

Chapter 3

Context and supporting policies

The structure for the country studies [1–8] was laid out in guidelines (included in Annex 1), and this in turn has led to the sequence used in this review. Thus after the problem assessment and analysis (chapter 1), program activities were analyzed (chapter 2), before moving on to examine the broader context for programs and related supporting policies. This was done to ensure that program activities received early attention, before the larger picture—unless the scope is carefully controlled, review of broad issues can expand and absorb much of the analytical resources available. However, context is crucial and program activities must not be seen in isolation. The issues here, as laid out in the guidelines for the country papers (Annex 1), concern:

- » whether the policies that are in place would support implementation of a strengthened nutrition strategy, for example, if more resources were available;
- » whether there are contextual factors that importantly affect nutrition, and nutrition-relevant actions, that can be influenced by policy decisions, e.g., women's status, political commitment, social exclusion, community organizations, and literacy;
- » whether there are large uses of resources (justified in part by nutritional concerns) that could be switched to have more effect on nutrition, e.g., food distribution and subsidy programs;
- » whether there are existing policies and programs that have important indirect effects on nutrition, e.g., poverty alleviation programs and safety nets, water and sanitation, that are synergistic with nutrition programs and which can be significantly influenced for nutrition improvement.

The distinction between contextual and programmatic factors [9] is useful here—meaning that programs only work in the right environment or context. Some of these contextual factors can be influenced to some extent by high-level policy decisions, but these decisions are not usually possible within a program planning exercise. However, they may be more open in the situation of planning a long-term large-scale investment with significant development bank funds

supporting it. Beyond that, it could be argued that nutrition-oriented programs should not be undertaken unless the contextual factors are appropriate— either inherently, or by fixing them. This concept applies to a greater or lesser degree to all supporting policies.

Most of this chapter refers to supporting policies for community-based and service delivery programs aimed at general malnutrition. Much of this applies to micronutrient deficiency control programs as well, and some specific needs for these, beyond through local programs, are referred to in chapter 4. Finally, it is worth noting that micronutrient programs may have some effect on child growth, hence on the commonly used indicators of general malnutrition such as underweight prevalences—indeed, this is why it is necessary to have a concept of ‘general malnutrition’ that encompasses protein-energy and micronutrient deficiencies.

Policies to support (or enable) implementation of a strengthened nutrition strategy

The eight countries in this study were involved with the World Summit for Children, the Convention on the Rights of the Child, the International Conference on Nutrition, and the World Food Summit. Most produced associated national plans of action. In this context, the National Plan of Action for Nutrition (NPAN) was commonly cited as a general justification for program proposals. However, in almost all of the NPANs the government resource allocations were essentially unchanged from those already in place, and did not involve commitment of any new funds. (In fact, in at least one case the follow-up was a set of project proposals prepared by an outside consultant for donor resources, none of which had been funded.) Nonetheless, the existence of the NPANs provided useful justification for extracting priorities for further examination by the national institutions conducting the country studies, and gave a starting point for their steering committees. To this extent all countries had a

written commitment to further action for nutrition, especially if funding could be identified; but also a need to prioritize and be more specific about who was to do what.

The present policies in all eight countries support nutrition activities through line ministries, with differing sectoral affiliations and balances between service delivery and community organization. In most cases the existing arrangements are built on in the proposed strengthened strategies. In Bangladesh and Pakistan, the leading ministry is health, and it is proposed that this ministry be the route for enhanced action in the future. In India the Integrated Child Development Services (ICDS, under the Department of Women and Child Development) is the focus. For Cambodia and Vietnam, however, community-based programs aimed at nutritional improvement are presently being implemented through local government organizations and non-governmental organizations (NGO). In China and Sri Lanka increased integration of nutrition activities with the poverty alleviation programs active in communities is the major part of the proposed programs. The contrast is quite striking. In the three large South Asian countries the health (or health-oriented) line ministries are taking the lead; and in Southeast Asia (including China) and Sri Lanka the proposed focus is shifted towards those agencies concerned with poverty alleviation and community development.

Thus at the level of implementing authority, no potentially problematic shifts in responsibilities are envisaged if programs are strengthened, although the suggested increased responsibility for the poverty alleviation programs in Southeast Asia, Sri Lanka, and China might need some negotiation. On the other hand, whether more extensive changes might be beneficial for future programs has not really been explored. In terms of objectives, these have long since been agreed in abstract (halving malnutrition prevalences, for instance); but the far-reaching policy changes that might be needed have largely not been analyzed or addressed, either for implementing adequate programs or for supporting policies. Some of these are discussed next.

Contextual factors

Program activities, however appropriate in principle or in pilot studies for improving nutrition, succeed or fail in part depending on the social and environmental context—as was specifically studied for 20 programs in South Asia by UNICEF [9]. This can happen for many reasons—because those most in need cannot get access to the program; because they have so few resources they cannot benefit; because the behaviors needed cannot be adopted in practice; and many others. Some such factors could be changed, usually over the long

term, by deliberate policy and political commitment, but generally planning a nutrition program itself would not be sufficient reason for the significant policy decisions needed to cause change. It may be that the 10-year investment plans considered under the present exercises have more influence than usual. Beyond that, it has to be understood that planning programs without taking account of context will tend to overestimate the effects, as these can be achieved only in a suitable social and political environment.

