

**Planning Food Security in Nepal \***

**Biju Kumar Shrestha ♦**

***Abstract***

*The government has a mandate from the people to reduce poverty and it is committed to accord high priority to food security. This paper analyses food security considerations and discusses that in order to accord high priority to food security, the country first needs to articulate a comprehensive and coherent national food security policy and integrate it into the overall sectoral, cross-sectoral and national strategies.*

**Food Emergency**

Among the four pillars of food security, food emergency relates strongly and adversely with stability. Food emergency in general would imply food shortage of either ephemeral or permanent nature. However implications of food emergency are far-reaching. A food emergency can be caused by and be a cause of fluctuation in production. It can be the effect of distorted access and can further deteriorate access to food; and it can cause scarring damages to balanced utilization.

**Causes of Food Emergencies in Nepal**

General assumption would be that food emergencies in Nepal might occur due to natural shocks (floods, landslides, earthquakes, etc), market shocks, and social-political shocks (conflict, migration, etc).

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♦ Program Director, Agriculture and Rural Development Division, National Planning Commission Secretariat

### **Natural disaster induced shocks**

Disaster Preparedness Network (DPNet) Nepal identifies flood, fire, epidemic, landslides, earthquake, and glacier lake outburst flood as potential threats (DPNet, 2008). Household food insecurity is expected after flood. Assessment reveals that though deterioration in food availability can be checked with food stocks, increased prices of nutritious food as vegetables and lentils disturb access and utilization. Malnutrition in flood-affected area was found to be acute and widespread (IRFA, 2007).

### **Market induced shocks**

Market induced shocks can result from fluctuations in food prices in domestic and international markets, effect on local production caused by adverse market interventions, and externalities. Recent incident of record high increase in rice prices engendered by cessation of imports from India and food crisis in Bangladesh (Kantipur, 2008) can be taken as example of market shock. Case of Jumla where import of subsidized rice and other junk food threatened local production, local biodiversity, and therefore food security situation is another example of market induced risk (AAN, 2006).

### **Social-political shocks**

Social tensions in the form of conflict, protracted *bandhs*, deterioration of state-managed services, etc and mass migration are likely to destabilize food stability. Contingency plan of UN during first half of 2005 when adhering social-tension assumptions identified two categories of caseloads namely internally displaced populations (IDP) and people affected by conflict who remain in their home areas. It was approximated that 65,000 people would be internally displaced while 1.4 million people would remain in their home areas. Projections suggested that of those remaining in home 19 districts of Mid and Far West would be chronically affected with 50,000 needing food assistance (UNNIP, 2006). Similarly, refugee problem can also be the cause of food emergency.

### **Dimensions of Food Security Planning**

Food security has four dimensions that include food availability, access to food, food utilization and stability to food security. Planning is done in a way that all these dimensions are in place with proper relationship. As planning is done to improve over the current situation, the first step is to understand the present condition of the food security dimension. Where is food available (not available), who have (does not have), access to food, how is food utilized by different type of people, and how could the required quantity and quality of food be made available to every person at all time are important questions in planning food security.

Food availability includes domestic production, food imports (purchase, grants and import from other ways) and food exports. In Nepal, the food availability, at present, is looked at national, regional and district level. It is better that it be looked at VDC level or at local market. Food balance sheet provides information about trends in food availability and food requirements based on per capita energy need at the national, regional and district level. VDC level, household level and individual level information, which is grossly lacking at present, has to be generated through some quick methods such as sample survey using participatory approaches.

Next is to identify who the food insecure people are and where they are concentrated. In case of Nepal, though food insecure people are found throughout the country, their concentration is in the area where food production is lower than requirement. Such areas include the settlements in high hills and in the mid-hills in the mid-west and far-west regions. In these areas, people consuming food that generates less than required quantity of calorie are more; there are more number of children below five years who have not gained their height as per their age; weight as per their age; and weight as per height. In other parts, the households not having the able bodied members to work; agricultural labors; rural service providers such as *Kami, Damai, Sarki, Gaine, Badi* and others; non-tourist porters; tenants; landless; farm households with less than 0.6 ha. of farm; and city squanders are food insecure due to their small and insecure earnings and / or small size of farm land. While planning for food security, care should be taken that access of these people to food security is ensured.

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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 mobilize 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 need to be addressed within an analysis of the nutritional situation of different household members.

The stability dimension of food security is about the ability to withstand shocks to food entitlements. The greater the degree of resilience a household has in the face of these risks, the more food secure it will be. The most food insecure households will be those facing the greatest probability of an entitlement failure with the least assets. Lipton has introduced the concept of ultra-poor, those who have to use 80% of their income to achieve less than 80% of their food requirements. In fact, households who allocate over 70% of their income to food almost certainly have little flexibility in reallocating resources to meet an entitlement shock. Household food stocks may be important in withstanding temporary shocks, as is possession of assets. However, once households are forced into selling assets to meet shocks, they are no longer following sustainable strategies. Unless the shock is a temporary one, they will sooner or later fall into food deficiency.

