

A Conceptual Framework for National Agricultural, Rural Development, and Food Security Strategies and Policies

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Abstract

The purpose of the present Conceptual Framework document, developed in the context of FAO's "Initiative to Review and Update National Agricultural, Rural Development and Food Security Strategies and Policies", is to propose a flexible general approach to addressing food security through agricultural and rural development and direct actions to enhance immediate access to food. The target audience for the paper are member country stakeholders participating or interested in the strategy process, FAO country representatives, and FAO field and Headquarter staff. The paper may serve as a starting point for dialogue among these parties, to clarify the scope of the Initiative, and to propose a broad conceptual approach to the strategy process.

Key Words: Food Security, Poverty, Policy; FAO

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Part 1. Updating national agricultural, rural development and food security strategies¹

1.1 Introduction and background

The international community has identified the reduction of poverty and hunger as overarching goals for development policy in the new millennium. Commitments to achieve the Millennium Development Goals (MDGs) constitute a framework for development actions and a benchmark for measuring development progress. Countries and their development partners are now in the process of formulating strategies and policies to fulfil the commitments they have subscribed to in the context of the MDGs.

Reducing hunger and food insecurity is an essential part of the international development agenda, as stated in the Rome Declaration of the World Food Summit in 1996 and re-affirmed by the participants in the World Food Summit: *five years later* (WFS:fyl). The Millennium Declaration reflected the WFS target by making hunger part of the first Millennium Development Goal. This is not surprising given the now well-known fact that hunger can be an important cause of poverty.

Nearly three-quarters of the poor in developing countries live in rural areas, and the rapid increase in urban poverty is in part explained by the decline of agriculture and the rural sector. The rural face of poverty, human misery and hunger is now well established. Many of the rural poor are subsistence farmers or landless people seeking to sell their labour. They depend on agriculture for their earnings, either directly, as producers or hired workers, or indirectly, in sectors that derive from farming. Trading, transportation and processing involve large numbers of small entrepreneurs and are necessary for agriculture but, at the same time, such entrepreneurs depend on farming activities for their survival.

A twin-track approach, promises to be the most effective option for hunger reduction in many instances. The approach combines the promotion of broad-based, sustainable agricultural growth and rural development, with targeted programmes to ensure that hungry people who have neither the capacity to produce their own food nor the means to buy it can have access to adequate supplies.

However, agricultural growth does not always have a strong impact on poverty and food security. The potential of agriculture and rural development for reducing poverty and promoting food security varies according to the relative importance of agriculture in the livelihoods of the poor and the potential of the sector to grow in a way that increases returns to the assets held by them.

Urban food security will increase in importance in the future: Cities worldwide have grown and continue to grow. In the year 2000 nearly two billion people lived in cities, and by 2030 this is expected to double. As cities expand so do the food needs of urban families. In many cities in the developing world poverty rates are 30 percent and rising, consequently more and

¹ The papers covers agriculture only, it does not cover activities related to forestry, fisheries, and aquaculture. Also, the term food security is meant to include nutrition security.

more people have difficulty in accessing the food they need. Protecting and promoting the food security of urban populations is therefore an increasing concern.

While many countries have recently put a strong focus on poverty reduction, some of them in the context of the PRSP process, it is not uncommon for these efforts to have underplayed the importance of hunger, food insecurity and rural development, and their interdependence. In addition, monitoring of trends and reporting on the hunger goal does not always receive the attention it deserves in the Millennium reports at the country level.

For these reasons, in 2002 FAO decided to launch, in cooperation with member countries, an initiative to update national strategies for agricultural development and food security. This process will take into account and contribute to other assessment, programming and development initiatives and processes (UNDAF, PRSP etc), and will provide countries and their development partners with new opportunities to focus their effort on hunger, food security and agriculture and rural development.

The objectives of the Initiative can be summarised as follows:

- support countries to address food insecurity issues within a medium/long run framework that ensures consistency among objectives, policies, resources and results;
- strengthen country capacity to formulate, implement and monitor adequate policies for food security, hunger eradication and poverty reduction;
- ensure full country ownership of the strategy formulation process and output;
- incorporate food security objectives into country/regional processes, such as Poverty Reduction Strategy Papers, Regional Integration Agreements etc.;
- facilitate resource allocation towards hunger reduction, with particular focus on the needs and expectations of poor farmers and other disadvantaged groups; and
- design a country framework for the whole FAO's assistance at national level.

An important dimension of the updated strategies is that the whole process and output cannot be driven by FAO but must be nationally owned and carried out with full stakeholder participation. Therefore the Initiative will be implemented under the leadership of Ministries of Agriculture with the full engagement of farmer's representatives, community-based and civil society organizations, NGOs and the private sector. In order to ensure consistency and complementarity with other strategic and programming processes and instruments in the countries, co-operation with Ministries of Finance, Planning and Budget, Health and Social Welfare will be pursued. Carried out in such a way, the process should result in a strengthened political commitment to cut the incidence of hunger, and the mobilisation of adequate resources to key sectors and activities.

The purpose of the present Conceptual Framework document is to propose a flexible general approach to addressing food security through agricultural and rural development and direct actions to enhance immediate access to food. The framework is developed on the assumption that the overall process will be demand-driven, and that countries will maintain ownership of the exercise. National governments will therefore be responsible for setting the goals for their strategic planning, while ensuring co-ordination with other relevant initiatives and programmes ongoing or in the pipeline.

The target audience for the paper are therefore member country stakeholders participating or interested in the strategy process, FAO country representatives, and FAO field and Headquarter staff. The paper may serve as a starting point for dialogue among these parties, to

clarify the scope of the Initiative, and to propose a broad conceptual approach to the strategy process. Two clarifications are in order as per what this paper does **not** attempt to do. First, the paper does not provide guidelines as per how the strategy process itself may develop (a separate document that is being prepared in the context of the Initiative will tackle this aspect). Second, it is important to keep in mind that this paper is only a framework, it is not a strategy in itself. Having to be of relevance to all member countries, this paper is developed at a high level of generality with the objective *inter alia* of facilitating the dialogue among various stakeholders.

The Conceptual Framework is organised as follows. The next section delineates some general principles which guide the Initiative. Part 2 outlines definitions and concepts regarding FS and poverty (Section 2.1), and makes a case for a specific food security focus in poverty reduction strategies (Section 2.2). It then goes on to discuss the links between (income and non-income) poverty and hunger, as well as the impact of conflicts and other emergency situations on hunger (Section 2.3). A discussion of broad typologies of food insecure households is also presented in section 2.4 to show how the constraints to food security vary with the different profiles of food insecurity. Part 2 closes with a discussion of the policy areas that should be addressed by a national food security strategy. Part 3 concludes by outlining the need for the strategies to consider the institutional mechanisms that need to be put in place for their implementation, and with some final remarks².

² The paper draws, among other sources, on a number of published and unpublished documents prepared by FAO staff. This material is sometimes used and duplicated without citation.

1.2 Definitions and general principles

It may be useful to start by clarifying a few definitional issues so as to set the stage for the discussion that follows. First of all a definition of what is meant by “strategy” is in order. The Webster’s dictionary definition of strategy that applies best in this context is the one that reads “a plan, method, or series of manoeuvres or stratagems for obtaining a specific goal or result”. Strategy is a term often employed in the business literature, where elements recurrently included in its definition are the resources which are to be committed to achieving the objectives, how resources will be organized, and the policies that will apply for the management and use of those resources.

Hence, having a specific goal is an essential element of a strategy. The strategies that will be defined in the context of the initiative will have as the ultimate objective the alleviation of hunger and the improvement of food security, with a precise target and time horizon to be defined according to the country context. For reasons that will be discussed in more detail below, the policies that will have to be reviewed in this context will include national agricultural and rural development policies, but will not be limited to these. Macroeconomic, trade, institutional, social policies all have a role to play. Most likely, in all the instances in which the review will recommend some adjustment to existing policies, a reallocation of resources or efforts for additional resource mobilisation will have to be devised for the achievement of the strategy’s goals.

The Initiative starts from the assumption that almost all countries already have some agricultural and rural development plan in place, and many have a poverty reduction strategy. Such plans may be in the initial stage or in the process of being revised or finalised. Clearly, the scope and timing of the initiative, at the country level will depend upon the careful consideration of processes planned or already in place.

A further concept that needs to be introduced is that of the “twin track” approach, that has already been mentioned earlier in this paper. This approach has emerged as part of FAO’s effort in mainstreaming policies towards the achievement of the World Food Summit goals, and has been popularised and presented to development partners in the last couple of years, in occasions such as the Monterrey conference on Financing for Development in March 2002, and the publication of the second draft of the Anti-Hunger Programme, in July 2002.

The pillars of the approach are widely shared among development partners, and have been endorsed by the Committee of World Food Security in June 2003. The approach constitutes the analytical framework for many FAO initiatives including such as the Special Programme of Food Security, the International alliance Against Hunger and the support to the Interdepartmental Working group on the Right to Food. The approach constitutes the framework for collaboration with WFP and IFAD and has been adopted as the overall analytical framework by the Millennium Project’s Hunger Task force.

The basic premises behind the approach are (a) hunger is a cause as well as a consequence of poverty and (b) the majority of poor and food insecure people live in the rural areas. It follows that achieving massive and sustainable poverty reduction entails (a) targeting hunger directly so as to increase productivity and productive potential of those who suffer from it, and allow them to take advantage of the opportunities offered by development and (b) stimulating

agriculture and rural development, both essential for overall economic growth and sustainable rural poverty reduction.

The following are the main principles which underline the overall strategy work as envisaged in the Initiative:

- **Focus on food security.** This initiative adds value not only by arguing that poverty reduction strategies, should have a food security and nutrition improvement focus, many of which currently lack. The strategies should look at the broad picture of what affects food security at the national, sub-national, household, and individual levels with particular emphasis on the potential role of agriculture and rural development in reducing hunger and extreme poverty.
- **Fostering broad-based, sustainable agricultural and rural growth.** Overall economic growth is essential (albeit not sufficient) for substantial and sustainable poverty reduction. Where and in which sectors growth occurs is a very important factor. In this context, growth in farm and non-farm rural activities, that is environmentally and socially sustainable, and the benefits of which are widely shared, is a necessary starting point for any strategy to achieve those goals. Improvements in agricultural productivity can be a corner stone for the development of rural economic activities. Agricultural growth creates employment directly and, with it, incomes and capital for sustaining non-farm rural activities.
- **Addressing the entire rural space.** The Strategies will have to look beyond farming, to include off-farm income opportunities, but also human development and other factors that may hinder hunger and poverty reduction. An incomplete list of such factors include: health, education, discrimination and biases of various types (e.g. urban bias, gender discrimination, problems linked to ethnicity), access to resources, and the coping strategies of rural households.
- **Addressing the root causes of food insecurity.** Productivity growth is important but does not necessarily lead to substantial improvements in FS unless the underlying causes of extreme poverty and food insecurity are understood and addressed: (lack of) access to resources, insecurity of tenure, low returns to labour and education, lack of nutrition information and awareness etc. The effects on inequality, risk reduction and resilience building of the strategic options considered should also be evaluated.
- **Addressing the urban dimensions of food insecurity.** Urban poverty and food insecurity are on the increase. Although strong rural growth can stem premature urbanisation, urban hunger and malnutrition have to be addressed directly. Cities and peri-urban areas have problems that are very different from those of rural areas in terms of availability and access to food, market development, management of natural resources, access to basic services. As their population grows rapidly in much of the developing world, it will be crucial for the National FS Strategies to consider ways to address these issues, including through agricultural and rural development programs (e.g. improvements in the functioning of input and output markets, promotion of infrastructure and reduction in transactions costs).
- **Addressing cross-cutting issues.** The Strategies should be drawn up taking into account national and international policies and issues that affect implementation and

potential impacts. National issues of this type include public sector reform and decentralisation, peace and security, trade and macroeconomic policy reforms. Examples of global issues include developments and prospects in the international markets of relevance to the country, international trade policy issues and commitments (WTO, participation in regional trade agreements, etc.), global environmental changes, etc.

- **Encourage the participation of all stakeholders in the dialogue leading up to the elaboration of the national strategies.** At the national level, an effort should be made to obtain a broad consensus on issues, goals and solutions. This process, to be led and facilitated by the Governments, should include both national actors including NGOs, social and other organisations such as farmers and consumer associations and those of civil society. It is also essential that the donor community is involved in the process and that other ongoing strategic initiatives (such as the PRSPs) are considered.

Part 2 : A conceptual framework for national agricultural, rural development and food security strategies and policies

2.1 Food insecurity and poverty: Definitions and concepts

A first step in setting up a strategy is that of defining its scope. To this end it is useful to clarify a few definitions, concepts, measures, and indicators that will come in handy in the discussion of food insecurity and poverty that follows.

Food security

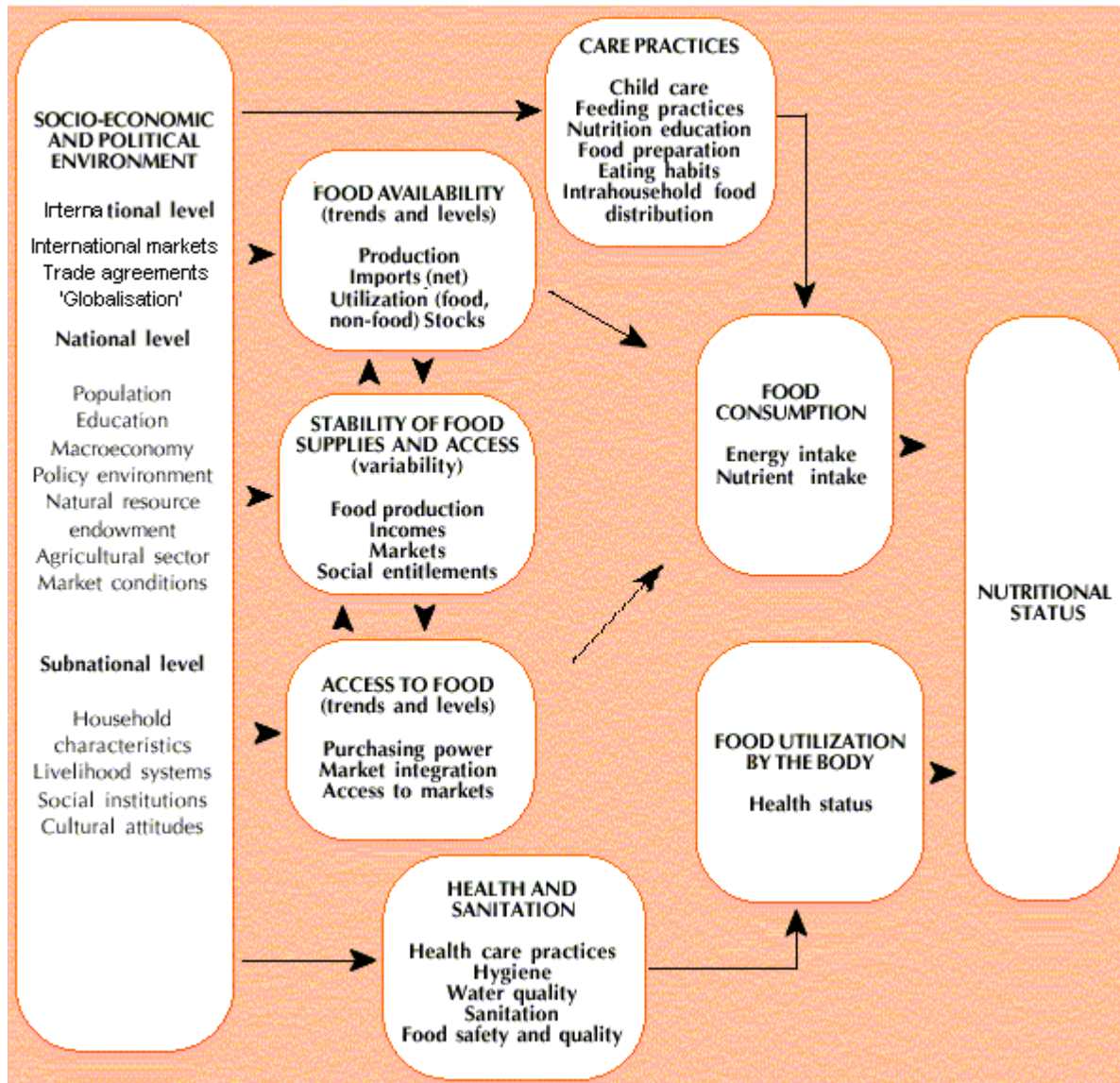
“Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life”³. This widely accepted definition points to the different dimensions of food security:

1. *Food availability*: The availability of **sufficient quantities** of food of **appropriate qualities**, supplied through domestic production or imports (including food aid).
2. *Food access*: Access by individuals to **adequate resources (entitlements)** to acquire appropriate foods for a nutritious diet. Entitlements are defined as the set of all those commodity bundles over which a person can establish command given the legal, political, economic and social arrangements of the community in which she lives (including traditional rights - e.g. access to common resources).
3. *Meeting nutritional requirements*: Utilisation of food through adequate diet, clean water, sanitation, and health care, to reach a state of nutritional well-being for which all physiological needs are met. This brings out the importance of non-food inputs in food security. It is not enough that someone is getting what appears to be an adequate quantity of food if that person is unable to make use of the food because he or she is often falling sick.

