2. CONCEPTUAL FRAMEWORK FOR THE ANALYSIS OF FOOD SECURITY AND POVERTY

2.1 Poverty: Concepts and Analysis

Given the complexity of the concept and the major 'fault lines' that surround the poverty debate (see Box 2.1), one can agree that there is no single and 'right' definition of poverty. Which particular definition is adopted depends upon the situation in which poverty analysis is carried out. Being poor, or being in want, is a relative concept. It has to be seen in relation to time, space, society and family - both across and within. With the passage of time the definition of poverty has changed to encompass a variety of issues, moving from its initial treatment as an economic phenomenon to take on a number of sociological perspectives (Gillin n.d.). The definition of poverty most commonly now in use is that propounded by Amartya Sen. He defines it as the 'deprivation of basic capabilities', rather than merely as 'lowness of incomes' (Sen, 1999). Using this 'capability deprivation' perspective, and the elements that contribute to 'capability' as propounded by Sen, it is clear that the definition is inclusive of almost all factors and processes – social, economic, political and the like. While distinguishing 'the notion of poverty as capability inadequacy from that of poverty as lowness of income', he makes it clear that 'the two perspectives cannot but be related, since income is such an important means to capabilities. And since enhanced capabilities in leading a life would tend, typically, to expand a person's ability to be more productive and earn a higher income, we would also see a connection going from capability improvement to greater earning power and not only the other way around' (Sen 1999).

Irrespective of how poverty is defined, objective identification of a 'poverty line' is the starting point of most poverty analysis. It serves as an objective standard by which the 'poor' are distinguished from the 'non-poor'. In poverty analysis literature one encounters three types of poverty lines, 'relative', 'absolute' and 'subjective'.

The relative poverty line is simply a cut-off point. It may be the point in the welfare distribution below which a specified proportion lie, or it may be the proportion of population that lie below half of the median income. The relative poverty line is both transparent and simple to calculate, but it is not comparable across regions with different income levels, nor it permit ready comparison over time.

An absolute poverty line is linked to a minimum welfare level necessary for life as a human being. Defining the poverty line in this way allows comparisons to be made over time or across groups, as it would guarantee that two individuals irrespective of where they live are treated in the same way. Once the welfare level distinguishing the 'poor' from the 'non-poor' is defined, monitoring poverty over time also becomes possible. This concept of the poverty line is used in most of the developing countries and also by the World Bank.

A subjective poverty line is defined in terms of the minimum level of income that a person feels is required to meet his/her basic needs. This approach leads to different poverty lines for people in different regions and for the same people over time but with the same level of welfare. This is because the minimum level of income perceived as being required to meet basic needs may differ

between people in different areas and for the same people over time. This concept of poverty line is used in developed countries.

Box 2.1 Development of the Concept of Poverty

The conceptual complexity can be understood as a series of fault lines in the debate about poverty. There are nine of these.

Individual or household measures. Early measurement of poverty (e.g. by Rowntree) was at the household level, and much still is. Other analysis disaggregates to the individual level, so as to capture intra-household factors and different types and causes of deprivation affecting men, women, children, old people, etc.

Private consumption only or private consumption plus publicly provided goods. Poverty can be defined in terms of private income or consumption (usually consumption rather than income, in order to allow for consumption smoothing over time, e.g. by managing savings), or to include the value of goods and services provided publicly, the social wage.

Monetary or monetary plus non-monetary components of poverty. So-called money-metric measures are often used, because they are either regarded as sufficient on their own or seen as an adequate proxy for poverty. However, there is a clear fault line between definitions of poverty which are restricted to income (or consumption) and those which incorporate such factors as autonomy, self-esteem or participation. In Maslow's hierarchy of needs, these were seen as higher needs, which would become more important as basic needs for food, shelter, housing and safety were met. However, many current definitions deliberately blur the distinction between higher and lower needs.

Snapshot or timeline. Many surveys and poverty assessments report the incidence of poverty at a point in time. However, there is a long history of thinking about poverty in terms of life cycle experience (e.g. Chayanov's pioneering work in the 1920s on the peasant household), seasonal stress, and shocks (illness, drought, war). In both North and South, there has been increasing attention to understanding movement in and out of poverty, what Jenkins calls 'bottom-end churning'. Panel surveys, which track a fixed group of individuals over time, provide data.