#### **Data Constraints and Capacity Gap in Agriculture and Food Security Policy and Planning**

Insufficient food and agriculture related database and mechanisms for policy formulation, duplication in the statistics, lack of proper level and standards as well as coordination and limited use of information are some of the problems in agriculture plan preparation and data processing.

Besides the felt needs of lack of related database, the results of prevailing database are hardly reflected and utilized in further policy

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making process. There is no compulsion to abide by the results of policy and planning database.

Increased risk of formulating unrealistic agricultural projects, which do not match the ground reality and needs of the country and alternative analysis capability during project appraisal; serious consequences and gaps in policy formulation and implementation; and low level of institutionalization of information are some undesirable consequences those have been observed regarding weak database system in Nepal and not proper reflections of existing policy results.

Capacity building is an essential element in the implementation of long-lasting Agriculture and Food Security policy and planning. Capacity building should be undertaken at all levels, according to the needs and with vertical and horizontal integration. Furthermore, setting up and running Agriculture and Food Security policy and planning has costs, which require thoughtful financial and technical resource planning down to the lowest local level. Training and transfer of technologies would have a key role in building capacity.

There are very few persons in country who understand the holistic and complex nature of agriculture and food security. For many, food security means increasing production. They consider only the availability dimension of food security not including other vital dimensions such as access to food, food utilization, stability, vulnerability, coping strategies and others. Therefore, there is a wide gap in capacity for planning, implementation, monitoring and evaluation of agriculture and food security program. A strong capacity-strengthening component is required to plan, implement, monitor and evaluate food security program successfully. Since the implementation takes place at local level with supports from different stakeholders at different levels, capacity of all stakeholders belonging to central, district, Ilaka, VDC and grassroots level needs to be strengthened.

#### **Data Collection and Selection of Indicators**

The efficiency of any Agriculture and Food Security policy and planning would depend upon the availability and analysis of correct and reliable data (indicators). In some cases, there is a multiplicity of information on the three-food security components (availability, access

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and utilization), but they may not be readily available or comparable for many different reasons, including different biophysical, social, economic and political environments, low government capacity to regularly collect statistical information, security constraints, inaccessibility, etc. Moreover, some of this data may be superfluous to food security policy- and decision-makers. It is therefore, suggested that the first step in establishing Agriculture and Food Security policy and planning system should include a survey to define what kind of information would be useful and what kind of data is already available.

Selection of indicators and data to be collected depends on the specific situation of a given location or emergency situation. To understand situations in advance of events, maintain and update food security data, understand local situations Agriculture and Food Security policy and planning should be tailored to local conditions.

### **Surveillance of Adverse Factors**

The mentioned shocks and stresses can have significant implications on agriculture and food security situation. While considering food emergencies, procedures and systems to monitor indicators that foreshadow critical insecurity or its causes have to be prioritized.

The Tenth Plan recognizes the reactive not proactive nature of disaster management efforts, technical shortcomings to forecast disasters, absence of maps showing disaster prone areas, and inadequate coordination and cooperation as problems obstructing effective disaster management. It committed to streamline technical and management practices in responses to disaster. Outputs expected included hazard map of disaster prone areas, regional stocks for immediate and effective relief, and consolidation among involved agencies (NPC, 2002). A rapid assessment at the site of disaster could also be an effective apparatus in analyzing food and nourishment situation. Using the standard checklist and Food Security Monitoring and Analysis System (FSMAS) WFP and collaborating agencies were able to assess food situation on 13 districts of Terai (IRFA, 2007). Shrestha and Pandey (2006) highlight role of Information and Communication Technologies (ICT) in disaster management identifying GIS (modeling and data integration), Remote Sensing (monitoring), Internet/websites/portals (data sharing,

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warehousing, knowledge hub), and communication systems as VSAT, Mobile data collection and transfer. Resources as disaster forecasts and mapping coupled with efficient channel for information sharing could be critical in analyzing probability of natural disaster induced food insecurity.

Vulnerability Analysis and Mapping (VAM), Food Insecurity and Vulnerability Information and Mapping Systems (FIVIMS), and sustainable livelihood approaches can measure adverse factors (Ojha, 2007). Emergencies will most likely impact poor and vulnerable. Hence surveillance of market induced and social-political food emergencies should also monitor food access situation of inspected groups. Scrutiny of Food Balance Sheet (FBS) and indigenous nutrition habit and requirement along with trends in international food trade arena could further assist in mitigating risks of food emergencies.