³ World Food Summit Plan of Action, Rome, 1996; available at http://www.fao.org/wfs/index_en.htm [<http://www.fao.org/docrep/003/w3613e/w3613e00.htm#PoA>].

4. *Stability*: To be food secure a population, household, or individual must have access to adequate food at *all times*. They should not be at risk of losing access to food as a consequence of a shock (e.g. an economic or climatic crisis), or cyclically (e.g. during a particular period of the year – seasonal food insecurity). The concept of stability can therefore refer to both the availability and access dimensions of food security.

Figure 1 – Food and nutrition security, a graphic depiction



Source: Adapted from www.fivims.org

The first point to note is that all four dimensions have to be present before it can truly be said that an individual is food secure⁴. The second critical point is that food security is defined at the level of the individual even though it is brought about by a combination of individual, household, community, national and even international factors. The third point is that the mere presence of food does not entitle a person to consume it. The quantity of food required must lie within that person's entitlement set.

⁴ Throughout this document the concept of food security is meant to include nutrition security. "Food security" is therefore here a synonymous of "food and nutrition security".

There was a tendency to underplay the importance of the fourth dimension, stability, in the past. It is, however, crucial, because it is required for understanding the concept of vulnerability. Food insecurity can be transitory (when it occurs in times of crisis), seasonal or chronic (when it occurs on a continuing basis). A person can be vulnerable to hunger even if he or she is not actually hungry at a given point in time. In general, the ability to call upon resources in emergencies reduces vulnerability. Clearly, different types of food insecurity warrant different policy responses.

It is also important to understand the determinants of the dynamics of food insecurity, i.e. the factors that help people to escape food insecurity and vulnerability, and those that may push into food insecurity households and individuals that were not previously food insecure or vulnerable.

Another element of the food security picture that is highlighted in the graph, as well as in the definition of food security recalled above, is that of food quality and safety. The recent move towards a holistic approach to food safety along the food chain is likely to require special efforts by countries to adjust their systems. This model varies from the previous where responsibility for food safety tended to concentrate on the food processing sector. Quality assurance systems are required at each step in the food production chain to ensure safe food, and to show compliance with regulatory and customer requirements. The systems are a set of controls implemented and verified by the responsible person(s) at each step in the chain (e.g. producers, farmers, fishermen, food processors, retailers, distributors, storage and transport personnel, etc.). Governments have an important role in providing policy guidance on the most appropriate quality assurance systems and verifying/auditing their implementation as a means of regulatory compliance.

Finally, a careful reading of the graphical depiction contained in Figure 1 shows how policymakers for whom agricultural and food security issues are the main concern, and who are the traditional counterpart of FAO at country level, need to take into account a number of (a) exogenous factors; (b) developments in policy domains that are less familiar to them. FAO operations at all levels need to explicitly incorporate this fact in their work.

International market conditions and prospects, globalisation, macroeconomic trends, education and health policies, are factors that play a crucial role in food security outcomes, but that are largely beyond the domain of competence of, say, agricultural ministries. This fact points to an increase in the level of policy coordination with other ministries, agencies, NGOs and the private sector in the context of a food security strategy. It also points to the need to account more explicitly in any strategic planning for foreseen development scenarios of the global and macroeconomic environment.

Since food insecurity is a complex concept, several measures of food insecurity are available, each capturing a different aspect of the problem. The main terms and indicators employed in the food security discourse are briefly listed and explained in Box 1.

Box 1: Food security and malnutrition terminology

Anthropometry - Use of human body measurements to obtain information about nutritional status.

Body mass index (BMI) - A ratio of weight for height often used to estimate body fat. It is obtained by dividing the weight (in kilograms) by the square of the height (in meters). BMI is not appropriate for assessment of growing children, frail and sedentary elderly individuals, or women who are pregnant or breastfeeding.

Dietary energy requirement - The amount of dietary energy required by an individual to maintain body functions, health and normal activity.

Dietary energy supply - Food available for human consumption, expressed in kilocalories per person per day (kcal/person/day). At country level, it is calculated as the food remaining for human use after deduction of all non-food consumption (exports, animal feed, industrial use, seed and wastage).

Kilocalorie (kcal) - A unit of measurement of energy. One kilocalorie equals 1 000 calories. In the International System of Units (ISU), the universal unit of energy is the joule (J). One kilocalorie = 4.184 kilojoules (kJ).

Malnutrition - An abnormal physiological condition caused by deficiencies, excesses or imbalances in energy, protein and/or other nutrients.

Minimum dietary energy requirement - In a specified age/sex category, the amount of dietary energy per person that is considered adequate to meet the energy needs for light activity and good health. For an entire population, the minimum energy requirement is the weighted average of the minimum energy requirements of the different age/sex groups in the population. It is expressed as kilocalories per person per day.

Overweight and obesity - Body weight that is above normal as a result of an excessive accumulation of fat. It is usually a manifestation of overnourishment. Overweight is defined here as BMI >25-30 and obesity as BMI >30.

Stunting - Low height for age, reflecting a sustained past episode or episodes of undernutrition.

Undernourishment - Food intake that is insufficient to meet dietary energy requirements continuously.

Undernutrition - The result of undernourishment, poor absorption and/or poor biological use of nutrients consumed.

Underweight - Low weight for age in children, and BMI <18.5 in adults, reflecting a current condition resulting from inadequate food intake, past episodes of undernutrition or poor health conditions.

Vulnerability - The presence of factors that place people at risk of becoming food insecure or malnourished, including those factors that affect their ability to cope.

Wasting - Low weight for height, generally the result of weight loss associated with a recent period of starvation or disease.

Source: FAO, *The State of Food Insecurity in the World 2000*

Poverty

Poverty is closely related to food insecurity and hunger. A recent authoritative definition of poverty is found in the OECD Development Assistance Committee's (DAC) Guidelines on Poverty Reduction, which state that:

“Poverty encompasses different dimensions of deprivation that relate to human capabilities including consumption and food security, health, education, rights, voice, security, dignity and decent work.”⁵

This approach to conceptualising poverty is widely accepted. It is also widely accepted that these dimensions of deprivation interact with and reinforce each other. However, it is much less clear how to create a measure of poverty that takes into account the multiple dimensions of poverty. Furthermore, the different dimensions of poverty are difficult to measure and quantify.

National **income poverty** lines are usually constructed by calculating the cost of purchasing a basket of food products to satisfy the food energy requirement for a healthy existence and (in most cases) adding an allowance for non-food expenditures. A household is regarded as poor if its consumption expenditure is below this level⁶. This methodology of calculating poverty introduces a link between household poverty and food insecurity, as poverty is implicitly seen as the inability to adequately provide for the household's food needs. It should however be stressed that the poverty measure is based on the *potential* for the household to satisfy these needs, it does not look into the actual outcome (i.e. the food consumption level of the household, let alone the individual).

Once a multidimensional definition of poverty is accepted, however, it becomes necessary to also quantify its non-income dimensions. To this end poverty measures based on lack of economic resources, are often supplemented with information on other forms of deprivation. These may take the form of simple or composite indicators. The Tanzania PRSP uses a Composite Deprivation Index that is particularly interesting in the context of this discussion, as it brings together food insecurity (defined in terms of availability of cereal equivalent levels), income and production, education, and health and nutrition services⁷.

What is important to note in this context, is that food insecurity and poverty are deeply inter-related phenomena. When one attempts to define, conceptualise, measure, or combat them with policy measures, the relationship between them should be explicitly taken into account. It should also be made explicit that the two are not perfectly overlapping, and that specific action to fight hunger and malnutrition are needed, in conjunction with other anti-poverty measures, to most effectively tackling both. The following box on Guatemala shows, drawing on a concrete illustration, why this is the case.

⁵ OECD (2001), p. 8.

⁶ National poverty lines for international comparison (the widely cited 1 and 2 dollar a day poverty lines) are calculated with the same methodology but expressed in Purchasing Power Parity (PPP) rather than local currencies. Income is sometimes used instead of consumption expenditure in poverty measurement.

⁷ See FAO (2002).

Box 2 – Malnutrition and Poverty: The Case of Guatemala

While malnutrition and poverty are clearly related, there are factors other than poverty that impact on malnutrition. Also, malnutrition itself contributes to poverty by impairing the learning and work capacity of undernourished individuals, particularly children. A recent study of Guatemala offers a good example of this point.

Guatemala is a country with one of the worst nutrition situations. The incidence of chronic malnutrition was 44 percent in 2000. Despite some recent progress, Guatemala remains the country with by far the worst child malnutrition indicators in Latin America and also the one in which recent progress in malnutrition reduction has been slowest.

Multivariate analysis of the determinants of chronic malnutrition among Guatemalan children shows that, besides income poverty, a number of other factors contribute to explaining child malnutrition. For instance, the presence of women over 14 years of age is associated with taller children, indicating that care practices are important. Ethnicity and the mother's ability to speak Spanish, probably reflecting social exclusion and differential access to services, are also significant determinants of child malnutrition in Guatemala, a country with a large indigenous population.

Parental education, access to water and sanitation, number of children in the household are also factors that explain much of the difference in nutritional status among children, albeit with differences across regions of the country. Gender bias is not an issue, unlike in many countries in Asia where similar studies are available.

While policies to alleviate poverty do have a significant impact on child nutrition in Guatemala, the evidence above points to the fact that a number of other policy measures may impact malnutrition directly. Such policies provide an additional contribution to the overall poverty reduction efforts, through improved nutrition-

Source: Marini and Gragnolati (2003), *Malnutrition and Poverty in Guatemala*, World Bank Policy Research Working Paper 2967.

2.2 Why focus on hunger: The vicious cycle of hunger and poverty

It is sometimes argued that food insecurity is simply a consequence of poverty, with the corollary that policies to alleviate poverty will automatically alleviate food insecurity. The basic premise behind a separate focus on hunger reduction and food security in country strategies and policies rests on the broader view that sees poverty and hunger as being part of a vicious cycle: while poverty is undoubtedly a cause of hunger, lack of adequate and proper nutrition is itself an underlying cause of poverty. Chronically hungry people may not be able to build the necessary human, physical and social capital (or assets) that would facilitate their exit from poverty.

It is on these considerations that FAO developed and advocates the “twin-track” approach to hunger and poverty reduction. The substance of the twin-track approach is explained at greater length in the paper “*Anti-Hunger Programme*,” (AHP)⁸, a paper which the FAO secretariat tabled for discussion at a side event during the WFS: *fy1*, and at the World Summit on Sustainable Development (WSSD). Most recently, the basic concepts in the paper were

⁸ <http://ftp.fao.org/unfao/bodies/cfs/cfs29/Y8752e.pdf>.

A more detailed and more discussion with corroborating evidence can be found in “Food Insecurity, Poverty and Agriculture: A Concept Paper” (<http://www.fao.org/es/ESA/fipa.pdf>).

discussed and endorsed by the Committee on World Food Security.⁹ It should also be stressed that the twin-track approach is also informing the new generation of SPFS projects, and the “Right to Food” initiative (see FAO, 2003).

The twin-track approach combines (i) resource mobilization for agricultural and rural development to create opportunities for the poor and hungry to improve their livelihoods, with (ii) measures to meet the immediate food and nutrition needs of the seriously undernourished so that they can take advantage of such opportunities.

The case for giving priority to hunger reduction

Poverty reduction cannot run at full steam unless the productivity handicap of people caused by hunger is dealt with directly. To break the vicious circle of undernourishment- low productivity –low growth which tends to perpetuate a state of both underdevelopment and undernourishment, direct assistance which would provide immediate access to food by the undernourished is necessary. Therefore a strategy for attacking poverty in conjunction with policies to ensure food security offer the best hope of swiftly reducing *mass* poverty and hunger.

Table 1: Summary of studies on the productivity impact of poor nutrition

| Study authors | Country | Group studied | Main findings |
|--------------------------------|--------------|---------------------------------------|----------------------------------------------------------------------------------|
| Croppenstedt and Muller (2000) | Ethiopia | Rural households, mainly agricultural | Output & wages rise with BMI and WfH. Adult height has positive impact on wages. |
| Strauss (1986) | Sierra Leone | Rural households, mainly agricultural | Calorie intake has positive impact on productivity. |
| Satyanarayana et al. (1977) | India | Indian factory workers | WfH is significant determinant of productivity. |
| Deolalikar (1988) | India | Southern Indian agricultural workers | Significant effect of WfH on farm output & wages. |
| Alderman et al. (1996) | Pakistan | Rural households, mainly agricultural | Adult height is significant determinant of rural wages. |
| Haddad and Bouis (1991) | Philippines | Sugarcane growers | Adult height is significant determinant of rural wages. |
| Thomas and Strauss (1997) | Brazil | Urban population sample | BMI, adult height, have strong, positive impacts on market wages. |
| Spurr (1990) | Colombia | Sugarcane cutters and loaders | Weight, height are significant determinants of productivity. |
| Immink et al. (1984) | Guatemala | Coffee & sugarcane growers | Adult height has positive impact on productivity. |

Notes: BMI refers to Body Mass Index, i.e. weight (kgs.) / (square of height (cms))
WfH refers to weight for height.

First, at the most basic level a person requires an adequate nutritional status in order to perform labour. If this nutritional status is not forthcoming, or if the person lives in an unhealthy environment, the result is poor nutritional status and that person's ability to do sustained work is reduced. Furthermore, if the person is shorter or has a smaller body frame as a result of past nutritional deprivation, he or she may lack the strength to perform physically demanding but also better rewarded tasks. For example, one study on Brazil found that an

⁹ Report of the 29th Session of the Committee on World Food Security (CFS) Rome, 12 – 16 May 2003; available at <http://www.fao.org/DOCREP/MEETING/006/Y9464e.HTM> .

increase of 1 percent in food energy intakes increased wages by about 1.6 percent at intake levels of around 1 700 kilocalories per day, but that this effect ceased to operate after energy consumption levels reached around 1 950 kilocalories per day. Table 1 summarizes the results of selected studies on the productivity impact of poor nutritional status.

Second, there is evidence that poor nutritional status leaves people more susceptible to illness because of an inadequate immune response. Thus a vicious cycle may exist whereby inadequate food intakes combined with frequent sickness spells result in poor nutritional status, which in turn creates an increased susceptibility to illness. It is estimated that 55 percent of the nearly 12 million deaths each year among under five-year-old children in the developing world are associated with malnutrition. A recent study on Asia finds that as many as 2.8 million children and close to 300 000 women die every year as a result of malnutrition in these countries. Also noteworthy is the fact that anaemia is responsible for 20 to 25 percent of maternal deaths in most of these countries.

Third, there is a risk of intergenerational transmission of poor nutritional status. For example, women who suffer from poor nutrition are more likely to give birth to underweight babies. These babies thus start out with a nutritional handicap.

Fourth, there is evidence that poor nutrition is associated with poor school performance in children of school age. At its simplest, this is expressed as “a hungry child cannot learn”. This would not necessarily imply any impairment in the child’s cognitive ability, but merely that because of hunger, the child is listless or tired and inattentive and cannot participate in learning activities. In addition, poorly nourished children are also likely to fall sick more often and have to stay away from school. To make matters worse, cognitive ability itself is impaired, sometimes irreversibly, as a result of prolonged and severe malnutrition. The upshot is that children do poorly at school, thereby damaging their future economic prospects. Available studies have shown that low birth weight, protein energy malnutrition in childhood, childhood iron-deficiency anaemia and iodine deficiency (e.g. being born to a mother with goitre) are all linked to cognitive deficiencies and the effects are more or less irreversible by the time a child is ready to go to school.