In the absence of improvement in crucial contextual factors, it may need to be recognized that nutrition-oriented programs will have to be deliberately targeted to areas or groups where these factors are favorable to success. This may exclude some of the most malnourished. But a hard look at the prospects for effective use of resources is advisable before committing these to unfavorable situations where the effects will be minimal. This position is uncomfortable for some assistance agencies—but this discomfort should lead to more intense efforts to improve the underlying situation.

The country studies included policies and programs with indirect effects on nutrition. Interpretation in relation to context was not always systematically made, so part of what follows has been synthesized from other sources. Relating to context helps in prioritizing concerns and opportunities. The guidelines cautioned that simply “providing a list...of potentially relevant programs (as is common in the NPANs) should be avoided” (Annex 1) and suggested that ‘influencability’ of policies and programs in the light of nutrition objectives should be one criterion for choice. In view of the country studies’ focus on activities at the community level, this means policies in relation to the contextual factors needed for local programs to succeed.

The ‘contextual success factors’ identified in the UNICEF study are reproduced in table 3.1. The priority factors considered here (all of which are identified from the UNICEF study) are women’s status, social exclusion/inclusion, community organizations, political commitment, and literacy. (Poverty alleviation programs are considered later.)

Women’s status

The status of women is worse in the northern part of South Asia than elsewhere—Northern India and Pakistan, in particular. This is recognized in the India country report, where the northern states are compared to Kerala, as an example, in terms of women’s status, and a ‘gender adjusted nutrition and social development index’ is derived [3, p. 108]. The Pakistan report states “...on most counts, the welfare and productivity of women in Pakistan is almost the lowest in the world. On virtually every socioeconomic indica-

TABLE 3.1. Contextual success factors for community-based nutrition-oriented programs

<p>Contextual</p> <ul style="list-style-type: none"> » Political commitment at all levels of society » The presence of community organizations » A high level of literacy, especially among women » Infrastructure for the delivery of basic services, including committed and capable staff » Empowered women » A 'local culture' with a 'first call for children,' including favorable child care practices » Charismatic leaders in the community, who can mobilize and motivate people to do more for themselves in a genuinely self-reliant way » The parallel implementation of poverty-reducing programs, particularly where the nutrition-oriented program/project is integrated with these <p>Program</p> <ul style="list-style-type: none"> » The creation of awareness of the high prevalence, serious consequences, and available low-cost solutions of the nutrition problem » The initiation, promotion, and support of a process where individuals and communities participate in assessing the nutrition problem and decide on how to use their own and additional resources for actions » Clear identification and definition of time-bound goals (targets) at all levels of the program/project » Strengthening the awareness and understanding of the causes of malnutrition, including the hierarchy of immediate, underlying, and basic causes at all three levels » The identification and support of facilitators and community mobilizers » Community mobilization and participation » Community-based monitoring is essential » Both the community and the government feel ownership of the program/project » Income-generating activities, supported by low-interest credit arrangements for the poor, particularly poor women » Capacity building through training and continuous education of facilitators, community mobilizers, and community members in general, particularly women » Good management of the program/project, including effective leadership, supervision, and coordination » Increased cost consciousness and capability to estimate resource requirements » The involvement of NGOs

Sources: ref. 9, 10.

tor, they are worse than their South Asian counterparts, including women in Bangladesh...and in India" [4, p. 24]. Many indicators discussed in chapter 1 (e.g., table 1.8) support these conclusions: for example female/male secondary school enrollment ratios are around 0.5 in Bangladesh, India, and Pakistan; literacy ratios are similar. The specific situation of women's health in India and Pakistan has been studied in detail by the World Bank [11, 12].

Elsewhere in these countries the situation is more favorable. The secondary school enrollment ratios by gender (female/male) range from 0.8 to 1.1 for the Southeast Asian countries plus Sri Lanka (Cambodia is not reported); literacy ratios are 0.9 to 1.0, with Cambodia similar to South Asia in this respect, with a ratio of 0.5.

Women's status affects nutrition in many ways [13], especially through caring capacity, but the issues here are more specifically how it affects the success of programs aimed at improving nutrition, and particularly how supporting policies can help. The Pakistan country report, in reviewing a range of projects aimed at improving women's status, notes: "In most cases these projects have not met with any success mainly because they were designed without a proper assessment of women's needs, and constraints" [4, p. 88].

The report also notes that, for example, women's access to credit is constrained, beyond being due to poverty, by limited mobility, illiteracy, and most importantly since women rarely have legal ownership of land they lack assets for collateral. These are all constraints that could be addressed through policy and legislation, and which are equally important from the viewpoint of nutrition.