Actual or potential poverty. Some analysts include as poor those who are highly sensitive to shocks, or not resilient. Small-scale pastoralists exposed to the risk of drought are a common example: current income may be adequate, but vulnerability is high. Planning for these groups means understanding both short-term coping strategies, and also long-term adaptation to livelihood stress.

Stock or flow measures of poverty. The definition of poverty as income focuses on the flow of material goods and services. An alternative is to examine the stock of resources a household controls. This may be measured in terms of physical or monetary assets (land, jewellery, cash), or in terms of social capital (social contacts, networks, reciprocal relationships, community membership). Sen analysed the commodity bundles to which an individual was 'entitled': as Swift has emphasised, entitlements may derive not just from current income, but also from past investments, stores or social claims on others (including the State).

Input or output measures. Sen has reminded us that poverty measured as a shortfall in income essentially captures an input to an individual's capability and functioning rather than a direct measure of well-being. Writing about poverty has often assumed, wrongly, an automatic link between income and participation, or functioning, in the life of a community.

Absolute or relative poverty. The World Bank currently uses a figure of $US 1 per day (in 1985 purchasing power dollars) for absolute poverty. The alternative has been to define poverty as relative deprivation, for example as half mean income, or as exclusion from participation in society. Thus the European Union has decided that 'the poor shall be taken to mean persons, families and groups of persons whose resources (material, cultural, social) are so limited as to exclude them from the minimum acceptable way of life in the member state in which they live'.

Objective or subjective perceptions of poverty. The use of participatory methods has greatly encouraged an epistemology of poverty which relies on local understanding and perceptions. For example, exposure to domestic violence may be seen as important in one community, dependency on traditional structures in another.

Source: S. Maxwell *The Meaning and Measurement of Poverty*; ODI Poverty Briefing No. 3, Feb. 1999

In Nepal, as in many other developing countries, the concept of an absolute poverty line is used. This specifies the income required to buy a package of nutritionally defined food items and normatively defined other goods and services. Those whose incomes fall below this level are said to

live ‘below the poverty line’, thereby making it possible to calculate the number and proportion of people in poverty.

There are difficulties associated with this approach,[1] but it is important at this stage to note that it was in the mid 1970s the issue of poverty started taking root in the minds of Nepalese planners, policy makers and political leaders of all persuasions. The following paragraphs trace the development of this concept over the past quarter century.

The *Survey of Employment, Income Distribution and Consumption Pattern in Nepal* conducted in 1977 by the National Planning Commission (NPC) was the first attempt to establish a national poverty line. It used ‘minimum subsistence level of expenditure and income’ as a measure of this. The subsistence level of expenditure per capita was obtained as follows:

a. The daily calorie requirement for survival was estimated as 2 256 kilocalories per person[2]. This required a net daily consumption of 605 gm of cereals and 60 gm of pulses, contributing respectively 2 042 and 214 Kcal/capita/day. There was no differentiation of calorie requirement by ecological belt as is done by one of the later studies.
b. To derive the expenditure required for the above-mentioned level of consumption, the quantities of cereals and pulses were multiplied by their average selling prices prevailing in each of the four development regions during the reference period of the survey (March-July, 1977).[3]
c. The lowest actual daily consumption expenditures on other basic necessities of life (other food items, clothing and footwear, education, health, fuel and light), of any farm category having the lowest average expenses on the items in rural areas[4] and of minimum income groups in urban areas[5] in all the development regions was added to the region-wise value of cereals and pulses as indicated in b above to arrive at the national minimum subsistence level of expenditure. Spices and condiments, vegetables and fruits, milk and milk products, meat, egg and fish, edible oil and ghee, sweetening items, tea and beverages and others were included under other food items (NPC 1983; p.110). Clearly, this approach assumes that the actual expenditures as reported by the lowest income group of the respective area is indeed an acceptable measure of requirements.