Table 2: Estimates of productivity costs of malnutrition, selected Asian countries, (Annual, as percent of GDP)

| Country | Losses of Adult Productivity | | |
|----------|------------------------------|-------------------|-----------------|
| | Stunting | Iodine Deficiency | Iron Deficiency |
| India | 1.4 | 0.3 | 1.25 |
| Pakistan | 0.15 | 3.3 | 0.6 |
| Vietnam | 0.3 | 1.0 | 1.1 |

| Country | Losses Including Childhood Cognitive Impairment Associated with Iron Deficiency | |
|------------|---------------------------------------------------------------------------------|----------------------------|
| | Cognitive Only | Cognitive plus Manual Work |
| Bangladesh | 1.1 | 1.9 |
| India | 0.8 | 0.9 |
| Pakistan | 1.1 | 1.3 |

Source: Horton (1999), p. 251.

Fifth, people who live on the edge of starvation can be expected to follow a policy of safety first with respect to investments. They will avoid taking risks since the consequences for short-term survival of a downward fluctuation in income will be catastrophic. But less risky investments also tend to have lower rewards. Once again, the tendency is for poor nutrition to be associated with lower income.

Finally, there is some evidence that the macroeconomic performance of the whole economy may suffer as a result of the cumulative impact of these effects. It has been shown recently that the overall effect may be to reduce a country's rate of economic growth. A study for a number of Asian countries¹⁰ (see table 2) shows that adult productivity losses arising from the combined effect of stunting, iodine deficiency and iron deficiency are equivalent to 2 to 4 percent of GDP every year in these countries. These are very large totals indeed although these estimates were produced under conservative assumptions. Adult productivity losses arising from the combined effect of stunting, iodine deficiency and iron deficiency are equivalent to 2 to 4 percent of GDP every year in these countries. Similarly, a study carried out for FAO shows that food energy deficiencies alone may be responsible for an average loss of economic growth of 1 percentage point every year in the last 30 years for the developing countries as a group.

While there is no doubt that sustainable poverty reduction is an essential precondition for reduction in hunger and malnutrition, income growth even if sustainable and equitable is not sufficient to achieve food security without purposeful complementary public interventions. A recent study using data from 63 countries in five regions, covering 88 percent of the developing world's population over the period from 1970-95, analysed the determinants of child malnutrition, as measured by the percentage of underweight children under five. One of its principal findings is that growth in per caput national income contributed to half the reduction in child malnutrition over this period. Based on this and other work, there appears to be a growing consensus that while income growth has a substantial impact on undernutrition, taken alone it will not take care of the problem. What is needed is a combination of income growth and direct nutrition interventions augmented by investments in health, clean water, sanitation, and education, particularly women's education. This is precisely what FAO's twin track approach to hunger and poverty reduction advocates.

Creating a synergy between direct action against hunger and measures to stimulate agriculture and the rural sector is fundamental to the twin-track approach. The two tracks are complementary. Hungry people must have better access to adequate food as a precondition of their participation in development. At the same time, increases in agricultural productivity and production will increase rural economic activity and expand employment opportunities in the farm and rural non-farm sector. A case of "maximum synergy" is one in which safety nets and food assistance programmes (such as school lunches for instance) are supplied with local production: supplying safety nets with locally produced food whenever possible will lead to an expansion in market opportunities, farm output and employment, while providing food to those who need it.

¹⁰ Horton (1999).

2.3. Food security: Exploring the critical links

In this section the discussion of the basic elements that determine national, household, and individual level food security and nutritional outcomes is organised around five themes: global and macro constraints, the rural dimension of food security, its urban dimension, cross-cutting issues, and food security in the context of crises. Different, if inter-related, policy questions underlie the five themes, and it may therefore be useful to tackle them separately for the sake of exposition.

The global and macro contexts: Constraints and opportunities

Figure 1 provides a graphic depiction of the links between food and nutrition security and its key determinants.

Food security policymakers take their decisions within global and macroeconomic settings that are largely beyond their control. In particular, trends in global markets, outcomes of international and regional trade negotiations and agreements, macroeconomic and trade policies, all have a significant bearing on food security outcomes and it is crucial that they be taken into account (even when they cannot be influenced) in policy and planning for food security.

As for all production, investment, and consumption decision, those relevant to agricultural and rural growth and to the demand and supply sides of the food economy are directly and indirectly connected to the macroeconomic framework. A stable macroeconomic framework is crucial for reducing uncertainty and risk, and enhancing consumer and investor confidence. Fiscal, monetary, exchange rate, labour market policies all contribute to shaping the incentive structure faced by producers, investors, and consumers as they take the actions that will result in food security outcomes at the national, household and individual levels. The avenues through which this influence materialises are too numerous to mention. It suffices to recall the importance of relative prices, real interest and exchange rates, inflation for any agent taking an economic decision (such as that of producing, buying or selling how much food at what prices).

‘Traditional’ agriculture and food security policy makers normally have little if any influence on the design and implementation of macro-policies. Still, it is important for them to take into account the macroeconomic trends and risks when assessing the likely impact of the policies under their own domain. An endless list of examples may be made of how macro policies affect food security, but the treatment of the specific issues is clearly too broad to be tackled here and is also beyond the scope of this paper. The point that must be made here is that in designing food security policies all the aspects of the macroeconomic policy framework should be taken into careful consideration, not only for their direct effect on the macroeconomic variables, but also for how they interact with specific food security and agricultural and rural development policies¹¹.

¹¹ FAO’s manual “Implications of economic policy for food security - A training manual”, by A. Thomson, and M. Metz, 1996, provides an extensive treatment of these and other issues the present paper can only touch upon. The manual is available at <http://www.fao.org/tc/Tca/pubs/tmap40/tmap40.htm> .

The focus on poverty reduction and the MDGs that is currently driving policy debate in so many countries should be exploited to also achieve the parallel objective of bringing food security to the attention of macro policymakers. Consultations and debates such as those leading to the preparation of the PRSP's and of national food security strategies should be occasions for promoting the mainstreaming of food security concerns into all the domains of socio-economic policymaking. If Ministry of Agriculture officials need to be aware of the constraints the macroeconomic environment poses on the effectiveness of the policies under their responsibility, macro policymakers need also to be encouraged to focus on the food security implication of their policy decisions.

International trade has major potential impacts on poverty alleviation and food security in developing countries. The general case for international trade rests on the fact that it permits a much more efficient use of resources to the benefit of incomes and economic growth. International trade is of special importance for developing countries, and particularly smaller ones, for which the limited size of their domestic markets may constitute a serious constraint to an efficient use of their domestic production potential. Participation in international trade removes this constraint and allows countries to access larger markets for their products. This permits them to exploit the potential for specialization in production and economies of scale. At the same time it allows them access to better and cheaper supplies (including food imports) than if they had to rely on domestic production alone. International trade can also be a powerful channel for facilitating access to technology directly or through the technology incorporated into inputs and it may facilitate flows of foreign investment thus alleviating capital constraints facing developing countries. To the extent that realised benefits from international trade are translated into broad-based increases in economic activity and incomes, household food security may improve from increased participation in world markets.

But increased openness to international trade is not without its costs. Increased trade means a progressive re-distribution of world production according to countries' comparative advantage, which means that certain industries in some countries may have to shrink as cheaper imports become available. There may be significant adjustment costs as the production structure in a particular country adjusts and productive resources are re-allocated. From the point of view of food security, adjustment costs are in terms of unemployment, the decline of productive sectors in agriculture, increased concentration and agglomeration of the food system which leaves out small-scale subsistence farmers.

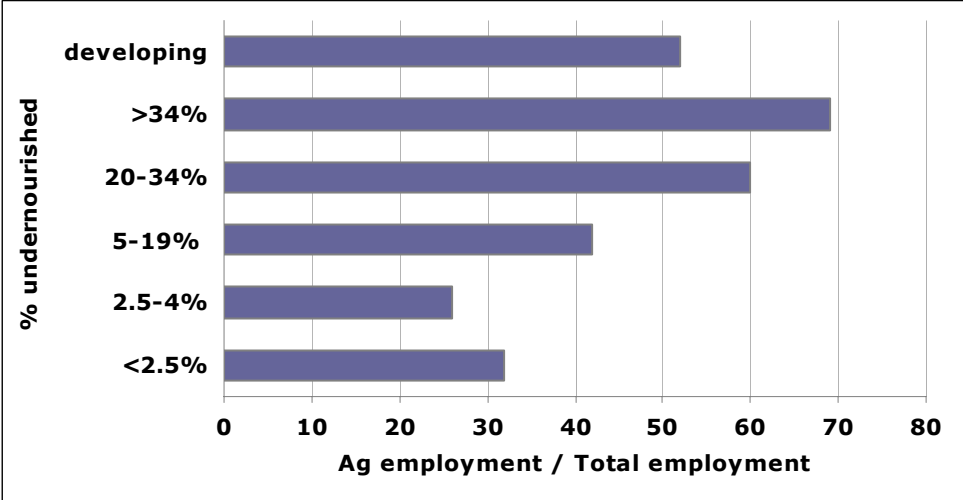
The upshot is that openness to trade may entail winners but also losers, particularly in the short run, for instance when previously protected sectors or industries are exposed to increased competition while others face new opportunities. However, there is a consensus that openness to international trade is a fundamental component of an overall mix of policies which can foster economic growth and reduce poverty and food insecurity. At the same time, openness to international trade is unlikely, on its own, to lead to major improvements in a country's economic performance or to substitute for development policies aimed at reducing poverty and food insecurity. The potential benefits from trade are not automatically realised without a policy and institutional framework to exploit that potential.

Food security: The rural dimension

That agricultural and rural development should be an essential part of a hunger and poverty reduction strategy emphasis is not surprising. Between 70 to 75 percent of the poor and

hungry live in rural areas in developing countries. Table 3 provides a synthesis of rural poverty statistics for a number of developing countries. They include smallholders, landless labourers, traditional pastoralists, artisanal fishermen, and marginalised and vulnerable groups like refugees, indigenous peoples, and female-headed households. Agriculture is at the heart of their livelihood strategies, as demonstrated by FAO study *Farming Systems and Poverty*, the International Fund for Agricultural Development's (IFAD) *Rural Poverty Report 2001* and reiterated by the new World Bank *Rural Development Strategy*. In the countries with the highest incidence of undernourishment, agricultural employment is paramount (Figure 2). Moreover, worsening standards of living in rural areas drive desperate people to the cities, thereby exacerbating urban poverty while the reverse does not often happen. Hence, agricultural growth must play a central role in strategies to reduce hunger and poverty.

Figure 2: Agricultural employment and the incidence of undernourishment



Source: SOFI 2003, forthcoming.

Table 3: Rural Poverty in Selected Developing Economies

| Country | Most Recent Survey Year | Total Population (millions) | Rural Population (% of total Population) | Percent of Population Below Poverty Line | | | Rural – Poor* (% of total poor) |
|-----------------------|-------------------------|-----------------------------|------------------------------------------|------------------------------------------|-------|-------|---------------------------------|
| | | | | National | Rural | Urban | |
| Algeria | 1995 | 28.4 | 42.3 | 22.7 | 30.3 | 14.7 | 56.4 |
| Bangladesh | 1995-96 | 118.0 | 79.7 | 35.6 | 39.8 | 14.3 | 89.1 |
| Brazil | 1990 | 147.8 | 25.7 | 17.4 | 32.6 | 13.1 | 48.2 |
| Cameroon | 1984 | 9.7 | 64.9 | 40.0 | 32.4 | 44.4 | 52.6 |
| China | 1998 | 1239.0 | 68.8 | 4.6 | 4.0 | - | 68.8 |
| Colombia | 1992 | 36.4 | 29.7 | 17.7 | 31.2 | 8.0 | 52.3 |
| Dom. Republic | 1992 | 7.4 | 40.5 | 20.6 | 29.8 | 10.9 | 58.6 |
| Ecuador | 1994 | 11.2 | 41.1 | 35.0 | 47.0 | 25.0 | 55.2 |
| Egypt | 1995-96 | 58.6 | 55.3 | 22.9 | 23.3 | 22.5 | 56.3 |
| El Salvador | 1992 | 5.3 | 56.6 | 48.3 | 55.7 | 43.1 | 65.3 |
| Estonia | 1995 | 1.4 | 28.6 | 8.9 | 14.7 | 6.8 | 47.2 |
| Georgia | 1997 | 5.4 | 40.7 | 11.1 | 9.9 | 12.1 | 36.3 |
| Ghana | 1992 | 15.8 | 65.2 | 31.4 | 34.3 | 26.7 | 71.2 |
| Honduras | 1993 | 5.3 | 54.7 | 53.0 | 51.0 | 57.0 | 52.7 |
| India | 1994 | 898.0 | 74.7 | 35.0 | 36.7 | 30.5 | 78.4 |
| Indonesia | 1998 | 203.4 | 61.3 | 20.3 | 22.0 | 17.0 | 66.4 |
| Kazakhstan | 1996 | 15.9 | 43.4 | 34.6 | 39.0 | 30.0 | 48.9 |
| Kenya | 1992 | 25.0 | 74.4 | 42.0 | 46.4 | 29.3 | 82.2 |
| Kyrgyz | 1997 | 4.6 | 65.2 | 51.0 | 64.5 | 28.5 | 82.5 |
| Lao PDR | 1993 | 4.4 | 79.5 | 46.1 | 53.0 | 46.1 | 91.5 |
| Lesotho | 1993 | 1.8 | 77.8 | 49.2 | 53.9 | 27.8 | 85.2 |
| Madagascar | 1993-94 | 12.7 | 74.8 | 70.0 | 77.0 | 47.0 | 82.3 |
| Moldova | 1997 | 4.3 | 53.5 | 23.3 | 26.7 | 20.1 | 61.3 |
| Mongolia | 1995 | 2.5 | 38.4 | 36.3 | 33.1 | 38.5 | 35.0 |
| Morocco | 1998-99 | 28.0 | 45.0 | 19.0 | 27.2 | 12.0 | 64.4 |
| Nepal | 1995-96 | 21.6 | 88.0 | 42.0 | 44.0 | 23.0 | 92.2 |
| Nicaragua | 1993 | 4.2 | 45.2 | 50.3 | 76.1 | 76.1 | 68.4 |
| Niger | 1989-93 | 8.0 | 83.8 | 63.0 | 66.0 | 52.0 | 87.7 |
| Nigeria | 1996 ¹ | 114.5 | 59.6 | 65.6 | 67.8 | 57.5 | 61.6 |
| Pakistan | 1991 | 110.8 | 67.6 | 34.0 | 36.9 | 28.0 | 73.4 |
| Panama | 1997 | 2.7 | 44.4 | 37.3 | 64.9 | 15.3 | 77.3 |
| Paraguay | 1991 | 4.3 | 51.2 | 21.8 | 28.5 | 19.7 | 66.9 |
| Peru | 1997 | 24.4 | 28.3 | 49.0 | 64.7 | 40.0 | 37.3 |
| Philippines | 1997 | 73.5 | 44.2 | 40.6 | 51.2 | 22.5 | 55.8 |
| Romania | 1994 | 22.7 | 45.4 | 21.5 | 27.9 | 20.4 | 58.9 |
| Sierra Leone | 1989 | 3.9 | 71.8 | 68.0 | 76.0 | 53.0 | 80.2 |
| Sri Lanka | 1990-1991 | 17.0 | 78.8 | 35.3 | 38.1 | 28.4 | 85.1 |
| Tunisia | 1990 | 8.2 | 41.5 | 14.1 | 21.6 | 8.9 | 63.5 |
| Uganda ¹ | 1997 | 20.3 | 86.7 | 44.0 | 48.2 | 16.3 | 95.0 |
| Yemen | 1992 | 13.9 | 77.0 | 19.1 | 19.2 | 18.6 | 77.4 |
| Zambia ¹ | 1996 | 9.2 | 60.9 | 60.0 | 74.9 | 34.0 | 76.0 |
| Zimbabwe ¹ | 1996 | 11.2 | 67.9 | 47.2 | 62.8 | 14.9 | 90.3 |

Note: ¹ Poverty line data is based on nutrition-based poverty lines. * Calculated from available data. Comparison between countries are not valid. Source: Okidegbe (2001), based on World Development Indicators (WDI), 2000 and World Development Report, 2000/2001.