Overall, when discrimination against women reduces their resources—time allocation, access to services and information, and so on—for caring for themselves and their children, trying to improve their caring capacity without addressing these constraints may have little effect. For example, advocating exclusive breastfeeding may increase a woman's awareness of the issue, but if she works away from home and cannot take her baby with her, it may simply be impossible. In Asia the late introduction of complementary foods is a widespread problem, and similar arguments apply to correcting child feeding practices, and indeed to many aspects of care. Further, the very poor may not have the financial resources to provide for adequate food for young children, even being well aware of the needs—a consideration that led to the BINP trying to provide one meal a day for the children of the very poor. Since an important part of the programmatic

proposals in the country studies hinges on behavioral change, it is important to judge how far resources and behavior are constrained.

Are there adequate policies in place to improve the position of women, especially in the South Asian countries? Both India and Pakistan have government institutions with this responsibility—the Department of Women and Child Development (India) and the Ministry of Women's Development (Pakistan). Some of the actions needed are specified, e.g., preferential employment of breastfeeding women in less strenuous jobs, accelerated enrollment of girls in school, expanded training and access to credit, and legal protection. However, the resources applied to these are limited, in fact, minuscule in Pakistan [4, p. 87], and the strength of the political commitment to really bring about rapid change is in some doubt. In summary, there is no lack of laying out the needed changes in a frank way, including in the country reports; making these happen is the issue. Maybe the ADB with UNICEF should discuss policy lending for promoting gender equality. The efficiency of nutrition-oriented program support in northern South Asia would benefit greatly—it could be argued that it is a prerequisite for a strengthened nutrition strategy.

The other countries experience fewer constraints in terms of women's status, and of policies and legislation as prerequisites for effective nutrition activities. Of course, these factors are linked: better status for women can lead to more liberal policies, which in turn make policy reform less urgent; while enlightened policies positively feed back to further improve women's status. Nonetheless, there is still some distance to go; for example, Vietnam has enacted legislation to protect women's rights (in employment, reproduction, etc.), but this mostly applies to female civil servants [7, p.113–4]. Cambodia still lags, for example, in terms of female literacy; but it seems that current priorities, in prospect and implementation, stress women's status, e.g., access to credit, protection during pregnancy, attention to children and adolescent girls, and so forth [2, p.59].

Social exclusion

Significant numbers of the very poor are excluded from the mainstream of society in Asia. They do not have good access to services even when these are available, and they do not tend to participate in community-based programs. Reasons put forward* are that they lack the confidence and connections with broader society, that they have grown accustomed to, and depressed by, their destitution, as well as their deliberate marginalization by those more powerful.

The socially excluded exist within most areas and communities; this was first drawn to our attention for Pakistan, where about 20% of the population were said to be in this situation. Within the ICDS in India, it is known that even within a village the *anganwadi center*** may not be within physical or social reach of the poorest segments. Thus the socially excluded are frequently unable to benefit from service delivery and community-based programs, even when these are successfully targeted to the most affected areas.

This issue of social exclusion emerged during the course of these studies, and is not specifically addressed in the country reports. It is one of those silent issues which, like the people it refers to, somehow falls between the cracks of perception. Once raised, however, it has profound implications for successfully addressing nutrition problems, which are concentrated among those who are socially excluded, and in part caused by their exclusion.

There are well-established attempts to mitigate this situation in some places, for example, the attention to scheduled castes in India. However, even for these disadvantaged populations there are still some who are excluded within these groups. In China a huge group of migrant laborers is known to be at high risk, although this is not stressed in the country report. Many societies have ethnic sub-groups that benefit least from national progress. Some of these are descended from the earlier indigenous inhabitants, living in remote hilly areas and referred to as tribal or hill people. They tend to be particularly at risk of iodine deficiency. These groups exist often outside the general run of the political and social scene, and have less access to services. Such peoples are in Vietnam and the Philippines; in Cambodia the society is fragmented by ethnicity and the recent conflicts, resulting in dislocated groups. In fact, no specific provision for any of these is made in the country reports and proposals for strengthened nutrition activities, and this will need further attention in the future.

This is a potentially important gap in the present analysis. The problems are no doubt difficult, which is in part why they are not always addressed. At this point the best we can do is *to flag the issue that addressing the needs of the socially excluded is a gap that should be considered as projects are developed, and that unless this is done the impact on nutrition will be significantly less than it could be. Possibly this is an area in which further study is needed.*

Overall, analysis of this point raises the question as to how far community-based programs can succeed in societies severely fractured by caste, class, and gender; and whether it is necessary first to put the effort into supporting policies that can bring about

* This concern was first expressed by UNICEF representatives in Pakistan and at the regional level.

** The *anganwadi* is the village center for the ICDS program.

change in these factors. While this is something of a negative view when looking at the national level, it does direct attention towards identifying smaller-scale opportunities—like those, often NGO-run, that the UNICEF/ROSA study examined—where resources are likely to be better used at the community level.

Community organizations

The existence of suitable community organizations is a success factor for effective community-based programs. If they do not exist they may need to be created as part of the program, however, their presence at the outset is a sign of a situation where an influx of additional resources may be effective. It might well be that the existence of viable community organizations, involving the local poor, is an important indication that conditions exist for successful community-based programs.

The country studies proposed varying balances of community-based and service-based programs for the future, usually with service personnel acting as facilitators for the community-based workers (mobilizers). This has stemmed mainly from the organizations presently operating, generally health services, or poverty alleviation programs. The organizational proposals are summarized in table 3.2.