The Survey reported that the calculated minimum expenditure, especially on food items, is higher in rural areas, since some important items like milk, gee, oil, spices, vegetables, meat, egg, etc. are mostly home-produced, but were valued at market prices. In urban areas these goods are actually purchased, and expenditure on them is reported to be lower. Further, expenses for clothing, footwear, education and health have been reported to be slightly lower in rural areas as compared to urban areas (NPC 1983). The estimates of expenses rounded to Rs. 2 per person per day provided the basis for defining the poverty line in 1977.

Another attempt to gauge the incidence of poverty was made in 1984 by the Nepal Rastra Bank (NRB)-sponsored Multi-purpose Household Budget Survey, which used the Basic Needs Income (BNI) approach, following the thrust given to this approach by the NPC. The Survey results were used to estimate the incidence of poverty in various regions of the country by comparing the actual level of monthly per capita income of surveyed households with a reference BNI fixed by the NPC. The criteria fixed by the NPC for deriving this are as follows.

- The minimum per capita daily calorie requirement was estimated at 2 340 for the hills and mountains and 2 140 for the Tarai (national average 2 250). In fixing these requirements, it was assumed that the target group of the population in the respective regions fulfils the minimum calorie requirement largely through consumption of cereals, pulses and potato.[6]
- Based on the average retail prices of these commodities during 1985/86, the expenditure required for the estimated hills/mountains and Tarai requirements were estimated at Rs.3.86 and Rs.3.06/person/day respectively.
- The targeted group of households is estimated to spend 65 percent of consumption budget on food and 35 percent on other necessities. Thus the basic need income/person/day was calculated as Rs.5.94 for the hills/mountains and Rs.4.94 for the Tarai at 1985/86 prices.

Based on the above assumptions and estimates, the Survey derived an annual BNI of Rs.2 168 for the hills/mountains and Rs.1 719 for the Tarai (NRB, 1988). Since the Survey was conducted almost a year earlier than the NPC's announcement of the BNI criteria, the poverty line was deflated using the Consumer Price Indices (CPI) for the hills and Tarai. The BNI, which is the same as the poverty line income for the purpose of the Survey, were estimated as Rs.160.80 and 125.60 per person per month for the hills/mountain and Tarai respectively.

The third national survey which can provide a basis for estimating poverty incidence in Nepal, is the *National Living Standard Survey* (NLSS) conducted by the Central Bureau of Statistics (CBS) in 1995/96. It provides detailed information on such variables as income, income composition and distribution, and access of population to various services. These findings will be discussed later. A later calculation by the CBS for the NPC using the same data, however, determined 2 124 calorie per capita per day to be the daily requirement[7]. This required expenditure estimated at Rs.2 637 per annum. Adding the estimated requirements for non-food items, the total minimum requirement became Rs.4 404 per annum in 1996 prices (NPC 1998).

A few other studies have updated the information on poverty lines provided by the above three surveys. Only some of these made their computations explicit. One that did so is a 1989 World Bank report, which used the NRB Survey and the parameters set by the NPC,[8] updating the poverty line of 1985 on the basis of the 1989 CPI. According to this the poverty line at current prices was Rs. 210 per person per month in the hills and Rs. 197 in the Tarai (WB and UNDP 1990).

The above recapitulation of the components used to define the poverty line reveals some of the weaknesses in the definitions, as well as raising some statistical issues about estimation methods. First, the definition of BNI is unclear regarding requirements other than calories, the levels of which have been lowered in subsequent surveys. Concerning other parameters, there seems to be an assumption that the actual expenditures on other necessities – especially education and health – are the best reflections of both requirement and the sample households' priorities. If that is so, the same argument could be applied to foodstuffs as well. The central issue for policy and programme planning is the following. Lack of specification of the other basic necessities does not help in identifying the needs and priorities for intervention. Considering this lacuna in the definition of the elements constituting the poverty line or the components of the BNI, serious consideration should be given to identifying the other components as objectively as possible. In the meantime one can focus on nutritional poverty, based on a minimum national requirement of 2 250 Kcal/capita/day, with higher requirements for the mountains and hills than for the Tarai.

2.2 Food Security: Concepts and Analysis

A globally accepted definition of food security is the one adopted by the World Food Summit (WFS) held in Rome in November 1996, i.e. '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' (WFS 1996).

