts of staff time. The availability of the supplementary food may crowd out other crucial aspects of the program such as counseling. Even if it is effective in closing nutrient gaps in nutritionally vulnerable individuals, there remains a question of its cost-effectiveness and sustainability relative to other interventions. Many other operational research questions will emerge. A proportion of the project budget should be set aside for these investigations.

### **Sustainability**

Sustainability is conventionally defined as the durability of positive results. But it is more than this. For nutrition programs to make a difference in the long term, sustainability of positive outcomes and positive processes is crucial. Emphasis is increasingly being placed on the ability of the program to strengthen the capacity of a person, household, or community to adapt to changes in their surrounding developmental environment. Programs may deliver services that improve nutrition, and it will be important that such services and benefits continue—at least so long as they represent an effective and efficient use of resources as compared to other options. But the long-term aim is to facilitate or strengthen community-based nutrition-improving processes.

It is thus ultimately the sustainability *of the process*, not the program per se, that is most important, with the link between the two being community ownership. Program sustainability, considered in this way, is merely a milestone along the road to process sustainability.

Sustainability must be built in from the planning stage when nutritional interventions are designed. Building on local nutrition-improving processes helps to assure support, and promote commitment and the mobilization of local resources. Sustainability analyses need to be long-term, as the objectives for such programs involve changes in community and household decision making which require time to take hold. Both external and locally mobilized support will need to match these long-term objectives.

Sustainability relates to: the stability and strength of support for a program from key stakeholders (including the community, local and national government, and other external agencies); the coverage, intensity, targeting, quality, and effectiveness of actions; the status and condition of program infrastructure, the systems for its maintenance, and the adequacy of the operating budget; and long-term institutional capacity, including the capacity and mandate of operating agencies, the stability of staff and budget of operating agency, adequacy of coordination between agencies and between community organizations and beneficiaries, and the flexibility and capacity to adapt the project to changing circumstances (Valdez and Bamberger 1994).

### **Replicability**

Replicability is conventionally considered as the condition that a program can be applied in another geographic setting (regional, national, and/or international). The issue is usually raised by donors who would like to copy certain positive aspects of a program or project elsewhere, with the common caveat that such a copy be implemented at a substantially lower cost.

Just as the initial choice of action in any situation is very much linked to that situation or context, so replicability should *not* be seen as the transfer of a pre-packaged set of inputs. Rather it should relate to a process that identifies and supports the technical interventions, with the choice of action always deriving from an understanding of the nature and causes of the problem and the resources available.

Processes are thus more replicable than projects. In this sense, for improved nutrition the most important element to adapt is the approach to the Triple A cycle and support for it. Early community and district level involvement helps to assure replicability.

Thus, the enduring question—“how to go to scale?”—may be missing the point to some degree. Where successful community-based nutrition projects have accelerated nationwide, governments have usually changed their policies in ways that have triggered the emergence of similar community-based initiatives elsewhere. This is a truly bottom-up approach to policy, where the micro informs the macro, where policy levers are used to create conditions—i.e., the essential contextual factors—for community-based initiatives to emerge and grow. International agencies in turn should be prepared to learn from and to support such processes. The study countries have assimilated such lessons in considering essential supportive or enabling policies and programs.

Another aspect of replicability concerns the way success is communicated, internalized, and ultimately used to generate more success. This is often a gap in evaluation planning, which results in many evaluation reports gathering dust on bureaucrats’ shelves. In any evaluation, it is thus simply not enough to carry out a survey, measure changes in a few indicators, and draw conclusions on the degree of programmatic success. The *use* of evaluations should not be separated from their actual implementation. This requires consideration of a variety of communication strategies and methods for disseminating lessons to those who can best apply them—from the communities involved to national-level policymakers.

### **Conclusions**

While the particular ingredients of success in community-based nutrition programming appear to be well recognized, the specific mix of these ingredients to be

selected in any one situation, and the way in which they are to be operationalized are context-specific issues.

The type of generic lessons to be learned from past experiences with community-based nutrition programming relate more to the approaches adopted than to what was actually done—more “how” than “what”. Both process and outcome orientations have merit over different time spans, but they need to be integrated for maximal long-term sustainable impact. Participation is fundamental to success, with respect to both means and ends. Tools such as the Triple A cycle and the conceptual framework are extremely useful in making the process and outcomes explicit to all stakeholders, thus improving communication and fostering ownership.

In practice, progress in nutrition programming has been made where community-based programs are linked operationally to service delivery structures, often village-based primary health care outlets. Government employees at such levels may be oriented to act as facilitators of nutrition-relevant actions that are coordinated and managed by community-based mobilizers, who are often volunteers selected by local communities. This mobilizer-facilitator nexus should be supported and managed by a series of organizational structures from the grassroots to national levels. Community-government partnerships need to be forged through broad-based social mobilization and communication strategies.

The menu of relevant actions for young children normally includes the following: growth monitoring and promotion, promotion of breastfeeding and appropriate complementary feeding practices, disease management, micronutrient supplementation, deworming, and possibly targeted food supplementation. For women, actions include: antenatal and postnatal care for women including tetanus toxoid immunization, micronutrient supplementation, food supplementation during pregnancy, malaria chemoprophylaxis in endemic areas, and reproductive health education. The choice of the appropriate mix of actions and how they are to be implemented and phased over time will depend on the nature of the problems and their causes, and the feasibility of different strategies. Locally selected indicators may be used by mobilizers and facilitators, both for planning and monitoring.

At the national or state levels, enabling policies and programs are needed that explicitly consider the nature and causes of the malnutrition problem and thus the type of fine-tuning that may result in improved outcomes (or at the very least will not exacerbate the problem.). Policy making should be more bottom-up than it has been, with a greater emphasis on what can be learned from community-based success and how best to enable and accelerate it. This does not imply the exclusion of top-down solutions, which may have a role in certain situations.

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