Cambodia, Vietnam, Sri Lanka, and China all have

local level organizations that are well established and functional for a range of development and poverty alleviation activities (Cambodia's recently because of the conflict). In all these the proposed future nutrition activities would work largely with and through these organizations. The issue seems to be getting their agreement and involvement in nutrition, and financing this.

In contrast, the larger South Asian countries (Bangladesh, India, and Pakistan) have a poorer track record with local organizations, at least with state connections, and tend to rely more on non-governmental organizations (NGOs). The proposed nutrition activities are focused on line ministries related to health, with these envisaged to provide facilitators for village volunteers linked to village committees that generally need to be established. This may not be so easy. An alternative in some places might be to seek locally active NGOs to work with, as these may have the necessary grass roots organization.

In summary, Cambodia, Vietnam, Sri Lanka, and China seem to have the essentials of community organization in place, which augurs well for building up nutrition activities. Bangladesh, India, and Pakistan have less going for them overall in this respect; perhaps more consideration of NGO involvement might be examined as a complement to working with the line ministries, who conventionally have less of a role in fostering community-based work. Whichever way it

TABLE 3.2 Proposed focus of future nutrition programs aimed at general malnutrition (PEM)—community- or service-based; local and central organizations

Country	Organization proposed (% budget)
Bangladesh	Mainly through Maternal and Child Health and Nutrition (MCHN) services of the Ministry of Health and Family Welfare (MOHFW) (92%), with Village Nutrition Mobilizers (VNM) and Village Nutrition Committees (VNC); also a community-based nutrition component (CBNC) with the Bangladesh Integrated Nutrition Project (BINP) (8%)
India	Strengthening of Integrated Child Development Services (ICDS) of the Dept. of Women and Child Development; and Supplementary Nutrition Program; through the Anganwadi center and workers in villages.
Pakistan	Mainly through Lady Health Workers (LHWs), traditional birth attendants (dais), and Community Health and Nutrition Volunteers (CHNVs), under Prime Minister's Family Planning and Primary Health Care Program (89%); also community nutrition promotion component (11%)
Cambodia	Community-based through the Village Development Committee (CSD) structure (80%); with support to national coordination and sectoral programs (20%)
Vietnam	Commune-based Nutrition Care (79%) linked to CPCC (Committee for Protection and Care of Children), through the Commune People's Committee (CPC), Commune Steering Committee (CSC), etc; national coordination (21%)
Sri Lanka	Primarily proposed as a community-based program (CBP) through Samurdhi, the poverty alleviation program, which has organization at the local (Grama Niladhari Division) level; also national component through the Ministry of Health (MoH)
Philippines	No proposal
China	Integration of nutrition into poverty alleviation program; budget for training, staffing, and volunteers; organized at the county level, with central and provincial funding, targeting most needy counties

Sources: ref. 1–8.

goes, early effort will be needed to develop the local organization for these programs.

Political commitment

Beyond the adoption of national plans of action for nutrition, child development, and related objectives there is no easy way to gauge political commitment to nutrition activities, and the country studies do not go into this. None of the studies reached the point of eliciting budgetary commitment to the plans being developed. The Steering Committees in most cases seemed to take the position that the government's contribution would be determined following some initial commitment from the ADB (as sponsors of the studies) as to the level and type of external funds that would be available. The governmental political commitment remains to be evaluated during the project preparation processes that were intended to follow the country studies.

Political commitment at the local level was not explored in the country studies. The likelihood is that this too will be related to resources made available through follow-up projects. Meanwhile, it is a reasonable guess that where there are effective community-based organizations in place, and where families are able to express their concerns, child health, nutrition, and development will have a certain priority. The commitment may be more variable at the intermediate level—between the community and the central government. This too will need to be examined as projects get developed as a follow-up to the studies.

Literacy

A high level of literacy, especially among women, was identified as one of the important contextual factors predisposing to success in the UNICEF/South Asian study of successful programs (table 3.1). This is related to the common observation that maternal education is associated with better child health and nutrition. The effect is probably both direct, with literacy contributing to successful programs, and indirect through literacy being a proxy for education, which in turn benefits program effectiveness by a variety of routes. An example would be that educated and literate mothers are better able to understand and adopt improved child caring practices.

Women's literacy rates were given earlier (table 1.7), and here again a fairly sharp divide is evident between the Southeast Asian countries plus Sri Lanka, and the larger South Asian countries, with Cambodia more similar to the South Asian countries. The former have female literacy rates of 73% to 93%, and the latter 22% to 54%. All countries are reported to give prior-

ity to increasing female education enrollment, hence literacy. Again, it is a matter of allocating resources and implementing the policy, rather than absence of the perceived policy priority itself. But the observation is in line with others that tend to indicate a better combination of prerequisites for nutrition programs in the Southeast Asian countries.

These conclusions come from data averaged nationally, and large variations must occur within the South Asian countries. Supporting policies fostering female literacy should be vigorously advocated for those areas with lower literacy rates, as it is likely that increased female literacy will contribute to development of the human capital of future generations through enhanced child health, nutrition, and development.