The contribution of agriculture to hunger and poverty reduction goes beyond its role as a source of food production and therefore increased food availability, lower food prices at the local level and the stability of food supplies. A (perhaps more important) role is that of a driving force for overall development of the rural space, employment and incomes for the rural poor. Rural incomes impact access and stability of access by increasing the purchasing power of the poor and in many instances also by playing the role of a buffer against external shocks. Rural growth, finally, is also both an outcome and a determinant of the access to the

non-food inputs of nutrition security: education, care, access to services all tend to improve with rural growth, but are also push factors behind it.

Box 3 – The importance of agricultural and rural growth for poverty alleviation: The evidence

In India research (Ravallion and Datt (1996) and Datt and Ravallion (1998)) has shown that:

- Primary and tertiary sector growth are poverty reducing, while secondary sector growth has no significant impact on poverty;
- Growth in the rural areas at large reduces poverty in both rural and urban areas, while urban growth only reduces poverty in urban areas;
- When growth in agricultural yields became strong in India in the early seventies, not only did the number of people in poverty, as measured by the headcount index, decline but poverty also became less severe, i.e. the consumption of the poorest of the poor also increased;
- Higher average farm-yields benefited poor people both directly, and indirectly via higher real wages.

Timmer (1997), investigating the relationship between economic growth and poverty in a cross section of 35 developing countries found that "in countries where the income gap is relatively small, labour productivity in agriculture is slightly but consistently more important in generating income in each of the five quintiles [even though] for countries with large income gaps ... growth in agricultural productivity is no more successful in alleviating poverty than growth in the non-agricultural economy".

A study on 12 Latin American countries reached the conclusion that "a growth path biased toward agriculture [is] effective in reducing the number of rural poor and the incidence of rural poverty." (De Janvry and Sadoulet, 1995).

Delgado *et al.* (1998) for five countries in sub-Saharan Africa, show very neatly how sustained growth in rural incomes that is widely distributed across households is capable of unlocking significant additional growth.

A number of other recent studies consistently point to a substantial role of agricultural growth as an element of poverty reduction: See for instance Bautista *et al.* (1999) and Torbecke and Jung (1996) both on Indonesia, Kakwani (1993) on Ivory Coast, Zeller *et al.* (2000) on Madagascar, Bautista *et al.* (1998) on Zimbabwe, and Khan (1999) on South Africa.

Increases in agricultural productivity are essential in this context: an increase in agricultural productivity raises farm incomes. Where the resulting agricultural growth benefits small-scale farmers and rural labourers, the additional income is spent largely on food and on basic non-farm products and services in rural areas, such as the services of merchants, artisans, mechanics, etc. and on simple agricultural implements and household goods. These tend to be produced and provided locally. Non-farm enterprises offer the poor a potential escape route from poverty, since they usually require little capital or training to set up and are labour intensive. The extra income from agricultural growth can create demand for these goods and services, thus starting a virtuous cycle in which agricultural and rural off-farm income grow and sustain each other's growth. An important determinant of this mutually reinforcing process is where the extra income is spent. In a society characterised by smallholders it is more likely that the extra income will be spent locally, than when farming is dominated by large landlords. Such broad-based development opens up new opportunities for reducing poverty and hunger. Therefore, increases in agricultural productivity (higher output per hectare or shift to high value crops) create a series of ripple effects in the rural areas through the growth of rural off-farm activities.

Box 4 - The importance of rural non farm activities across developing regions: Some evidence

The combined effect of agricultural growth and growth in the rural non-farm activities can be large. A study by IFPRI (Delgado et al., 1998) using household consumption data from 1980s surveys in Burkina Faso, the Niger, Senegal and Zambia (with additional data from Zimbabwe), shows that the share of additional income spent on non-tradables ranges from 32 percent in Senegal to 67 percent in Burkina Faso and Zambia. This spending had multiplier effects that were also calculated. The combined impact on household incomes turns out to be surprisingly large. For example, in Burkina Faso, a US\$1 increase in income from farm tradables led to an increase of US\$1.88 in income from non-tradables, while in Zambia a US\$1 increase led to an increase of US\$1.57 in income from non-tradables.

Some preliminary evidence on the importance of rural non-farm (RNF) incomes to the poor can be summarised as follows. The mean share of non-farm income in household income is nowhere less than about 30 percent and is as high as 45 percent in eastern/southern Africa. Shares in employment are equally high, ranging from 25 percent in Latin America to almost 45 percent in parts of Asia (FAO, 1998). In one large poor country, India, the share of income from non-farm sources is highest, at 60 percent, for households in the bottom expenditure quintile (Lanjouw and Shariff, 2001).

The above analysis brings to bear the need to foster broad-based, sustainable rural growth as well as the need to go beyond growth in agricultural productivity and production to address the potential of the sector to promote growth in the entire rural space, and beyond. From the point of view of a strategy to promote poverty and hunger reduction this means creating the conditions for maximum “synergy” between agriculture and the rest of the rural space. Logical as it might sound, such a perspective has rarely been explicitly considered in practice. The activities which compose the economic structure of the rural space usually fall in an “institutional vacuum” in the sense that they fall outside the mandate of line ministries. In addition, the objective of developing the overall rural space as a means for reducing poverty may have implications as to “what type of agriculture” is more appropriate so that maximum synergy with the non-farm rural sector is achieved and hence, poverty reduction is maximised. The setting of priorities regarding the type of agriculture to be promoted is based on the premise that not all agricultural growth is equally beneficial to the poorest. Factors such as technology, access to resources and markets are some of the factors determine the incentives and the capacities of the rural poor to participate in and benefit from overall rural growth.

Food security: The Urban Dimension

As noted above, urban food insecurity is on the rise. At the going rate of urbanization, urban population in developing countries will equal rural population by 2007, and is projected to be 60 per cent by 2030. Almost all of the population increase expected during 2000-2030 will be absorbed by the urban areas of the less developed regions, which will account for almost the entire increment in developing countries’ population growth (Figure 2). Within the group of developing regions, urbanization will be most pronounced in developing countries of Asia and sub-Saharan Africa (Figure 3).

Migration to cities from the rural areas is one of the sources of increased urbanisation¹². Such migration won’t necessarily be an outcome the development process. “Push” factors such as agricultural and rural decline will cause a transfer of poverty from the rural to the urban areas. Research results for India show that the poor urbanise faster than the population as a whole

¹² Other factors are the net increases in existing urban populations (birth minus death rates) and the transformation of rural into urban areas as their population increases.

(Ravallion, 2001), while survey data on poverty and child undernutrition show that “ in a majority of countries the absolute number of poor and undernourished individuals living in urban areas has increased, as has the share of overall poverty and undernourishment coming from urban areas “ (Haddad, Ruel and Garrett 1999).

Urbanisation is accompanied by changes in livelihood and income earning strategies, habitual dietary practices, and dramatic lifestyle changes which include a marked reduction in levels of physical activity even among the urban poor contributing to a rise in the risk of chronic diseases and obesity.

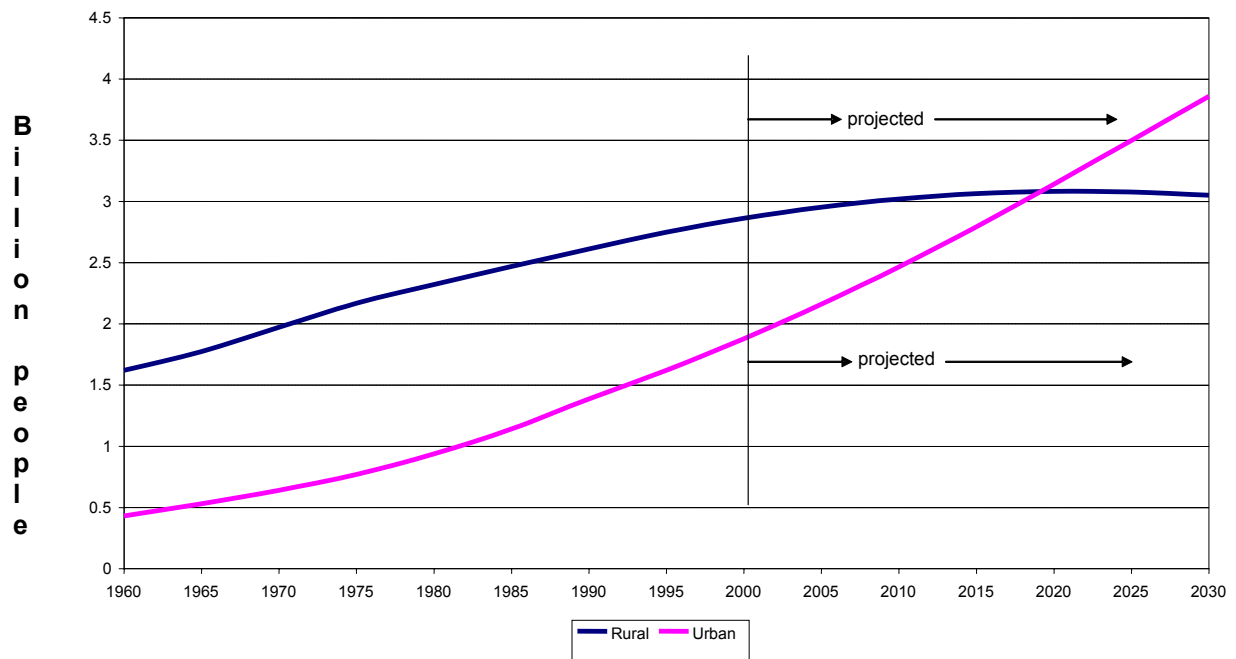
The shares of wage and informal sector income tend to be higher among urban households. On the expenditure side, items such as housing and transportation add up to food expenditure as inelastic components of the urban consumer basket. Average income is higher in the urban areas, while the relative prices of traditional staples relative to the prices of processed foods are also higher in the cities. These two factors combined explain much of the rural-urban differences in diets. Evidence from individual country surveys shows that urban diets are also more diversified than rural ones, richer in micro-nutrients but also in animal proteins, saturated fats, pre-processed products and refined carbohydrates. They also contain lower amounts of fibre and higher intakes of alcohol.

The problems and needs of the urban destitute are in many ways different from those of the rural poor and vulnerable. Despite the existence of urban agriculture in many cities, urban dwellers rely much more on purchased food to meet their nutritional needs, and hence a steady food supply at prices they can afford is what matter most for their food security. Efficient food-marketing systems are the first essential pillar of urban food security, as they have implications for both the price and safety of food. Fast urbanisation requires that more and more food be supplied to the cities, and this may put weak food distribution infrastructures under stress.

Surprisingly, there is evidence that smaller and poorer households also rely on street foods for their diets. Empirical evidence shows that smaller and poorer households have higher expenditure shares on prepared street foods. Data from an Accra-wide survey shows that households in the lowest income quantile consumed 31.4 % of their caloric intake away from home, more than any other income group (Maxwell et al. 1998). The limited evidence available points to a higher fat, sugar and salt content of these pre-prepared foods relative to those prepared at home which adds to the consequent health burden.

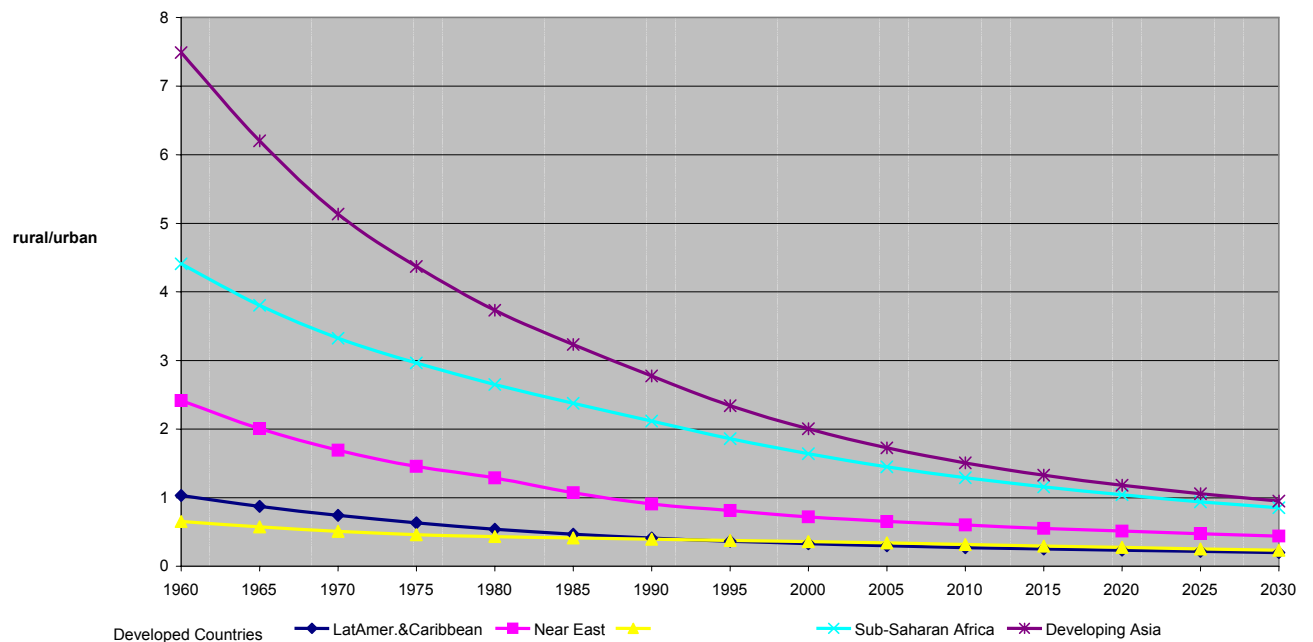
The combination of living in crowded, unhealthy environment, being exposed to food safety problems associated with street foods is likely to require that extra attention be devoted to the food utilisation dimension of food security in rapidly expanding urban areas. This includes the need for an increased focus on outcome food security indicators (e.g. anthropometric) as opposed to others that may be of greater relevance in remote rural areas (e.g. food production and availability).

Figure 2.: Urbanisation in developing countries will accelerate over the next 30 years



Source: UN: Calculated from : UN World Urbanization

Figure 3: Rural-urban population ratios over time



Box 5: Guatemala: The double burden of undernutrition and obesity

Under-nutrition among children remains the greatest nutrition problem in Guatemala. Guatemala has among the worst indicators in the world in terms of child growth attainment. The prevalence of chronic malnutrition in Guatemala (44 percent in 2000) is much higher than in any other country in the Latin American and the Caribbean region (see Box 2 above). However, there is evidence that over-nutrition and obesity are increasing among both children and adults.

Diet and lifestyles have been changing considerably in Guatemala (as well as in the rest of Latin America), and chronic and degenerative diseases are becoming more of a public health concern. Over-nutrition, and, in particular, obesity can have important negative health consequences, mainly associated with an increased prevalence of chronic diseases such as hypertension, blood lipid concentration, diabetes mellitus, and ischemic heart disease.

The prevalence of obese children in Guatemala increased from 2.7 percent to 5.4 percent between 1987 and 2000. Guatemala is undergoing a rapid nutritional transition, characterized by the adoption of Western-style diets that are high in saturated fats, sugar, and refined foods, which may explain the observed increase in obesity. Obesity tends to be higher among children living in urban areas and among non-poor and non-indigenous households. Overall, the prevalence of obesity is highest among children whose parents have the highest level of education (secondary school or higher).

Guatemalan women have the highest prevalence of obesity in the Latin American region (16 percent) and the second highest prevalence of excess weight (32 percent) after Peru (36 percent). Moreover, both excess weight and obesity have increased in Guatemala over the last few years. In particular, obesity has almost doubled between 1995 and 2000, increasing from 8.1 percent to 16.0 percent. On average, over-nutrition in Guatemala tends to be a more serious problem for women than for men, with 33 percent of women being overweight and 16 percent obese while the corresponding figures for men are 28 percent and 6.4 percent respectively. The prevalence of obesity among Guatemalan women in 2000 was similar to the prevalence observed among US women in the same year (19.4 percent).