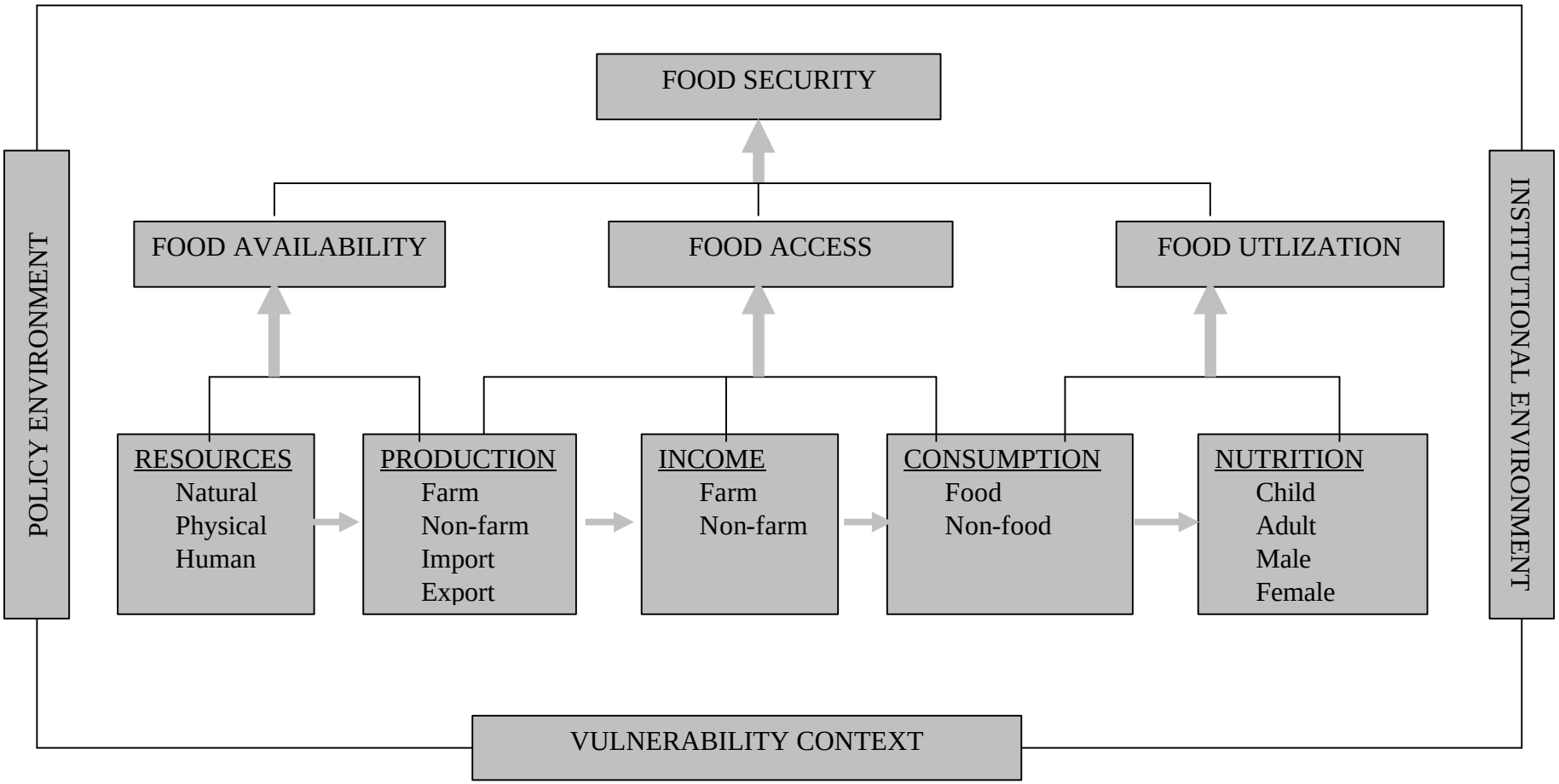
A close association between poverty and food insecurity becomes obvious once the above definitions of poverty and food security are accepted. Indeed the WFS noted that poverty is 'a major cause of food insecurity and sustainable progress in poverty eradication is critical to improve access to food' (WFS 1996). From this it is also clear that any measure that contributes to improving food security will also contribute to addressing the problem of poverty and vice versa. The conceptual framework developed from these definitions, and the elements that constitute them are used in the present exercise. This framework addresses important concerns of UNDP and FAO in guiding their missions. If the WFS definition is accepted, then the three major sequentially interlinked components of food security – food availability, food access and food utilisation – must be a central focus of the analysis. These three components are themselves determined, individually or jointly, by a number of factors. The broad conceptual framework adopted for the analysis of food security concerns is presented in Figure 2.1.