At the same time some further quantification of the extent to which literacy modifies program effectiveness would be useful. At an extreme, if nutrition activities have very little impact when literacy is very low, this might argue for concentrating resources on areas, or households, where the literacy rate is such that an effect can be expected. More positively, it would argue for looking for alternative approaches that are effective in illiterate households, and thus for a more varied approach tailored to the conditions. This operational research has not (as far as is known) been done, but should perhaps be a priority as a basis for program design. There is no point in targeting programmatic actions towards people who are not able to benefit; and while the long-term solution may be to remove the constraint (e.g., illiteracy), the shorter-term policy would be to target those who can respond, and seek alternative approaches for others.

Food subsidy and distribution programs (whose resources might better benefit nutrition)

South Asian countries (more than the South East Asian ones) have had large-scale 'food transfer' programs for a number of years—as public distribution systems, food stamps, feeding programs, and others. A recent major review by the World Bank [14, p. 47] concluded: "Food transfers have been by far the most popular in-kind transfer in developing countries. Evidence... strongly suggests that universal food transfers are not financially sustainable, although they may be politically desirable" [14, p. 167]. The authors advocate instead for transfers directly to identifiable high risk groups, such as women and children, and argue that "...food transfers targeted to women and children, along with other services (such as immunization) can be a very effective means of supporting the poor with minimal distortions, provided communities are involved and the approach is demand-driven." While we might question whether the best form of the resources is necessar-

ily food, we would certainly agree with the concept that resources inefficiently used as general food transfers should be reallocated to more directly address the nutritional problems of those most affected, moreover, through community level programs.

The policy issues concerning possible reallocation of resources used for public food distribution towards nutritional activities have been given in some detail by Subbarao et al., with a focus on India [14], and by Heaver and Hunt for the Philippines [15]. The project guidelines (Annex 1) encouraged study of this aspect, but in practice while the distribution schemes have been described, the difficult question of possible reallocation has not really been addressed. (This is not surprising, considering its highly political nature.) Some approximate inferences can be drawn from the data given, and from the literature, as briefly follows.

An estimate of the resources used for subsidized distribution of basic foods in Bangladesh, India, Sri Lanka, and the Philippines is given in table 3.3. Calculating in round numbers and relating the resource flows to the total numbers of children under-five years old (as a convenient means of standardizing the data) indicates that around US\$10 to \$25/child/year are spent nationally on subsidized food distribution in these four countries. The total annual amounts are

TABLE 3.3. Estimates of resources used for subsidized distribution of basic foods (public distribution systems)

Country, year, program	US\$ total/yr (millions)	US\$/child/yr	Basis of estimate and sources
Bangladesh, 1990, PFDS	250	14	Country report [1, p. 60] 2 m MT/yr distributed; Subbarao et al. [14, p. 52] table 4.3, net cost/MT=US\$125 (rural rationing); averaged over population
India, 1994–95, PDS	1,400	9	Country study [3, p. 145] Rs 48.6/year = US\$1.39 billion; averaged nationally
Sri Lanka, 1982, food stamps	60	26	Subbarao et al. [14, p. 50] table 4.2 quotes food stamps as 1.3% GDP in 1982, hence estimate
Philippines, 1990s, NFA	107	10	Heaver and Hunt [15, p. 91] quote US\$71–107 million/yr; latter figure taken for estimate

PFDS = public food distribution system; PDS = Public distribution scheme; NFA = National Food Authority; MT = metric tons.

Sources: ref. 1, 3, 14, 15.

about US\$1,400 million in India to US\$100 million in the Philippines. These are of the same order as the sums of money reckoned to be needed to significantly reduce child malnutrition through local level programs, if they could be reallocated.

In India, studies [14] have further shown that funds spent on targeted nutrition programs (the ICDS in this case) are far more efficient in transferring resources to the intended target group than others. The estimated transfer efficiencies for the Public Distribution Scheme (PDS), rural employment, and ICDS are shown in table 3.4—ICDS is estimated to cost Rs 1.8 (1 US\$—47.02 rupees) to transfer Rs 1 to the intended beneficiaries, compared with Rs 3.1 to 4.4 for rural employment schemes, and Rs 5.4 for the PDS. It could thus be said that the ICDS is three times more efficient (5.4/1.8) in this regard than the PDS.

In the early 1990s a number of large Public Food Distribution System programs in Bangladesh were abandoned due to high rates of leakage and high costs of transferring resources to the poor. Obvious examples were the Palli or Rural Rationing Scheme at US\$60 million annually, with a 69% leakage and the net cost to Government of transferring one taka of income to an eligible recipient amounted to Tk6.52. The Food for Work Program, at US\$180 million annually, entailed a transfer cost of more than two takas, because of a 30% to 35% leakage. Both programs have been disbanded. More reasonable programs were the Vulnerable Group Development Scheme and the Rural Maintenance Program, with much lower transaction costs, which have been retained in modified forms. The Food for Education Program, which combines food security measures with incentives to increase female child enrolment in primary school, costs Tk1.59 per taka delivered [19–21].

In the Philippines the food distribution was focused in the more central regions—40% going to areas with only 3.5% of the subsistence poor [15, p. 92]. Moreover, the amount of income transferred to the poor (when it was) amounted to only about US\$0.09/kg of rice (i.e., about US\$0.04/capita/day).