The risk and uncertainty factors have significant roles in Nepal's food security. Hailstorms, drought, and flood; human, animal and crop diseases; fluctuations in price policies; and more recently the internal conflict are some prominent factors that have great bearing in making the food security situation vulnerable. With varying magnitude, affects of these factors to food security is widely found in Nepal.

Measurement of adverse factors could be done through different tools including Food Insecurity and Vulnerability Information and Mapping Systems (FIVIMS), Vulnerability Analysis and Mapping (VAM), and sustainability approaches. At the national level, FIVIMS is implemented through a network of information systems that gather and analyze data relevant for measuring and monitoring food insecurity and vulnerability. In Nepal, VAM was done in 2001-02 which identified the causes of food insecurity. Likewise profiling of vulnerable livelihoods groups was done in 2002-03 by using sustainable livelihoods approaches which identified different vulnerable groups from the perspective of food security. The vulnerable groups identified are agricultural labors, share-croppers, marginal farmers, those continuing to provide traditional rural services, non-tourist porters, city squanders.

### **Early Warning and Programming Dimension**

The UN definition of early warning system (EWS) reads as follows:

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“The provision of timely and effective information, through identifying institutions, that allow individuals exposed to hazard to take action to avoid or reduce their risk and prepare for effective response”. So the EWS is a social process for generating maximally accurate information about possible future harm and for ensuring that this information reaches the people threatened by this harm, as well as others disposed to protect them from the harm.

Various writers have identified what they considered should be the components of the EWS. For example, one suggestion was that an EWS should have five components: selection of indicators; communications of warnings; reception of warnings; early warning education; generation and maintenance of awareness. A risk assessment expert suggested that an EWS should include the following activities: monitoring risk analysis, dissemination of the warning, and societal preparedness. Yet another suggestion was that an EWS has responsibility for the following forecasts, warnings and responses. Other possible components include technical decision-making and responses to warnings and impacts. Obviously, there is no agreement on the ideal structure or function of an early warning system.

Weekly information is collected on rainfall pattern, crop area planted, crop health, natural disaster and epidemic and forecast of production is made, based on the collected information. The information is collected by Agriculture Service Center (ASC) and forwarded to District Agriculture Development Office (DADO) in case of crop information. The information on animals would go to the District Livestock Development Service Office (DLSO). The DADO and DLSO compile information from all ASCs in the district and send it to the Agri-Business Promotion and Statistics Division (ABPSD) in the Ministry of Agriculture and Cooperatives (MoAC). The copy of the information goes to respective Regional Directorate and respective Departments. The rainfall pattern is collected from 19 meteorological centers and crop and livestock information from all 75 districts.

The ABPSD publishes preliminary estimates of area, production and yield cereal crops (paddy, maize, millet, wheat, barley), oilseed, potato, tobacco, sugarcane, jute grain, legumes fruit and vegetables, spices, tea, coffee, cotton, honey and cut flowers. The reasons for change in



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production estimates from the usual pattern are given which generally include disaster and epidemic as well as the deviation of rainfall from the usual pattern. When the situation is abnormal, the ABPSD publishes additional special issues of the bulletin to make more accurate information for immediate action. Publishing special issues is a common practice on disaster affect caused by flood and landslide which generally happens during the rainy season. The extent of the affect is surveyed at ASC forwarded by the following usual reporting system.

Based on the preliminary estimates, recovery and response programs are developed on the basis of the recommendation of Disaster Relief Committee of the respective district.

### **Coping Strategies and Response System**

Coping strategies are usually defined as “a short term response to an unusual food stress” and adaptation as “coping strategies which have become permanently incorporated into the normal cycle of activities”.

Different people practice coping strategies differently. For many, coping mechanisms are borrowing loans, eating of forest roots, eating small meals, skipping meals, eating less preferred meals, skipping eating for whole day, sending able bodied household member for work outside so as to save food for other members, remittances and support from the government agencies. As regards the loan, the informal sources such as merchants and neighbors and relatives are major sources. In some high hill areas, both cash and kind are borrowed and paid interest mostly in kind in addition to the labor. In some parts, people live on forest products especially during the food scarce period. Temporary migration to cities in Nepal and India for saving food at home and bringing some money back home is a common practice. A food security survey found that almost 38% of the respondents have had small meals. Not eating some diets during the scarce periods is another survival strategy. A severity in food insecurity of a household increases with when a person earning wages is sick, when there is no work and when food is too expensive.

The more thorough our understanding of the local economy and the way it fits into the large dynamics of the political and social economy, the greater is our ability to monitor food insecurity accurately. This

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monitoring can then provide information on both the risks faced by households and effectiveness of their coping strategies.