For the purpose of food security analysis, food availability means a situation in which the food required to maintain a safe and healthy life is available for all people in the country and therefore, is determined by net domestic production and the balance of imports and exports. Domestic production is further determined by a variety of factors like natural, physical, human and technological resources. Exports and imports are determined by the level of production and cost structures mediated by trade policies through structures of tariff and duties. Food availability is broadly reflected in the food supply situation including secure food stocks.

Access to food implies that the people in a given location have both physical and economic access to obtain food. Physical access implies a food supply system which ensures easy availability of required foods, and is determined by local production augmented by imports and by the food distribution system. Economic access implies that those requiring food have the economic means to acquire food that is physically available. It is determined by income status of people and by other entitlements through transfers. Access to available food is also determined by the consumption pattern within the household units and by intra-household food distribution systems. Food distribution, employment and income levels and non-market entitlements reflect access to food.

Food utilization relates in part to the capacity to translate food efficiently into energy. This is determined partly by the level of nutritional knowledge and practice. It is also determined by standards of health, which in turn are a function of the physical environment in which people live, their access to safe drinking water, access to health care facilities, etc. – all of which help determine their ability to metabolize food efficiently. Another important aspect of food utilization relates to food consumption patterns within households. Here special attention needs to be paid to the issue of children and women who often become victimized in terms of intra-household food distribution. These issues can be addressed within an analysis of the nutritional situation of different household members.

Figure 2.1 Conceptual framework for food security analysis



All of the factors that influence food availability, food access and food utilisation and thereby the food security situation of households and individuals are affected by the policy and institutional environment under which they live, over which they have little control. The vulnerability context of households is influenced by time trends in variables like population growth, resources, technology, shocks resulting from factors like bad health, natural calamities, economic events and conflicts; and seasonality of prices, production, employment, etc., all of which eventually affect individual and household livelihood systems. Proper understanding of household behaviour in responding to such external effects is crucial in analysing food security in both static and dynamic contexts. This framework has guided the analysis of food security in this report.

Notes on Chapter 2

[1] A commonly cited drawback of this 'head count' method is that it measures neither the distribution of income among the poor nor the intensity of poverty. To address this problem a commonly used approach is to identify the income gap – that is the additional income that would be needed to move people above the poverty line. Commonly cited difficulties regarding consumption relate to problems in translating household level consumption data into actual consumption and in measuring the intra-household distribution. See Ravillion (1998) for further details.

[2] According to the Survey report, this level of calorie requirement is based on the recommendations of the Food Research Laboratory of His Majesty's Government and of the FAO for Nepal (NPC 1983).

[3] The country was then divided in to four development regions. The present Far-western Region was created by splitting the then 'Far-western Development Region' to Mid- and Far-western Regions in the mid-1980s.

[4] They are mostly landless, marginal, and small category households.

[5] Below Rs. 4 000 per annum, which was equivalent to the annual average income level of small farmers in rural areas.

[6] The Survey also pointed the debate among the international nutritionist concerning calorie requirements both for individuals and communities. The calorie standards adopted by the Survey must be considered therefore as approximation only, with actual requirements varying within a range. Correspondingly, the poverty line and the incidence of poverty would both vary with different calorie standards, and should be interpreted as a broad guideline only (NPC 1988).

[7] Compare this figure with 2 256 and 2 250 calorie per capita per day as the minimum calorie requirement in the 1977 (NPC) and 1984 (NRB) surveys respectively. One possible explanation would be the effect of the increasing proportion of population in the Tarai, which increases the weight of the area with lower calorie requirement. Other possible explanations include the various difficulties involved in inter-temporal comparisons.

[8] Although the report is not explicit regarding parameters, the timing of the study suggests that the per capita per day calorie requirement used is 2 250.