The conclusion is clear. For improving nutrition

TABLE 3.4. Relative costs of income transfer by different programs in India

Program	Cost per Rupee transferred, in Rupees
Public Distribution Scheme	5.4
Jawahar Rozgar Yojana	4.4
Maharashtra Employment Guarantee Scheme	3.1
Integrated Child Development Service	1.8

US\$1 = 47.02 rupees.

Sources: ref. 14, 16–18.

there are substantial resources potentially available for reallocation from the subsidized public food distribution systems. It is likely that these would be much more effective in improving nutrition, and otherwise benefitting the poor, than their current use. However, the decision to do this is highly political, in part because there are very large sums of money involved, and the programs have mixed (and not always clearly defined) objectives, for which others can claim the funds. Nonetheless, the trend is away from such wasteful programs, and those advocating for nutrition might do well to advocate for rationalization. The fact is that these resources are of the right size to really achieve the national commitments to child health and nutrition goals—the money does exist—and a far-sighted decision on the part of governments could actually be made to reallocate these resources, that would make the whole achievement possible.

Policies and programs with indirect effects on nutrition

A wide range of policies and programs are likely to have important indirect effects on nutrition. This is recognized in the country reports. But the key step of proposing priorities has yet to be taken in most cases. Thus we mainly have a list of probable areas for attention, so far without a way of deciding which should be advocated for, or perhaps directly supported by funds earmarked for nutrition. While most factors considered in the country reports are no doubt relevant, their contribution, interactions, and priority as the focus of interventions is situation-specific, and requires analysis most of which remains to be done. We can consider a number of types of factors causing malnutrition and their associated actions:

- » Those likely to be important under most circumstances, thus almost always a priority: poverty alleviation programs, and legislation for the international code of marketing of breastmilk substitutes, are two clear examples (and recognized as such in most reports);
- » Those whose contribution to malnutrition can be important, but vary with circumstances—maternal education is an example;
- » Those which interact with either direct nutrition programs, or with other indirect factors, in situation-specific ways—water and sanitation apply here, their relative and interactive effects being highly situation-specific; maternal education is also a key interactive factor.

Poverty alleviation programs

The concurrent operation of poverty alleviation programs is widely seen as important for effective nutri-

tion interventions at the local level. The administrative synergism is essential to proposals for strengthened nutrition actions in Sri Lanka and China. Here, the village volunteers are to be supported by the local organization of the poverty alleviation program workers. In the Southeast Asian countries a similar concept applies, where the nutrition program is part of the local government and/or NGO supported village development effort. This mechanism was central to the successful programs in Thailand, on which these proposals are partly modeled.

A second way in which poverty alleviation programs are important to success (as shown in the UNICEF South Asian study) is that they should provide resources and a momentum of change on which other improvements can build. Most simply, mothers who have more opportunity, economically and with their time allocation, can contribute this to child nurturing, and be able to adopt better practices when these are advocated through programs.

Effects of programs addressing basic causes of malnutrition

Programs that affect basic causes of malnutrition—water and sanitation, education, employment and wages, food safety and legislation, and so forth—are recognized as possibly being important and in need of support in most of the country reports. What are lacking are situation-specific estimates of the sizes of the expected effects on malnutrition, better still in relation to costs, hence a rational basis for prioritizing.

This gap is partly due to the paucity of available data, but could be filled to some extent by further analysis of existing information. While very few rigorous evaluations have been done of the impact of programs on nutritional outcomes—even of direct programs, let alone on more distal determinants operating through basic causes—quite a lot could still be done from a careful study of observational data, which is now plentiful with the demographic and health survey (DHS) data, the UNICEF multiple indicator cluster surveys (MICS), and numerous national and sub-national studies carried out in recent years. Even without examining changes through time and their correlates, considerable guidance for program planning can be obtained from cross-sectional (at-one-time) associations. Some steps were taken in this direction in several of the case-studies (Cambodia, China, India, Vietnam), but these were usually at a highly aggregate level (although the original household level data exist), did not address alternative explanations (confounding, which is virtually always present), and were not used much to suggest intervention priorities. While associations of course do not prove causality, the weaker inference—that if there is a cause it should show up

as an association—is well worth having, especially with careful analysis of confounding and interactions. For example, if it was shown that better access to health services was associated with $x\%$ reduction in underweight, and better sanitation with $y\%$, and that such associations differ between regions and other specifications of population groups, this at least starts to give a basis for comparing approaches. It is suggested that the country studies at some stage—perhaps within project identification and planning—give more emphasis to using existing data in this way.

Most likely effects of basic causes on nutrition are modified by other factors, often differing between different population groups. This means that the size of the effects must in practice be seen in relation to interactions, requiring careful analysis along the lines introduced below.

Interactive or synergistic effects

The concept of interaction is sufficiently important in this context that a brief diversion seems justified. Almost all single influences on human well-being, particularly where biology is concerned, are complex and depend on interaction with other influences. Pathogens interact with vectors, host vulnerability, and response; environment and behavior interact—bottle-feeding is especially dangerous under unhygienic conditions, for instance; increased resources bring differential change depending on educational level; and so on. In biology, positive interactions are called synergisms.