The prevalence of adult obesity is greater in households in higher consumption quintiles, especially among men, with 43.1 percent of men in the richest consumption quintile being overweight and 12.0 percent being obese. The corresponding figures are lower among men in the poorest consumption quintile (27.6 percent and 6.4 percent respectively). About 36 percent of non-poor adults are overweight, regardless of their sex. The prevalence is lower for poor and extremely poor men (19 percent and 11 percent respectively) while it remains very high for both poor and very poor women (29 percent and 24 percent respectively).

Source: Marini and Gragnolati (2003), *Malnutrition and Poverty in Guatemala*, World Bank Policy Research Working Paper 2967.

Developing countries, in particular those in rapid social transition and economic development face the consequences of both nutritional deficits and excesses and will be increasingly subject to the 'double burden' of persisting undernutrition in the midst of a growing epidemic of non-communicable diseases (NCDs). This situation is likely to become more pressing initially in urban areas, where lifestyle and dietary changes are more rapid and marked. Both these forms of malnutrition will contribute substantially to the increasing loss of economically productive life years, continued reduction in economic growth and national productivity and increases in health burden and its consequent costs.

On the positive side, policymaking for urban food security has the advantage, when compared to rural, of (a) having to reach a population that is much more spatially concentrated, (b) being able to rely on a network of public services (education, health) that is usually more developed and far-reaching than the rural one, and (c) being able to rely on more developed civil society and NGO networks that can bridge the gap between public and private sector

actions. Also the increased reliance of urban consumers on purchased foods, renders food fortification and supplementation programs generally more effective in urban areas.

However, even in the case of urban FS, agriculture may have a role to play. According to UNDP estimates 800 million people around the world are engaged in urban agriculture, producing around 15 percent of all the food consumed in urban areas (UNDP, 1996). Urban agriculture, both commercial and subsistence, can also be an important source of income and employment. In Cairo about a quarter of households own some small livestock, and in Dar Es Salaam urban agriculture is the second largest employer. Studies have also shown the importance of urban agriculture for improving the nutritional status of the urban poor (Mougeot, 2000). In some countries, urban food production can be a common coping mechanism in poor communities, especially among women¹³.

The rapid process of urbanization in peri-urban areas brings about problems of land use policy that will have to consider the role of agricultural land use for urban food security, in the context of overall urban planning, changes in the farming systems, employment structure, infrastructures, and developments in the food distribution networks. Also, the pollution problems that are related to the performance of agricultural activities in urban areas have often posed problems of difficult solutions to local governments.

The rural-urban continuum

The distinction of what constitutes rural, urban, and peri-urban is to some extent artificial, and difficult to define in concrete terms. These spaces are not clearly differentiated but form a dynamic continuum, undergoing constant changes, more marked around cities that are rapidly urbanizing or growing both economically and spatially, as compared to slower-growing or stagnant urban cores. The economic and social linkages and exchanges between these spaces also render a clear-cut distinction difficult to make. If one thinks at the extent of seasonal, temporary, and permanent migration; at the process of urbanisation; or at the exchange of goods and services, it becomes immediately clear how these spaces cannot be viewed and understood if not as overlapping and interdependent entities.

Food security strategies at the national level will have to take into consideration the socio-economic relationship between the urban and rural spaces and between agricultural and non-agricultural activities. Rural non-farm activities, it has been noted, have close linkages to the farm economy. Other activities that are tightly linked to farming and that are crucial for food security policies are the sub-sectors of the agri-food economy both upstream and downstream of farming. The importance of agribusinesses in ensuring that safe and nutritious food is made cheaply available as widely as possible cannot be overemphasised, particularly in rapidly urbanizing societies. The changes in the food distribution chain, and their implications for nutrition, food safety, food prices, dietary changes, farmers profits are attracting increasing attention across the developing world. Food policy clearly needs to deal with these domains.

¹³ It is risky to make any kind of generalisation regarding the potential and scope for promoting urban agriculture, as this will depend on the socio-economic and geographical specificity of each urban centre. In perspective, In some cases urban agriculture may have a role, but in many instances it may not make sense to e.g. promote agricultural use of valuable urban land that can be devoted to more remunerative alternative activities. Also, the negative environmental externalities of urban agriculture should receive careful consideration.

A standard agriculture-led approach to the range of emerging challenges posed by the modern urban scene is bound to fail. Innovative approaches are required, that bring together the different stakeholders (both within the public administration and in the private sector, and within the urban and rural sectors) so that the multifaceted challenge can be addressed in a coordinated and coherent manner. In this context, examples of emerging challenges requiring an approach along the lines just sketched include the need for stock taking of prevailing diets, the need to educate consumers and to promote good nutrition, to invest in rural-urban market infrastructures including the maintenance of the food chain for the supply of healthy and safe food to an increasingly urbanised and knowledgeable consumer. A better understanding of wholesale and retail marketing of food, both primary and processed, and including food safety aspects, will be paramount.

Cross cutting issues

In addition to issues related to food security as it relates to production and income generating activities a number of issues (shown in Figure 1) are also relevant to food security and nutrition outcomes, including via their implications on economic activity.

First there is the whole range of specific nutritional deficiencies, which if addressed directly can lead to substantial, faster gains in terms of nutritional outcomes, human capital and eventually, overall economic efficiency, than the gains that can be achieved by relying on economic growth alone. School enrolment rates have been shown to increase with better nutrition. Reducing vitamin A deficiency can reduce mortality rates in children under six by over 20 percent. Salt iodization can effectively and cheaply address iodine deficiency and the mental retardation associated with it, with a measurable impact on IQ. Preventing iron deficiency in children up to two years helps improving school performance. Programs to achieve these results (nutrition education, vitamin A supplementation, breast feeding promotion) are among the most cost-effective public health interventions, in terms of disability adjusted life years (DALYs) gained.

Access to health services, clean water and improved sanitation are indeed linked to income levels, but are also determinants of poverty and malnutrition. Sickness spells associated to being exposed to bad sanitation and unsafe water impact on the ability of the body to utilise food, and hence affect individual nutritional outcomes. These factors interact with caring behaviour and household food security in determining nutritional status.

According to some estimates, these factors were responsible for approximately 19 percent of the reduction on low weight-for-age during the period 1970-1995 in a sample of 63 developing countries¹⁴. Good water and sanitation play a crucial role in minimising the ingestion of pathogens, that are the cause of gastrointestinal infections. This in turn reduces the probability of diarrhoea, which reduces the absorption of nutrients, leads to dehydration, and increases morbidity. A whole range of other infections are also similarly related to having access to safe water and sanitation. Access to health services is also found to be correlated to improved nutrition¹⁵.

¹⁴ Smith and Haddad, 2000.

¹⁵ Gillespie and Haddad, 2001.

Improvements in education can also go a long way in improving food security and nutrition. Education influence the rates of technology adoption, increases employment and income opportunities yielding higher returns, but it is also associated with better caring and nutrition practices, particularly in the case of women education. Data from Ethiopia show that improvements in community knowledge on nutrition or female education can have as much or more impact on nutrition that changes in income or food prices¹⁶.

Cross cutting issues that need to be emphasised in the policy debate leading to the development of food security strategies are those related to the way resources and labour tasks are allocated within the household, which also implies maintaining a focus on gender issues. The food available within the household may or may not be distributed according to needs within the household, thus requiring that specific interventions be targeted towards those being discriminated against. Mothers have a special role in the distribution and preparation of food, and in the caring of children, and for these reasons improving their education is known to have sizeable beneficial spill over effects on the nutrition of their children.

A consideration of different gender roles is also important when contemplating ways to improve agricultural productivity by promoting the adoption of new technologies, or to increase the access of the poor to credit, or to target social transfers to those more in need. Gender roles in decision making, the way the households and individuals take their labour allocation and consumption decisions can be crucial for assessing the appropriateness and likelihood of successful adoption of new technologies, or the way transfers will be spent and credit used.

Box 6 – FAO’s Integrated Programme and HIV/AIDS

FAO’s Integrated Support to Sustainable Development and Food Security Programme (IP) is exploring the links between gender, HIV/AIDS, rural livelihoods and food security in Zambia, Uganda and Namibia.

The Programme has identified relevant strategies for action in this domain related to: (a) livelihood diversification; (b) Labour saving technologies; (c) Self-help groups and community mobilisation; (d) Transmission of knowledge; (e) Nutrition; (f) Legal assistance and training to prevent asset stripping; (g) Capacity building and sensitization; and (h) Normative activities.

Policymakers and other stakeholders wishing to learn more about the work underway in the context of this programme can visit the programme’s website: www.fao.org/sd/ip/default.htm as well as www.fao.org/hivaids. See also FAO/UNAIDS, 2003, *Addressing the Impact of HIV/AIDS on ministries of agriculture: focus on eastern and southern Africa*.

In many countries, particularly but not only in Sub-Saharan Africa, the sustained and long-term impact of the HIV/AIDS epidemic is dramatically impacting food security, damaging rural livelihoods and exacerbating poverty. Food insecurity and poverty fuel the HIV epidemic, as people are driven to adopt risky strategies in order to survive. The break-up of households due to labour migration in times of food insecurity as well as the exchange of sex for money or food during crises increase vulnerability, with women and children particularly exposed. In addition, poverty-induced malnutrition is likely to lead to an earlier onset of AIDS, due to an increased susceptibility to opportunistic infections. Thus, food security interventions, if carried out with an “HIV/AIDS lens” and if complemented with HIV-specific interventions, can contribute to reducing HIV infection.

¹⁶ Alderman, 2001; Christiaensen and Alderman, 2001.

HIV/AIDS impacts on food security include short and long-term effects. In the short and medium term, the epidemic impoverishes households through: i) Loss of labour in agriculture and other livelihood activities; ii) Increased cost of health care and funerals; iii) Diminished capacity to care for children and other vulnerable individuals; iv) Erosion of the asset base. AIDS also increases longer-term vulnerability through its systemic impact on social and economic systems and institutions in hard hit countries, as it leads to the adoption of irreversible coping strategies. AIDS forces children, particularly girls, to withdraw from school, it reduces the inter-generational transfer of skills and knowledge of agriculture and livelihood while it also erodes the human resource base of institutions required to address the sectoral and cross-sectoral impacts of the epidemic. In other words, HIV/AIDS reduces the availability of labour and knowledge which in turn affect household level access to food.

In conclusion, HIV/AIDS is interwoven with multiple other determinants of food security. Given the bi-directional linkages between HIV/AIDS and food security, a food security response to the epidemic linking short- and long-term interventions must be considered.

Food insecurity, malnutrition and crises

Crises associated to man made and natural disasters are a further major cause of malnutrition and food insecurity, causing thousands of deaths each year. Natural disasters may occur suddenly or may develop over a period of time, and relief and rehabilitation responses may vary accordingly. Be the onset slow (e.g. drought) or rapid (e.g. hurricane, earthquake), where resources and socio-economic conditions are fairly favourable, rehabilitation may be short-lived because households can quickly regain food security. If an emergency occurs in conditions of chronic food insecurity or a fragile environment, long-term assistance and a variety of interventions will be needed to support those people who are most affected, usually those who already lack resources, and food-insecure groups.

Disasters caused by human activities are more complicated to respond to because they often involve a range of factors including climatic and environmental stress, destruction of infrastructure, loss of human resources, large-scale migration and political instability. Potentially different impacts therefore require different types of policy responses, which overlap only to a limited extent with the other policies to fight food insecurity.

Both during and after an emergency, access to adequate food, health and care may be severely constrained. Households' nutritional status will be influenced not only by their access to an appropriate quantity and quality of food, but also by their access to wood or other fuel, clean water and food preparation equipment as well as time for feeding infants and young children. When people are re-establishing their homes and farms, they may continue to be vulnerable to malnutrition.

Clearly not all the crises turn into humanitarian disasters. Pre-existing poverty and malnutrition increase dramatically the amount of suffering imposed by the crises. Children who are already poorly nourished, or suffer from micronutrient deficiencies, are more likely to fall into severe malnutrition and to be vulnerable to disease outbreaks when a crisis occurs. People in poor and food insecure countries are four times more likely to die in natural disasters. The effects of crises are also amplified by the other factors that underlie food insecurity and malnutrition in general: poverty, poor health system, inadequate basic services.

Deaths in time of crises are usually due more to the diseases that are associated with malnutrition, than to food shortages alone¹⁷.

Within developing countries, the poor are usually more likely to be vulnerable to the most severe consequences of a crisis. This is because they are more likely to be residing in high risk areas, characterised by hazardous environments. The latter, in turn, make building productive livelihoods and accumulating assets more difficult. Disasters make the poor even poorer and more food insecure, as they need to resort to selling the few assets they may own, and may have to cut back on expenditures on investments and even circulating capital, such as farm inputs.

At the household and community level severe disasters which hit the poor hard lead to the loss, in part or in whole, of livelihood systems resulting in further pauperisation of households and communities. As the level of poverty and food insecurity worsens, communities remain more exposed than ever before to disasters, rendering the affected populations prone to falling into a "vicious cycle of poverty" and long-term food insecurity. Disasters thus affect the overall economic social fabric of societies.

Attention must be drawn again, however, to the fact that causality links may in fact go both ways. Not only crises cause poverty and malnutrition, but the reverse may be true as well. Food insecurity is often one cause of conflict when competition over scarce or poorly distributed resources brings different population groups to confront each other. A study on Northwest Rwanda¹⁸, to make just one example, establishes a connection between the acute competition for land and the civil war that broke out in 1994. In a context characterized by slow expansion of non-agricultural income, competition for land resources led to increasingly unequal land distribution and rapid processes of land dispossession through both operation of the (illegal) land market and evolution of indigenous tenure arrangements. This created rising tensions in social relations and even within the core of family life, thus paving the way for more and more overt expressions of disharmony and violence.

2.4 A typology of food insecure households

Section 2.3 has introduced a discussion of possible causes of food and nutrition security. Although the discussion has been based on existing empirical evidence and concrete examples, the level of generality was necessarily high as the discussion aimed at making a case of broad relevance rather than at providing specific insights into the particular situations of a region or a country. In this section broad typologies of food insecure households will be briefly sketched to try and (a) 'ground' the discussion on a somewhat lower level of generality, while linking the typologies to some of the causes of food insecurity as outlined in the previous sections, and (b) to show how the conceptual framework presented in this paper is to be interpreted with flexibility, emphasising those links that are more relevant to the specifics of the food security issues and the rural livelihood strategies in any given country. The discussion of household typologies that follows is largely based on the draft background paper prepared by the UN Millennium Project Hunger Task Force for the 2003 Human Development Report.

¹⁷ Marchione, 2001.

¹⁸ Platteau, 1997.

- **Food-producing households in “marginal” lands and remote areas:** Farm households in “marginal” lands and remote rural areas, that suffer from low productivity of their Natural Resource Base (NRB) and difficult access to markets. The policies that offer the greatest potential of improving the food security situation of these households may be those that aimed at improving the level, stability, diversity, and sustainability of household food supplies by promoting appropriate technological change, while enhancing access to markets through improved market infrastructure and information.
- **Herders, fishers and forest-dependent households:** These are natural-resource-dependent households, prone to food insecurity to the extent that they compete for resources with expanding agricultural activities, or that the per capita availability of resources has been declining. Given their dependency on the NRB, it is crucial for them that their long term access and ownership to these resources is ensured, while improving their management system so as to ensure their sustainable use in the long run and promoting resource-improving investments. A key policy area of concern for these households is therefore related to institutions that govern access and exploitation of natural resources, including common property resources and traditional rights.
- **Rural landless and non-farm rural households:** These are households that depend mainly on wage labour and other non-farm income opportunities for their livelihoods. Hunger among this group is linked to their weak position in the labour market, lack of social capital, and of access to productive resources. A critical link for their food security is the functioning of markets, both the food market (where they obtain their food), and the labour market on which many depend for their livelihoods. Policies affecting petty trade and artisanal activities will be crucial for those engaged in non-farm activities.
- **Poor urban households:** Wasting related to infectious diseases is more prevalent in urban areas, compared to stunting (resulting from chronic malnutrition) which is more prevalent in rural areas. Controlling the causes of infectious diseases in urban areas may therefore be a critical part of a strategy to address malnutrition where this is the case. Urban food marketing infrastructures are important because of their role in both food price formation and food safety. Lowering transportation costs and post harvest losses will reduce the price of food for urban consumers. Improving infrastructures for processing, handling and refrigeration will make food safer and healthier.