#### **Suggestions for Improving Agricultural Statistics System and User-Producer Dialogue**

The Programs for improving the institutional capacity for agriculture statistics relate activities could be bringing out a agricultural statistics policy by the government; preparing a necessary legal provisions for agricultural statistics, and its implementation; and developing institutional mechanisms to coordinate the agricultural and food security related statistical programs at the community, district and central levels of governance.

#### **(1) Scope of Food Security Information System**

A Food Security Information System (FSIS) helps to manage various issues related to the food security (i.e. availability, access, stability and utilizations) and the human right to foods (i.e. participation, accountability, non-discrimination, transparency, human dignity, empowerment, and rule of law). So the FSIS programs are suggested as follows:

- (i) *Design of information base*: Data collection, analysis and publication on different aspects of foods such as: food production, requirements, adequacy, standards, nutritional status, utilization, vulnerable groups, location-specific distribution, disaster events, prices, transportation, early warning indicators, etc.
- (ii) *Design of institutional instruments*: Local development workers will send the food security related information to the District Food Security Coordination Committee. The latter will forward it to the National Food Security Steering Committee; and
- (iii) *Publications*: The National Food Steering Committee will prepare and disseminate “food situation reports” to government agencies, local bodies, chambers of commerce and industries, civil society and media.

#### **(2) Institutional Structure for FSIS**

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The National Food Security Steering Committee and District Food Management Committee will decide on the level of disaggregation and frequency of monitoring of the selected indicators for food security/ food sovereignty of the nation and people.

Currently, the Ministry of Agriculture and Cooperatives, Agri-Business Promotion and Statistics Division collects information on agricultural production, trade and prices through its departments and latter's 75 district offices. The same agencies are responsible to implement the development programs and make progress reporting. An autonomous agency may be needed to generate independent estimates of food production situations.

On the other hand, the Central Bureau of Statistics has Branch Statistical Offices in 33 out of 75 districts. These have not been able to takeover the reporting of current agricultural statistics from the Ministry of Agriculture and Cooperatives. In view of these institutional issues on statistical reporting, it is necessary to verify the ground realities about the food production at the district and sub-district levels.

The UN World Food Program has been collecting, analyzing and disseminating the information on food security and related issues for last several years, and has developed a Food Security Monitoring and Analysis System. Through this system, the filled data are collected and analyzed to prepare and disseminate reports like the Food Security Bulletins, Market Updates, Emergency Bulletins, Crop Situation Updates etc. The FSMAS covers the most remote and food insecure areas including 41 districts in the country. At present, it is the single largest source of information on regular basis from the point of food security in Nepal.

In this context, the WFP and Government of Nepal coordination can help to make an effective Food Security Information System.

#### **(3) Periodic Programs for Food Security Information System**

To develop the food security information system, the National Planning Commission/ Central Bureau of Statistics need to implement the following immediate, medium term and long term programs:

(a) Immediate Programs

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- i. Reorganization of the National Statistical Council representing the relevant ministries and offices from the point of agriculture and food security information.
  - ii. Forming a technical working group from the government agencies for publishing statistical series on agriculture and food security planning.
  - iii. Identifying the information on agriculture and food security and agencies generating the former.
  - iv. Consolidating information at a single location so that all stakeholders can access it for formulating and implementing programs.
  - v. Identifying subsidiary agencies at the center, district and VDC levels to deal with agriculture and food security-related issues.
  - vi. Identifying required improvements in the existing statistical activities, and develop new statistical series.
  - vii. Preparing budget for new activities on food security information system, and get approval from the Ministry of Finance.
- (b) Medium-term Programs
- i. Strengthening the statistics cell in each relevant ministry; if non-existent, creating a statistics unit by designating appropriate and capable personnel.
  - ii. Mid-term review of implementation of information system and GIS system for agriculture and food security programs.
  - iii. Conducting periodical surveys like Crop and Livestock Survey, Nepal Living Standard Survey, Demographic and Health Survey and Household Budget Survey at regular intervals.
  - iv. Developing institutional arrangements to monitor the food quality standards.
  - v. Publication of information bulletin on agriculture and food security regularly.
- (c) Longer-term Programs
- i. To set targets in forthcoming periodic plan, formulate a periodic statistical plan.
  - ii. Review the statistical calendar.

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- iii. Conduct domestic trade survey focused on agriculture and food items.

It is suggested to strengthen Agriculture section in National Planning Commission Secretariat to coordinate and monitor food related programs including the program for developing human resources. This has to be accompanied by establishment of special desk in different ministries for more systematic planning and institutional development to deal with the food security related issues. This human resource development program will also help to implement the food security programs in a time bound manner more successfully.

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