In policy and program planning, knowing the interactions that are operating can lead to much more effective program designs; it can also avoid aiming programs at people and situations where they are going to have little effect. First, this is because the other factors needed to allow an action to have an effect must either be adequate, or put in place. Second, if this is not feasible, it means that an action should be deliberately targeted to those groups that can respond, because they already have the factor in place. As a common example, improving latrines often only improves health and nutrition if a minimum level of access to safe water is available (or vice versa). When so, this means either

TABLE 3.5. Relation of water supply and sanitation to child stunting in Cambodia (height-for-age Z-score)

Sanitation	Water supply Height-for-age Z-score	
	Unsafe	Safe
Poor	-2.30	-2.17
Better	-2.38	-1.75

Source: Data adapted from ref. 2, p. 37.

that water must be improved as a prerequisite for a sanitation intervention to be effective; or the intervention must be targeted towards those who have a minimum access to safe water, who can then respond. Generally, reasonable indications as to whether such interactions are important can be obtained from analysis of cross-sectional data (if that is all that is available, as is often the case). Examples are given below.

Analysis of data from a recent survey in Cambodia demonstrated an interactive effect of water supply and sanitation on stunting, as shown in table 3.5, which reformats results from the country report [2, p. 37]. The results, given in height-for-age Z-score, show that those children in households with unsafe water or with poor sanitation all have similar average stunting (Z-scores of -2.30, -2.38, and -2.17, respectively); only when both safe water and good sanitation are present does the Z-score improve greatly, to -1.75. The results can be seen more clearly in figure 3.1. This clearly implies, for this illustration, that both interventions need to be applied before much impact can be expected; and conversely, providing only one at a time would not reduce stunting (as a long-term measure of malnutrition) importantly.

Another illustration can be drawn from a data set from a UNICEF MICS survey in Bangladesh (table 3.6). The calculations were done for illustrative purposes, and would need to be taken further for application to planning. They show in table 3.6 (a) that there is a much greater effect of improved sanitation when literacy is high. Again, this is easier to interpret in graphical form (fig. 3.2). There is little relation of sanitation to improved nutrition when literacy is low, in contrast to a steeper slope for the higher literacy group, going from no toilet to water seal. The implications apply to targeting, indicating that twice the cost-effectiveness might be expected if the more literate were targeted; to the need to address the contextual factor of literacy when undertaking a sanitation inter-

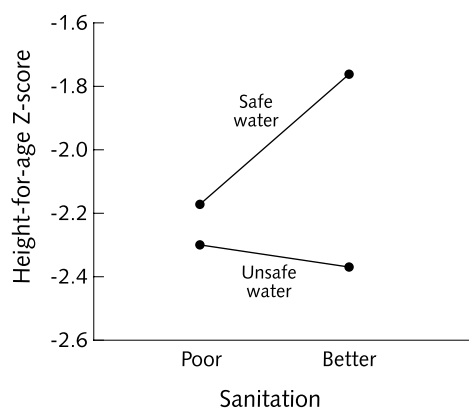


FIG. 3.1. Interaction of water supply and sanitation in relation to child stunting in Cambodia. Source: table 3.5

TABLE 3.6. Interaction between sanitation and literacy in Bangladesh, on prevalence of low arm circumference (<13.5 cm) in preschool children, national data

<i>(a) See fig. 3.1: regression gives following points:</i>				
Prevalence of arm circumference < 13.5 cm				
Sanitation	Literacy (district average)			
	20%	40%		
No water seal	33.6%	32.6%		
Water seal	28.3%	20.1%		
Equation: Dependent variable = prevalence of low arm circumference (as proportion). $n = 17,365$. $R^2 = 0.005$. $F = 29.2$. $p = .000$.				
Variable	Coefficient (B)	<i>t</i>	<i>P</i>	
Constant	0.353	23.275	.000	
Literacy (%)	-0.000683	-1.449	.147	
Dummy for water seal ($y = 1$)	0.00193	0.433	.665	
Interaction: literacy * water seal	-0.00344	-2.627	.009	
<i>(b) Calculated for groups defined by band of literacy %:</i>				
<i>prevalences of low arm circumference</i>				
Literacy range: prevalence low arm circumference (<i>n</i>)				
Sanitation	0–25%	25–35%	> 35%	All
No water seal	35.8% (3,920)	31.8% (7,004)	32.9% (4,479)	33.2% (15,403)
Water seal	33.8% (269)	23.5% (1,054)	19.3% (639)	23.6% (1,962)
Both	35.6% (4,189)	30.8% (8,058)	31.2% (5,118)	32.1% (17,365)

Source: Computed from the 1994 Bangladesh MICS survey data [22] kindly provided by UNICEF and the Bangladesh Bureau of Statistics, Dhaka.

vention; and to understanding better the interactions that underlie these findings.