Attention must also be drawn to the dietary and care practice changes associated with urbanisation: urban households are more likely to use processed foods that needs clean water to be prepared; urban mothers end breastfeeding earlier and spend less time with their children. Obesity is also an increasing problem in urban areas in the developing world. Nutrition education and enhanced to basic services have a clear role play in tackling these problems.

- **Micronutrient-deficient:** Poor people who are not calorie-deficient but lack access to micronutrients, particularly vitamin A, iron, iodine (but also zinc, folic acid, selenium and vitamin C). Where these deficiencies are widespread, fast nutritional improvements may be gained through policy action focused on the fortification of foods (e.g. iodized salt; flour enriched with iron), supplementation (e.g. targeted distribution of doses of Vitamin A and iodine), and the promotion of dietary changes through nutritional education campaigns as well as agricultural extension. The most sustainable (long term) solutions, nevertheless, involve increased access and consumption of a variety of foods that will meet all nutritional needs.

It should be stressed that the typologies presented above are by no means intended to provide an exhaustive coverage of the possible typologies of food insecure households, nor to orient the selection of typologies at the national level. The discussion here has the much less ambitious task of presenting a few examples of household typologies to address the needs of which the proposed conceptual framework may be adapted. It is in sum merely instrumental to clarify the message and use that may be made of the proposed conceptual framework in country work.

Box 7 – Heterogeneous farm household response to homogeneous policies

De Janvry and Sadoulet (1997) use an household model to simulate the effects of a decrease in the price of corn and of rural wages, considering also the effect of the PROCAMPO transfer program.

Distinguishing six groups of household categorised according to a combination of land per adult and type of market participation (high/net sellers, high/self-sufficient, high/net buyers, low/sellers, low/self sufficient, low/net-buyers), they show how the net income effect of the changes would vary from -4.8 percent for households in the high/net sellers category to 13.6 percent for those in the high/self sufficient category.

These differentiated effects materialise through a complex interaction of market integration and asset (including labour) availability at the household level. To disentangle the effects of these interactions complex modelling exercises are needed, but the extent of the insights gained in terms of understanding of the policy impact at the household level may well pay off the efforts. Also, in the context of the overall budgets allocated to the economic and social programmes that normally accompany and surround strategy initiatives such as the PRSPs, the cost of the analytical efforts needed may well be covered through the allocation of relatively low amounts. And, for the returns that can be expected in terms of policy performance, that is usually money well spent.

The problem with ‘universal’ policies (i.e. policies that are designed, assessed, or implemented in view of their impact on the society at large) is that they may overlook the differential impacts on different groups of household or individuals. This is a particularly serious limitation for policies packages that intend to have an effect on the poor and food insecure, as these are not located around the mean of the ‘welfare distribution function’, but rather in the tail of it. And even limiting the attention to those in the tail, similar packages may have different impacts, often even of opposite sign (the standard example being the effect of a change in food prices for net-food buyers and sellers).

This is why there is an increasing attention to the need for more fine tuning of policy packages. Different groups and individuals may need different accompanying measures to benefit from the same policies, or to limit the adverse effect policies may have on them. Reasoning in terms of household typologies provides one tool to inform the latter breed of policies. It is by no means the only one, though. The identification of vulnerable groups is an example of an effort to achieve similar results, sometimes through a household approach, but sometimes not. In many cases, focus on specific groups of individuals, rather than household, will be more appropriate (e.g. the elderly, women in reproductive age, etc.).

The increasing availability of nationally representative household surveys for different purposes (nutrition and health; poverty analysis; rural and farm surveys) makes the identification of these groups and the analysis to inform this approach to policymaking somewhat easier. Consideration should be given to the need for analytical work in this direction to precede the policy design stage, as well as to the need for the collection of quality information whenever the lack of it undermines the ability to achieve the desired degree of care in policy design. The importance for the final food security/poverty outcome of basing policy design on quality data and analysis should not be underestimated when weighing the cost of these options against the ever present tight budget constraints.

2.5 A strategy against hunger

One reason for strategies against hunger to focus on rural development is that in most developing regions, and certainly in those where the problem of hunger and poverty is most severe—South Asia and sub-Saharan Africa—the vast majority of the poor (75% on average) are still located in rural areas and depend on agriculture and rural non-farm activities for their livelihoods. Of equal importance is the fact that creating opportunities for the poor and hungry in rural areas keeps them from migrating to the cities and thus keeps urban poverty and hunger in check as well.

Thus rural development creates opportunities for the rural poor (and indirectly take the pressure off the urban areas). However, the poor must also be equipped to seize those opportunities. A prerequisite for that is that they should not be malnourished or in poor health. At the same time there are those who are simply unable to earn a living (e.g. the old, young children, victims of chronic diseases, etc). Direct measures to enhance access to food for these people are thus essential: they make it possible for the poor to seize the opportunities opened up by rural development while ensuring food security for those who cannot earn a living.

It is useful to recapitulate the principal features of the twin-track approach in order to trace its implications for national strategies for food security.

- i. Growth in rural non-farm activities should be encouraged. As some of these activities, especially services, require little capital or specialised training, they offer the poor a relatively easy escape route from poverty.
- ii. Rural non-farm activities cannot grow in the absence of demand from those who derive their incomes from the agricultural sector. Growth in agricultural incomes can increase demand for these activities and thus promote their growth, provided that incomes from agricultural growth are spent locally.
- iii. Promoting agricultural growth is likely to benefit the rural poor provided that the rural non-farm sector can grow, which requires that inequality in land and asset ownership is not too high.
- iv. The impact on the poor and hungry will be greater the better equipped they are to take advantage of the opportunities opened up by this process. At the most immediate level, the second track of this approach equips them by ensuring that they are not ill-nourished.

However, this cannot be the end of the story. Measures to develop the human capital of the poor through education and better health facilities are equally important. It is also necessary to ensure that the poor are not excluded by social custom or government policies from income earning opportunities. In particular, this implies that markets must function well with transparent rules and regulatory oversight to ensure that cliques cannot exclude others from participating in and benefiting from their functioning. Neither should the poor be excluded from the benefits of public goods such as publicly funded agricultural research, safe drinking water, personal security, and a host of other services. This often requires that institutions be developed to ensure that the poor have a say in decision making that affects their lives and to ensure procedural fairness. This is often over-simplified into an argument for decentralisation. It is more helpful to see this as a problem of finding the appropriate balance between centralisation and decentralisation.

Since the growth of the rural non-farm sector is crucial to hunger and poverty reduction, it is particularly important to promote the development of a good rural financial system. This should allow the poor to save in small amounts, while keeping their savings secure, provide convenient access to their own savings, and make credit available in innovative ways when needed.

From the above it is clear that the twin-track approach is a useful underlying framework with clear implications for the choice of key elements of a national strategy. The rest of this section attempts to describe those key elements in the light of the above.

Strategic objectives

No country strategy can be created without first deciding, based on the characteristics and needs of the country itself, what the strategic objectives are. These objectives should be realistic in that they should consider opportunities and constraints including the capacity of institutions to carry it out. In setting objectives, it is necessary that they be imbedded into other internationally agreed goals (such as the World Food Summit target or the MDGs), as well as any existing national objectives. These goals should also be time-bound and quantitative in order to form the basis for monitoring, evaluation and accountability. Just as the MDG's are playing a role in setting the agenda, mobilising attention, increasing the pressure towards the monitoring of actual progress at the international level, so the goals embedded in a National Agricultural and Rural Development and Food Security Strategy can be instrumental to achieving similar objectives in the national context, thereby gathering consensus around a National Alliance against hunger.

Integration of food security with national policies

Successful implementation of the national strategies requires that food security be part of the mainstream of national, regional and local policy design and implementation and of the programmes of international donors. To be effective, a food security strategy should be executed in co-ordination with other related initiatives ongoing or in the pipeline. In order to mobilise the necessary political will and resources to fight hunger, a national alliance is required including national governments, non-governmental organisations, organizations of the civil society, labour unions and of those who represent the interests of the poor and marginalised.

To this end it is necessary to identify the necessary policy reforms and resource mobilisation priorities to achieve the objectives. The strategy should also examine how the proposed actions need new legislation, administrative measures, and institutional mechanisms for its implementation and monitoring (with adequate resource allocations). Promoting the progressive realisation of the Right to Food may be a useful reference point for policy debate and the setting of appropriate mechanisms.

To mobilise political will, public awareness on the extent of the problem has to be built. This requires the creation of a food security and nutrition monitoring system since many developing countries do not have a clear idea of how many are hungry, who they are, where they are located and how they make a living. Such a system should gather, analyse and present information on trends in food insecurity and nutritional status on a continuing basis.

The aim should be to provide accurate data in “real time” to policy makers so that appropriate decisions can be taken and evaluation of progress can be.

Promoting rural development

The promotion of rural development should be a key component of such strategies. Rural development requires four sets of measures. These are: a) measures to provide an enabling policy environment for agricultural growth, rural development, and food security, b) measures to sustainably strengthen agricultural productivity and competitiveness, c) measures to strengthen linkages between agriculture and the rural non-farm sector coupled with measures to facilitate participation by the poor in rural non-farm activities, d) measures to improve access by the poor to assets of various kinds as well as to decision making processes that influence their lives.

An enabling policy environment for agricultural growth, rural development, and food security

An enabling policy environment is required to ensure the maximum impact of public resource mobilization on hunger and poverty reduction as well as sustainable use of the resource base. In particular, such an environment attracts flows of private investment to complement public investment flows and enables the poor and hungry to realize their full development potential.

Most of the capital for the development of the agricultural sector will come from private sector investment, especially the farmers themselves. However, public investment in agriculture is an essential element in attracting private sector investment. National investments in irrigation, research and rural infrastructure, technology generation and dissemination, natural resource conservation and standard setting and monitoring are necessary to increase productivity, reduce transaction costs, and improve the competitiveness of agriculture.

It is widely accepted that unless governments are committed to long-term macroeconomic stability, reforms in agriculture are unlikely to be effective. Stable and predictable macroeconomic policies encourage savings and investment, discourage capital flight and focus private sector efforts on promoting efficiency instead of anticipating and reacting to macroeconomic shocks.

The removal of biases against rural development, though necessary, is not sufficient for its promotion. Although many developing countries have moved towards macroeconomic stability, increased budget allocations for agricultural and rural development are also critical, particularly where the performance of agriculture, as the backbone of the economy, is well below potential.

Policy formulation and implementation should be based on a process that encourages participation by the poor and involves civil society organizations and the private sector so as to broaden ownership of goals and strengthen consensus on action. Maintaining an appropriate balance between administrative and fiscal decentralization and centralisation makes it more likely that the poor will have a say in decisions that affect them.

One of the issues that has been attracting most attention in the international debate in recent years, also in the wake of the WTO negotiations, is that of the effects of globalisation and of

greater openness to trade. The rationale for the dismantling of trade restrictions is that they are expected to provide long-term benefits, as factors of production move towards into those sectors in which the country has a comparative advantage. This adjustment process may take time and there may be heavy costs for many households. Moreover, the impact of agricultural trade policy reform may affect households very differently, depending on their characteristics, ownership of assets, and how they earn their livelihoods.

Thus trade reforms should be accompanied by government policies to enhance the capacity of the poor to share the gains from trade and to compensate those who lose from the process, perhaps through social safety net programmes. If compensation is not feasible, it may be possible to devise a package of reforms that, taken together, improve welfare for all. The overall domestic policy environment is just as important as trade policies and must be conducive to private investment and private activity.

To sum up: trade policy reform can offer opportunities to the poor and the food insecure, but the adjustment process must be managed carefully and adequate protection of the vulnerable groups must be ensured. Evidence shows that a very wide range of food security and poverty outcomes is possible, as the impact of agricultural trade on food security is mediated by a number of other factors. Among the most important of these is food prices. However, many other factors also shape the impact of trade liberalisation on hunger and poverty, such as markets, infrastructure, institutions and the policy environment within which trade liberalisation takes place.

Another critical area for public action lies in enhancing the functioning of markets through appropriate laws and regulations that ensure fair competition, safeguard market access by the poor and enforce adherence to sanitary, phytosanitary and environmental standards.

Since agriculture is subject to a high degree of risk, it is also necessary to promote and improve instruments that address the need for risk management, especially that of the most vulnerable. This includes measures to ensure that markets for financial services allow rural populations to save, lend and borrow more efficiently and to manage and cope with risk more efficiently.

Policies and institutions are needed to develop rural infrastructure, build entrepreneurial capacity and ensure competitive markets for small-scale rural enterprises. The highest priority must go to the upgrading and development of rural roads and to ensuring their maintenance. It is also important to build up and improve basic infrastructure to stimulate private sector investment in food marketing, storage and processing. To ensure higher standards of food safety requires substantial investments in monitoring and surveillance systems and in building the capacity of institutions responsible for plant and animal health.

Box 8 - Trade and agricultural growth: Some recent stories

Viet Nam's rapid economic and agricultural development over the 1990s is now commonly regarded as one of the most successful development stories of the last decade. Annual GDP growth has been consistently high throughout the 1990s, averaging 7.6 percent. Export markets provided an important source of demand to sustain growth. Over the 1990s, the value of agricultural exports shot-up by a factor of 3.5 and, for a number of commodities like coffee and rice, Viet Nam emerged as a leading exporter on world markets.

There is no doubt that the success of the 1990s was also promoted by a growing openness in the global trading environment, in which Viet Nam's export performance benefited from declining tariffs and non-tariff barriers. But policies certainly played a role. Initially the dismantling of collective farms, market liberalization, fiscal and banking reforms helped creating a more friendly environment for private initiative. Later on more active policies kicked-in. Policies today play an active role in promoting production, particularly production for exports. But support is not an open-ended government commitment and is limited to kick-start the process and help the sector discover where its comparative advantage lies. Finally, once competitiveness is established, policies focus on the competitive producers and decline support to non-competitive ones. In doing so, competitive producers are helped through the price troughs while the non-competitive ones are encouraged to exit the sector.

A fairly similar set of reforms in China in the late 1970s set the stage for the impressive economic performance that has been the envy of poor countries since. Per caput GDP (at current prices) increased by a factor of 9 and the value of exports by a factor of 10. Agricultural output tripled, as did agricultural exports, while the number of undernourished declined by 76 million people (from 1990/92 to 1997/99). This rapid development process started with fairly simple initial reforms in the agricultural sector. The communal farming system was loosened and the so-called household responsibility system was introduced, allowing farmers to sell their crops on the free markets once they had fulfilled their quota obligations to the state. In tandem, policies were put in place that promoted the adaptation of new technologies from abroad to the domestic production environment (particularly the high yielding varieties of Green Revolution). Finally, domestic policies also encouraged the exit from agriculture of unproductive farmers. These measures include the creation and promotion of Township and Village Enterprises (TVEs) that helped absorb excess labour of rural areas or, more recently, massive investments in rural infrastructure to reduce transaction costs and increase competitiveness of farmers and food processors in China's hinterland.

In the early 1990s, Mozambique removed a ban on raw cashew exports that had been imposed in response to declining processed cashew exports. Cashew farmers, about 1 million of them, received higher prices for their products. Unfortunately, as a result of losing their assured access to raw cashew, Mozambican processing factories closed down, causing about 7000 workers to lose their jobs.

An assessment of the available evidence shows that the direct benefits from reducing restrictions on raw cashew exports were about US\$6.6 million annually. However, these benefits were largely offset by the costs of unemployment in the urban areas. The net gain to farmers was probably no greater than \$5.3 million, or \$5.30 per year for the average cashew-growing household.

This episode holds some important lessons for liberalisation policies. Farmers only gained 40 - 50% of the higher price received for exports, while the other half went to traders. Secondly, there was no revival in cashew production in response to the higher prices. This was probably because production responds to both price and non-price incentives while Mozambique, like many other African countries, preferred to liberalise prices alone. Since such a reform can be reversed with a stroke of the pen, it is easy to see why it lacked credibility. By contrast, investing in rural infrastructure, improving rural financial markets, and regulating the activities of traders are much harder to do and thus much harder to reverse. The key to improving access to food for poor farmers lies in ensuring that price reforms are accompanied by policies to improve infrastructure as well as institutional reforms to ensure that the price reforms are credible.

To draw general lessons from a few stories is difficult. However, these and other country examples suggest that openness *per se* is unlikely to be a sufficient condition for a successful integration into the global economy. More important seems to be (i) that farmers can operate in the appropriate domestic incentive system, (ii) that the incentives are reduced where unproductive excess capacity is created and that exit policies are in place, and (iii) that adjustment and re-allocation costs are minimized, e.g. through appropriate timing, sequencing and pacing of policy measures.

Source: FAO (2003d).

Sustainably strengthening agricultural productivity and competitiveness

This requires several interrelated measures. First, it requires a focus on improving the productivity of small farms in poor rural and peri-urban communities. This offers one of the best and most sustainable avenues for reducing hunger by increasing the quantity and variety and improving the quality of locally available food. It also provides a foundation for equitable economic growth.

Secondly, if food demand is to be met in the future, increased outputs will have to come mainly from intensified and more efficient use of limited stocks of land, water and genetic resources. At the same time, action must be taken to arrest the destruction and degradation of the natural resource base. Achieving these apparently conflicting tasks requires investments to manage the resource base, improve technical production efficiency (yields) and develop practices that foster sustainable and intensified food production.

This requires enhanced access to appropriate technologies by small and marginalised farmers and communities which can only come about through the promotion of research and extension systems responsive to local needs, and enhanced access to agricultural services and public investments in science and technology.

When talking about agricultural technology development and adoption the issues of Intellectual Property Rights (IPRs) immediately comes to mind. There is not ideal system of IPR protection and management that will suit all countries. The choice of an adequate IPR protection system will have to be driven by consideration on (a) the international agreements a country subscribes to¹⁹, (b) the policy objectives a country intends to protect through this system, and (c) the reality of the agri-food sector, including the farming, seed-supply, breeding, and biotechnology sub-sectors.

New plant varieties are afforded legal protection to encourage commercial plant breeders to invest the resources, labour and time needed to improve existing plant varieties by ensuring that breeders receive adequate remuneration when they market the propagating material of those improved varieties. In the absence of a grant of exclusive rights to breeders, the dangers of free riding by third parties would be considerable. Considerations for limiting the legal protection of plant varieties include concerns towards farmers' rights, traditional knowledge, access to plant genetic resources, 'biopiracy', further breeding stages (Helfer, 2002; see Box 9).

¹⁹ For an extensive treatment of the policy options stemming from subscribing to a particular (set of) international agreement(s) in this field, see Helfer (2002).

Box 9 - Issues in IPR protection of plant varieties

Farmers' rights are in tension with IPRs for plant breeders because many farmers and farming communities do not claim exclusive rights in the cultivated landraces and plant varieties they have cultivated over time. An issue closely related to farmers' rights is the recognition and protection of the plant-related knowledge, innovations and practices of indigenous and local communities. Advocates assert that those claiming IPRs in plant genetic resources and plant varieties often utilize such knowledge without adequately acknowledging the contributions of the communities who possess it. Exceptions, modifications in existing IPR laws, and benefit sharing mechanisms are ways to keep farmers' rights and traditional knowledge into account.

Plant breeders and others seeking to develop plant-related innovations need access to existing stocks of plant germplasm for breeding, research and development. Access issues arise for both in situ and ex situ collections of seeds and plant propagating material.

'Biopiracy' refers to attempts to claim IPRs in unimproved plant genetic, as these cannot be removed from the public domain or privatized under the principles of intellectual property law.

Even between groups of plant breeders, the scope of IPRs in plant varieties can be controversial. Tensions may arise between first generation breeders who have secured legal protection for new varieties and second generation breeders who seek to utilize those new varieties to develop still more varieties. As with farmers' rights, it is possible to use the exceptions and limitations provisions of national IPR laws to permit second generation innovators to engage in such activities without the authorization of first generation breeders.

Source: Helfer (2002).

Careful consideration should also be given, as said above, to the structural features of the agricultural economy. States with large-scale agriculture or plant breeding industries are likely to benefit by adopting relatively robust IPR protection, with a broad array of exclusive rights, an expansive list of protected material and relatively limited exceptions and limitations (with the possible exception of a breeders' exemption). Such strong protections will facilitate exports of harvested products, imports of propagating materials, and investment by foreign firms.

States with agricultural systems that are domestically focused or rely upon the cultivation of traditional varieties by small-scale farmers face a different set of interests and incentives. Their populations are likely to prefer relatively weak IPR protection with a broad farmers' privilege that permits farmers to both save and exchange seeds. Too weak protection is not advisable, however, as it will discourage foreign breeders from importing seeds or other propagating material (which may be an important component of the nation's food supply) and may deter investment by foreign businesses or researchers for whom IPR protection is essential.

States with mixed agricultural economies may benefit from adopting different levels of protection tailored to the needs of their domestic industries. For example, they may adopt different standards of protection for commercial and non-commercial breeders, with higher standards for the former to compensate them for their investment of capital and distribution costs (IPGRI, 1999).

In the discussion on strengthening agricultural productivity, the aim is not to increase agricultural production per se, but to raise farm incomes and food security. Facilitating diversification into higher-value products is another means of achieving that end. Much of the value of these products is lost in inadequate post-production processing. Relatively little public sector and developmental support is targeted at this sector in developing countries.

Action is urgently needed to develop food handling, processing, distribution and marketing enterprises.

Concerns have been expressed that there will be insufficient freshwater to satisfy the growing needs of non-agricultural users while permitting the area under irrigated agriculture to grow at the rates needed to meet the WFS target. Agriculture already accounts for about 70 percent of the freshwater withdrawals in the world and is usually seen as the main factor behind the increasing global scarcity of freshwater. However, a recent FAO study has concluded that for the 93 developing countries as a whole, irrigation currently represents a relatively small part of their total water resources and there remains a significant potential for further irrigation development. With the relatively small increase in irrigation water withdrawal expected between 1997/99 and 2030, this situation will not change much at the aggregate level. Locally and in some countries, however, there are already very severe water shortages, in particular in the Near East/North Africa region and parts of Asia. Increasing irrigation efficiency—perhaps by charging users the full economic costs of water—is crucial. National strategies should pay close attention to the specific needs of the countries for which they are designed.

Strengthen linkages between farm and non-farm sectors and promote participation by the poor in the non-farm activities

The basic aim of policies towards the rural non-farm sector should be to facilitate the participation of the poor in such activities, or at least reduce barriers to their participation. Increasing the asset base of poor households (liquid assets, education, access to credit) will allow them to participate in the more remunerative rural off-farm employment (self-employment or skilled labour employment) and “break” the duality of access to non-farm employment and concentration of wealth. Additional actions to lower barriers to the development of farm/non-farm linkages include addressing deficiencies in infrastructures (as they limit investment opportunities), improving agricultural technology (with a bearing for linkages backward and forward from farming), promoting farmer organisations (as organised farmers tend to be more proactive in forging linkages with e.g. agribusinesses).

A major problem in designing policies and programmes geared towards non-farm rural activities, is that those activities fall into an “institutional vacuum” i.e. they are neither under the institutional mandate of the ministry of agriculture nor that of industry. This institutional constraint has to be resolved before any meaningful policies are taken towards the rural non-farm sector (including specific knowledge and data on its composition and characteristics, factor intensity etc).

This institutional vacuum is often compounded by the retreat of the state following the policy reform wave of the last couple of decades. A recent FAO study based on Africa and Latin America experiences, concludes that “the public sector and NGOs as well as private entrepreneurs play an important facilitating role in developing linkages between agro-industry and farmers. This role may include organizing farmers or assisting NGOs or private enterprises to take on responsibilities previously discharged by states, providing credit, assisting with inputs, providing information on technology and ensuring that contract requirements are met. In this way, the public sector, NGOs, and private entrepreneurs are helping directly to create beneficial linkages between agro-industry and farmers, and indirectly creating other linkages between the farm and non-farm sectors” (FAO, 2002c).

A prerequisite for strengthening the linkages between farm and non-farm activities is that rural labour markets should function well. These markets are usually strongly localised and dependent on long-established notions of fairness in wages, e.g. wage differentials between men and women for the same work. Bringing about changes in such practices is, however, likely to be extremely difficult. Since the principal obstacles to this are often legal in nature, it may be a matter of introducing new legislation, or changing existing legislation in order to encourage these activities. Remittance income is an important source of start up capital for non-farm enterprises and measures to make it easier to send remittances in a safe and inexpensive manner to rural areas are likely to be extremely productive in terms of sparking growth in rural non-farm activities.

The importance of a strong rural financial system that allows the rural poor to have access to capital and their own savings, as well as insurance schemes, is clear in this context. Since this too has already been discussed it will not be pursued further.

Improving access by the poor to assets and to decision making processes

Marked inequalities in wealth are problematic for two reasons. First because when benefits from agricultural growth flow to a wealthy rural class, they are likely to be translated into demand for goods produced outside the rural non-farm sector (leakages). Secondly, because informational imperfections in credit markets lead to otherwise creditworthy borrowers being denied credit because they lack sufficient collateral of the right type. The most important single asset is land. Studies of formal credit in rural societies invariably find that lack of land shuts out whole classes of borrowers.

The upshot is that the poor are unable to enlarge their scale of production, to buy or lease land and equipment, to take up more high-return high-risk projects or occupational choices and to invest in productivity-raising human and physical capital formation and are left trapped in poverty. It follows that a relaxation of the wealth constraint benefits the poor directly by increasing their stock of productive assets, and also indirectly by making them more creditworthy.

The question is, how can the wealth constraint be relaxed? Redistributing land, the most important asset, is fraught with problems. Landlords resist land reforms because the levelling effects reduce their social and political power and their ability to control and dominate even non-land transactions. Some aspects of land reform (like extension of tenurial security) may be less difficult to implement than others (like land ceilings). Besides, in the dynamics of political processes and shifting coalitions, the range of feasibility often changes; and options kept open contribute to the political debate and may influence the political process.

Of course, some methods of land reform can be counter-productive particularly in situations of land scarcity and weak organisation of the land-poor. Well-intentioned measures like abolition of tenancy often end up driving tenancy underground or leading to large-scale eviction of tenants, and take away a part of the agricultural ladder which the landless could formerly aspire to use to climb out of poverty. Redistributing land without adequate provision of credit and marketing facilities and extension services may make the land recipient worse off as they are obliged to burn their bridges with the erstwhile landlord-creditor patron. In recent years there is increasing support for “market-assisted land reforms” (as opposed to confiscatory land reforms), whereby the government assists voluntary transactions in the land market through credit and subsidies to small buyers.

An alternative solution may be to develop and strengthen land rental markets. Permitting long-term leases of land, coupled with the development of rural financial markets which allow working capital to be raised, offers opportunities for the poor to earn a living from farming even if they own little or no land.

Box 10: Land and non-land assets and poverty in rural Nicaragua

The poorest of the poor in Nicaragua are the group of minifundia and agricultural wage workers. These households are characterized by low levels of all assets and instability of employment. Agriculture and agricultural wage labour constitute survival or subsistence strategies. They do not constitute poverty exit strategies, except for those few able to accumulate a sufficient level of assets. Instead, for these households non agricultural self employment and wage labour, including migration, as well as a direct transfer program such as the RPS, constitute the principal potential paths out of poverty.

Small producers face essentially the same situation as the group above, but increased land holdings provide somewhat more potential to succeed in agriculture. Medium producers have agriculture and livestock production as the primary economic activity, and in fact produce the bulk of the country's agricultural production—but most still live in poverty. For most of these producers, agriculture has and could still constitute a path out of poverty, yet necessary support from the state is insufficient. These producers lack formal insurance mechanisms, exposing them completely to the risk inherent in agricultural production, and fostering risk adverse production strategies. These producers also lack access to credit and technical assistance, as well as basic infrastructure, which together could improve productivity and commercial potential.

As households accumulate land and in particular diversify into livestock production, the probability of falling into poverty drops substantially and the need for government assistance with it. Still many large producers live in poverty, and clearly these households depend on agriculture as their potential escape route from poverty. As with medium sized producers, they lack formal insurance mechanisms and access to credit, technical assistance and basic infrastructure.

Source: Davis and Stampini (2002).

Access to non-land assets may be equally important. Land and non-land asset accumulation is key in determining the capacity of rural dwellers to generate farm income as well as to participate in rural product, labour, and credit markets. Participation in non-agricultural activities (including migration) is also affected by the household asset position. Eliminating the constraints to access to assets can therefore be crucial in breaking the poverty traps created by a low-income/low-risk strategy that impede saving and capital accumulation. Micro-credit geared towards the rural poor is one way to attain this objective. Pro-poor livestock services are a further alternative, as livestock is often a key asset for poor and non-poor rural households.

Enhance direct access to food and reduce risk and vulnerability

This is the second track of the twin-track approach and its importance has been explained above. All governments need to put programmes in place to ensure that during the transition to a situation of food security for all, their citizens have access to adequate food through traditional extended family and community coping arrangements, market mechanisms and the process of economic growth.

Nutrition interventions aimed at nutritionally vulnerable segments of the population should be an essential part of this approach. Examples of such interventions include nutrition

surveillance programmes; supplementary feeding of particular pregnant women and young children; nutrition education; better primary health care; and measures to increase the supply of more nutritious foods combined with micronutrient supplementation. Basing such initiatives in communities is critical to their success.

Social protection should be an essential part of any anti-poverty strategy. In the rural space, social assistance can play multiple roles: (a) transferring income to the income and asset poor; (b) serving a safety net, thus augmenting other insurance scheme in contributing to risk management; and (c) provide transitory compensation for the adjustment costs incurred by those adversely affected by policy reform (Alderman, 2001).

Measures to enhance direct access to food are more likely to be beneficial if these are embedded in more general social safety net programmes. Safety nets include income transfers for those chronically unable to work—because of age or handicaps—and for those temporarily affected by natural disasters or economic recession. Options include:

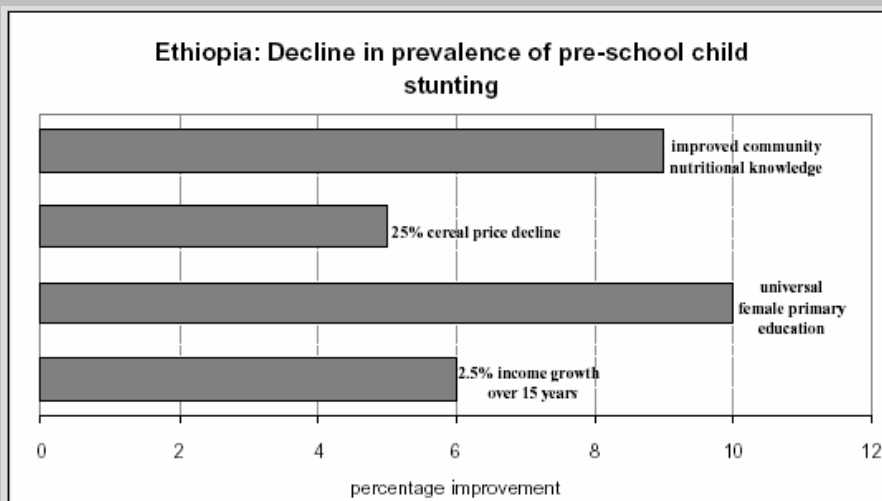
- Targeted direct feeding programmes. These include school meals; feeding of expectant and nursing mothers as well as children under five through primary health centres; soup kitchens; and special canteens.
- Food-for-work programmes. Significant number of rural people are subsistence or below-subsistence farmers, producing only enough food to feed their families for part of the year. Food-for-work programmes provide support to such households while developing useful infrastructure such as small-scale irrigation, rural roads, buildings for rural health centres and schools.
- Income-transfer programmes. These can be in cash or in kind, including food stamps, subsidized rations and other targeted measures for poor households, and are also good means of increasing food-purchasing power and improving dietary intake.