The illustration can also be seen by comparing the effects of sanitation within literacy groups (table 3.6 (b)) and the inferences are similar. Most of the difference from sanitation can be expected in the more literate group: a prevalence of 32.9% would be expected to fall to 19.3%. Clearly this is oversimplified: the group

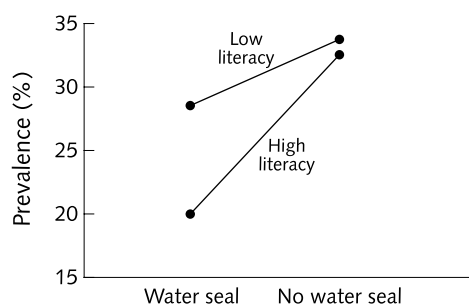


FIG. 3.2. Interaction of sanitation and literacy in relation to low arm circumference in children in Bangladesh. Source: table 3.6

with better toilets may well be richer, better housed, and so forth, which stresses the need to further analyze such results to take account of such confounding factors. Nonetheless the point remains that knowing that these interactions have a substantial effect can lead to better designed programs with higher impact.

This leads to a summary recommendation, to move beyond extended wish lists of interventions likely in general terms to be beneficial for nutrition—any or all of which could move the child population towards the declared goals—to a prioritized plan, two types of estimates are needed, and should be obtained as any of the country reports proceed to investable plans. For specified situations and population groups:

- » What are the predicted relative sizes of the effects of indirect programs on nutritional outcome?
- » What are the interactions of these with direct program activities, with other indirect programs, and with (other) contextual factors?

Put together and tailored to specific situations, these effects can be very substantial. This applies to sets of activities within programs, and to interaction of program activities with context. In-depth examination

of such important interactions remains to be done in adequate depth for all the country studies. It can be done with project planning, and adequate provision of time and resources must be made for this in order that investment plans actually lead to nutritional impact. Without correct supporting policies and combinations of program activities identified in this manner, direct interventions may not work as intended.

Decentralized planning and accountability

Delivery of technical solutions through community involvement is the heart of the country studies' recommendation for improved nutrition strategies. But decentralization is more than letting communities "do their own thing." Programs thrive when there is a clear commitment to change at all levels of government, and when local governments enter into partnership with communities for this purpose.

Building local partnerships requires both a greater sense of accountability by local governments to communities, and a greater capacity to analyze problems and enact solutions by communities and families on behalf of children. All the country studies reflect at least the intent to shift planning and implementation of child nutrition programs to local levels, and several countries have gone a long way to managing the transition from top-down blue prints to bottom-up planning tailored to local needs.

Decentralization supports an ongoing process of irreversible change throughout Asia. The greater accountability of local leaders (community and government) to families and children is a major thrust of decentralization. This includes accepting responsibility for monitoring child welfare and sharing the costs of tailored programs based on the Triple-A approach to planning and social mobilization. One risk of decentralization is that national goals for improving child nutrition and reducing child mortality may slip if local governments are left to choose entirely on their own. Despite this risk, decentralization offers a powerful opportunity to reduce poverty and improve the nutrition of children. Child nutrition programs that target the very young and very poor are investments in human development and attain social justice because they enhance the educability and productivity of a whole generation.

Four factors contribute to successful decentralization. First, planning must be based on a set of essential indicators, such as the basic minimum needs in Thailand [23], which allow common assessment and agreement on corrective action at all levels of government and shared by the community. The use of core data for decision-making unites partners and provides a basis for evaluation.

Second, a mixture of top-down and bottom-up planning balances the roles and strengths of communities and local governments. In Cambodia and the Philippines, social mobilization and planning merge when village action plans are aggregated into local government plans (commune and municipality, respectively) that define roles and allocate resources, including national support. Through shared design of local interventions, local leadership and communities can share management and ownership.

Third, targeted, interpersonal communications bridge information with the need for behavioral change by parents, other care givers, service providers, and political leadership. This was one lesson learned from the Tamil Nadu Integrated Nutrition Project in India. Successful programs view message development as the cross-cutting theme that binds the communications strategy, the information system, the training and incentives plan, and the social mobilization scheme all at once. Programs that ignore these linkages do not induce behavioral change, or at least not on a sustainable basis. Unless caring practices are positively reinforced, positive outcomes for children will not be replicated on a substantial scale.

Fourth, programs that converge multi-sector activities (such as health, nutrition, and education) have a better chance of building strong ties among stakeholders in civil society, rather than through any one sector alone. Linking child nutrition to national objectives like poverty reduction, as happened in Thailand, raises issues of governance that enhances government at all levels.

The Philippine Early Child Development Project (1998–2003) provides an example of poverty targeting, policy instruments for governance, and an experiment in social and fiscal accountability. Child development indicators on undernutrition, mortality, and primary school dropouts were used to rank about 1,500 municipalities and chartered cities according to the number of children at developmental risk. One hundred and seventy local governments were initially selected for the project (in the Visayas and Mindanao), with five million children targeted, about half of those in need nationally. Local action programs, called investment subprojects, should be tailored to the needs of each group of children. The subprojects are negotiated between national government and local government units, based on cost-sharing rules reflecting the municipality's ability to pay. The local government must meet minimum standards of providing essential health, nutrition, and early education services to all children in need or else national subsidies (including loan proceeds) are not available. National funds finance essential services and support to local governments for community mobilization, information systems, and project management.

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