The question of selectivity and targeting appears to be one of the key strategic questions for the design of safety nets. Emulating the menu of programs adopted in OECD countries is likely to result in ineffective programs, often in arrears. Careful consideration needs to be given to what is feasible given funds and capacity in the countries themselves, and to how to target scarce resources to those who need it most. The availability of information for targeting, or the cost of collecting it, is a limiting factor in this direction. It is unfortunate that it is in the countries most in need, where often infrastructure and statistical systems are weak, that effective targeting becomes more of a challenge.

An explicit food security focus can be extremely helpful here in answering the question of what safety net programmes to select. Partnerships with informal insurance and with careful explorations of community based targeting may be helpful. Studies have shown food subsidization to be inefficient in helping the poor improve their nutritional status, as much of the subsidy accrues to the non-poor. Other studies have proposed targeted food programs as an effective means for income redistribution to the poor. There is some evidence that communities can target need and vulnerability in a manner that few indicator or proxy method of targeting appear capable of. Moreover, there is also evidence that they will use this capacity under the right incentive structures. However, there is also evidence on the possibility for community based scheme to be captured by local elites, leading to reduced – rather than enhanced- effectiveness and precision of the schemes.

Box:11 The significance and cost effectiveness of direct nutrition interventions.

While economic growth can go a long way in reducing poverty and malnutrition, it is still likely that growth alone will take a long time to eradicate malnutrition. Direct nutrition interventions can play a significant, additional role. The relative roles of income and non-income factors can be illustrated with the example of Ethiopia, borrowed from Alderman (2001). The projections illustrated in the figure below show that growth combined with specific nutrition intervention offer the most promising avenue for reducing child malnutrition in Ethiopia, one of the countries with Africa’s worst malnutrition record.



Also, the benefit-cost ratio of direct nutrition interventions can be shown to be high, and certainly worth incurring. Below are some data based on simulations on a set of Asian countries (from Horton, 1999).

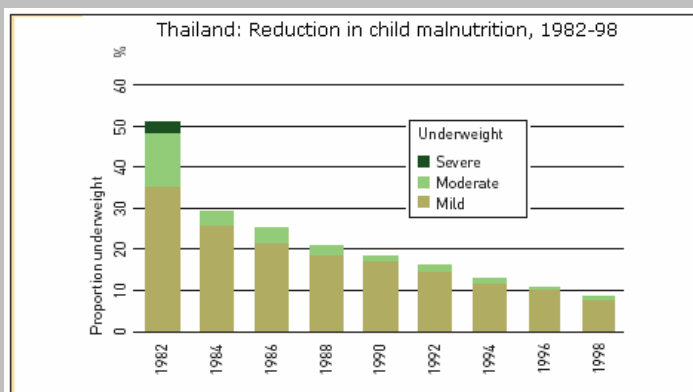
Benefit-cost Ratios for Nutrition Investments using PROFILES Methodology

| Deficiency | Bangladesh | Cambodia | PRC | India | Pakistan | Sri Lanka | Viet Nam |
|------------|------------|----------|------|-------|----------|-----------|----------|
| Iodine | 13.48 | 12.43 | 7.50 | 2.70 | 28.67 | 6.88 | 11.98 |
| PEM | 3.65 | 5.46 | 2.37 | 4.72 | 5.01 | 1.58 | 8.57 |
| Iron | 3.94 | 5.28 | 3.59 | 4.10 | 0.87 | 10.25 | 6.12 |
| Total | 7.16 | 7.23 | 4.53 | 3.98 | 8.32 | 5.45 | 8.89 |

Source: Author’s calculations using PROFILES software as described in Ross (1997).

PEM stands for Protein Energy Malnutrition.

Fast progress is possible. In Thailand as a result of concerted anti-poverty and anti-hunger actions, poverty was reduced from 32.6 percent of the population in 1988 to 11.4 in 1996. Between 1982 and 1998 cases of mild malnutrition were reduced from 35 to 87 percent in children under five, moderate malnutrition from 13 to less than 1 percent, and cases of most severe malnutrition were virtually eliminated (SOFI, 2000).



Direct cash and quasi-cash (voucher) transfer programs, although still rare, are increasingly being implemented in the developing world, particularly in Latin America. Programs of this nature are being implemented in a number of countries including Bangladesh, Brazil, Colombia, Honduras, Jamaica, Malawi, Mexico, Nicaragua, Romania, South Africa, and Turkey. Such programs can provide the poor with the same food entitlements as direct food-based programs, with less administrative complexity and economic distortion. Cash transfer programs are usually made conditional to the recipients adopting specific behaviours, usually related to human capital formation, but sometimes also to agricultural production. It is sometimes questioned whether such conditions are needed, as at times they may add administrative complexity or induce distortions without being really necessary to achieve the desired outcome. Programs conditional to continue farming, for instance, may induce people to give up the opportunities for investing in more profitable activities. The expected pros and cons of conditionality should therefore be carefully weighted at design stage.

A recent review of six cash transfer programs (Cord, 2001) suggests that they can provide effective safety nets to the rural poor and vulnerable, while inducing beneficial economic effects in the long run. They also tend to be less costly and less distorting than most alternatives. The same review distinguishes between programs to help the chronically poor and programs to ease the adverse effects of policy adjustments. The first type have achieved good results in middle income countries, but their relatively high cost and reliance on a good network of roads and social services makes it doubtful that they can be replicated with equal success in low income countries. The main question mark concerning safety nets to ease the costs of adjustments is the ability of governments to phase them out over the adjustment period.

Box 12: Conditional cash transfer programs: Mexico's PROGRESA and PROCAMPO

Mexico has two large cash transfer programs, PROGRESA and PROCAMPO, the first targeting women and linked to human capital development of household children, and the second targeted to agricultural producers (mainly men) and linked to investment and production in agriculture. The main results of two recent comparative evaluations of these programs are summarised below.

Conventional wisdom dictates that women should be targeted as the recipients of transfers since women are more likely to spend money on food, education and health. These evaluations do not find systematic evidence that PROGRESA, targeted at women, has a higher impact on food security outcomes than PROCAMPO, targeted at farmers, who are mostly men. Both programs have a positive effect on food diversity. However, those PROCAMPO households that also receive PROGRESA, and the information that goes with it, are more likely to be eating a more varied diet than households that get PROCAMPO only. Thus, the *platicas*, where information on nutrition and education is provided to PROGRESA female recipients, represent an important channel through which increased food diversity is achieved. This result has important ramifications for the design of nutrition interventions: information on nutrition and health linked to transfers amplifies the impact of cash on food diversity, and information given to females affects the allocation of income controlled by men, in the form of PROCAMPO transfers.

The results indicate that PROCAMPO recipients obtain almost the entire increase of their caloric intake from food consumed out of home production, while PROGRESA recipients are likely to increase food security equally from the market and from home production. This result also has important policy design ramifications; access to retail markets should be an important determinant of the type of nutrition intervention. In the face of high transaction costs and limited access to retail markets, a PROCAMPO-type intervention may be more effective than a PROGRESA-type intervention. The results thus suggest that the choice of program design depends on objectives beyond total food consumption and caloric intake, such as consumption from specific food categories, food diversity, the relative importance of investment in productive capacity, and the degree of access to retail food markets.

While both interventions increase overall household welfare in similar proportions differences emerge on expenditure patterns. A PROGRESA peso is spent differently from a PROCAMPO peso, and thus that program design does indeed induce short-term behavioural change at the household level. PROGRESA households spend more on schooling and child clothing and PROCAMPO recipients on adult clothing and health. PROCAMPO also leads to a significant increase in agricultural spending, though not non-agricultural investment, again suggesting that PROCAMPO transfers are not simply consumed immediately, and certainly not spent on drink and merriment as suggested by the literature on intra-household allocation.

PROGRESA also leads to a significant increase in investment, though in non-agricultural activities. In terms of human capital investment, PROCAMPO households are on par with PROGRESA households in all areas considered with the exception of school enrolment and health services usage.

The implications for policy-makers are multiple. First, if the primary interest of policy makers is in increasing the level of total or food consumption for poor households in the short-term, conditionality may be unnecessary. That is, a cash transfer will bring about the same results regardless of the conditions, and the cost of maintaining such conditions will not be worthwhile. However, if policy-makers are interested in effects beyond the short-term, conditionality may be a useful instrument to bring about these outcomes.

Source: Davis et al. (2002); Ruiz-Arranz et al. (2002).

The first victims of large-scale emergencies, whether caused by humans or natural, are the poor and chronically hungry because they generally lack savings and stocks of food. Early intervention, as and when emergencies occur, helps to avoid further destitution and suffering of poor households. An essential part of such interventions, beyond meeting immediate food needs, is to ensure the timely availability of seeds, tools and other inputs for small-scale farmers so that they can resume food production rapidly.

However, providing food is not enough. It is equally important to ensure that the food can be utilised by its recipients. This requires access to nutrition education and integrated nutrition and health services. It has become clear from experience that safe drinking water provision

should be a very high priority for governments. Contaminated drinking water is one of the most important contributory factors to diarrhoea, the leading killer of small children in most developing countries.

Box 13: The role of FAO in emergencies

FAO is the leading international agency for agricultural development. Raising the nutritional levels of all populations is a fundamental aspect of FAO's mandate. Although FAO is primarily a development agency, it is also an important provider of humanitarian assistance.

- To provide early warning of pending disasters and to minimize food insecurity and malnutrition following the outbreak of an emergency, FAO assesses the availability of crop and food supplies and the need for international food assistance through the Global Information and Early Warning System for Food and Agriculture.
- To assist countries in disaster prevention and preparedness programmes, FAO has created the Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases.
- After the onset of an emergency, FAO's Special Relief Operations Service can bring relief assistance such as agricultural inputs, e.g. seeds, tools, fertilizer, veterinary vaccines and animals for restocking.
- FAO also provides expertise in planning for agricultural rehabilitation following a disaster.

Ensuring that nutritional and household food security considerations are integrated into activities and interventions for relief and rehabilitation is an important duty. During and after emergencies, FAO interventions are aimed at ensuring that households receive appropriate support to prevent deterioration in their ability to obtain food and to enable them to recover if their food situation has worsened. In addition, FAO acts to lessen the potentially adverse impact of future crises.

Source: FAO (1997), Food, Nutrition and Agriculture, 19, From Famine to Food Security.

In providing safe drinking water, the aim should be to ensure a sufficient year-round supply of safe water within easy walking distance. To be effective, this basic facility must be accompanied by adequate sanitation and personal hygiene practices, both in individual households and in the entire community. Interventions should target the poor, since they bear the greatest burden of water-related diseases. The focus should be on both urban and rural communities, although it is in urban areas that the largest and fastest-growing numbers of people suffering the consequences of unsafe water and inadequate sanitation are to be found.

Farm households are generally unable to insure themselves against crop failure, and deaths of livestock. It is clear that there are problems providing crop and livestock insurance: most crop insurance programs have failed and proposals for rainfall based insurance is as yet untested. It seems reasonable to state, that providing even rudimentary insurance services is essential if the poor are to participate meaningfully in economic life. Other means may be available to facilitate income stabilisation in the face of economic downturns. Although this type of interventions has a high rate of failure, successful examples are indeed available. Livestock transport subsidy in Kenya managed to protect pastoralists against price collapses; micro-finance in Bangladesh provides income stabilisation as well as growth; forestation intervention can reduce risk by minimising the likelihood of flooding (Alderman, 2001).

Part 3. Concluding remarks: The challenge of implementation

As stated in the opening pages, the first objective of the FAO Initiative to Review and Update National Food Security Strategy is to support countries to address food insecurity issues within a medium/long run framework that ensures consistency among objectives, policies, resources and results. The present paper offers a conceptual tool to approach. In the context of

the Initiative, the food security issues that each participating country is confronted with. The biggest challenge for the countries participating in the initiative is to translate this general framework into a concrete plan for policy action, devote resources and efforts to its implementation, and monitor its impact.

For a National Food Security Strategy to become a credible and concrete action plan that drives policy formulation and implementation, it needs not only to envisage realistic, quantifiable, monitorable, and time-bound objectives, but also to identify the mechanisms, institutions, and resources to be put in place or mobilised for its implementation, monitoring, and evaluation.

It is crucial that all relevant parties be involved in the debate on the definitions of objectives, and on how to achieve them. This will help **rally the political will** and promote the consolidation of “national alliances against hunger” that may prove powerful tools in focusing action and resources toward hunger reduction.

The Strategies should be **coordinated with any other related initiatives** of local actors and of the international community directed at poverty reduction and the achievement of objectives consistent with the Millennium Declaration. In countries where this is appropriate, the Initiative could actually be integrated into such activities (e.g. the PRSPs process), so as to introduce food security as an overarching goal of national policy action.

The strategies should include a **detailed resource plan**. The process leading to the elaboration of such a plan will in turn be a useful exercise to consider and evaluate alternative strategies and to highlight the least cost ones.

The Strategy should also detail the **institutional initiatives** that will be required for the achievement of the strategic objectives: new legislation, administrative measures, monitoring systems, public sector reforms.

The Strategies should be seen as part of a long-term policy process. As such, the continuing **monitoring and evaluation** of their impact is key, and should be foreseen from the onset. In the process leading to the adoption of the strategies, information, data and knowledge gaps will become apparent. An integral part of the Strategy should be that of assessing how to best fill these gaps, to both (a) develop a better understanding of the food security problem in the country, and (b) monitor and evaluate the impact of the Strategy during its implementation. Even though the collection of new information may not be possible in the process leading to the strategy, the strategy itself should include provisions as per the data needed for the monitoring and evaluation process.

If country strategies prepared in the context of the Initiative are to have a follow-up and a concrete impact on national policies, it is crucial that the constraints to implementation be considered at all stages of the strategy process. Such constraints relate not only to resources, but also to political will and commitment on the part of all stakeholders. It is beyond the scope of this paper to discuss how the strategy process should be put in place²⁰. A few general principles are however worth recalling.

²⁰ The operational guidelines prepared by TCA will serve this purpose.

First, for the strategy process to be successful, both in terms of quality of the strategy document, and of degree of implementation, all relevant stakeholders (public and private sectors, civil society, NGOs) should be involved from the start. This will ensure that their views, knowledge, expertise and concerns are incorporated in the strategy, and above all it will be part of the effort to ensure that they will enjoy ownership of the country exercise. FAO should play a proactive role, and be the ‘honest broker’ in such a consultative process, but leadership and ‘management’ of the initiative should be in the hands of local agents. FAO can play a useful role in the preparation and implementation of the Strategies by facilitating the policy and institutional dialogue among national stakeholders, and between these and the donor community.

Second, the Initiative should not set itself in competition with other national and international efforts to fight poverty and hunger. In particular, coordination with the PRSP process should be ensured. This will generate economies of scale in a number of areas. Much of the analytical work and of the consultations taking place in the context of the PRSP dialogue, are likely to be of great use for the Initiative and need not be duplicated. The Initiative can maximise its impact by striving to emphasise the need for a food security focus in the PRSP from within, rather than working in parallel to the PRSP process. As national anti-poverty resources are increasingly being allocated according to the strategies devised in the context of the PRSPs, this will also ensure that human and financial resource constraints to the implementation of the strategy are, to the extent possible, eased.

Third, to translate the broad food security vision envisaged by the Initiative into operational practice, operating through the traditional channels of the Ministry of Agriculture may be limiting. In order to (a) address the wide spectrum of issues covered by this concept note (and those that have been left out), and (b) make sure that food security concerns are incorporated in the entire policy domain (including macroeconomic, education, health policies and others) there is a need for a wider coordination. This may be achieved for instance by operating through the prime minister office or some other entity which can ensure overall coordination and a comprehensive vision and action.

FAO can also contribute its multidisciplinary expertise to the preparation and implementation of the Strategies. In particular FAO’s Policy Assistance Division (TCA), that is leading the Initiative within FAO, can provide most useful assistance in the policy analysis, policy design and policy evaluation stages right from the onset. In fact, TCA is preparing a set of Operational Guidelines that outline general principles and ways of implementing the Initiative at the national level.

To conclude, it should be stressed once again that it is important that the Initiative be harmonised with other anti-poverty and anti-hunger plans and policies that are ongoing or in the pipeline in each participating country. The contribution of the Initiative can be that of mainstreaming food security as an overarching goal in these efforts. In this respect the Initiative could not have been more timely, and should exploit the momentum offered by the renewed attention to hunger, agricultural, and rural development in the agenda of the main donors in the development community, as well as of the countries that are expressing interest in participating in the Initiative.

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