SCOPING STUDY ON
FOOD SECURITY AND NUTRITION
INFORMATION IN CAMBODIA

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Acronyms

ADB  Asian Development Bank
CMDG  Cambodian Millennium Development Goals
CDRI  Cambodian Development Resource Institute
CARD  Cambodian Council for Agriculture and Rural Development
CAMIS  Cambodia Agriculture Market Information Service
CSES  Cambodian Socio-Economic Survey
CAS  Cambodia Anthropometric Survey
EC  European Commission
EFAP  Emergency Food Assistance Project
FSN  Food Security and Nutrition
FSNIS  Food Security and Nutrition Information System
FSN-IFMTF  Food Security and Nutrition Information Management Task Force
FIVIMS  Food Insecurity and Vulnerability Information and Mapping System
FSSP  Food Security Support Programme
FAO  Food and Agriculture Organization of the United Nations
FNPP  FAO-Netherlands Partnership Programme
IPC  Integrated Food Security Phase Classification
MAFF  Ministry of Agriculture, Forestry and Fisheries
MOP  Ministry of Planning
MOWRAM  Ministry of Water Resources and Meteorology
MOH  Ministry of Health
M&E  Monitoring and Evaluation
MRC  Mekong River Commission
NSDP  National Strategic Development Plan
NIS  National Institute of Statistics
NCDM  National Center for Disaster Management
NGO  Non-governmental Organisation
NHIS  National Health Information System
RGC  Royal Government of Cambodia
RS  Rectangular Strategy
SFFSN  Strategic Framework for Food Security and Nutrition in Cambodia
SAW  Strategy on Agriculture and Water
TWG-FSN  Technical Working Group for Food Security and Nutrition
TOR  Term of Reference
UNICEF  United Nation Children’s Fund
WFP  World Food Programme of the United Nations
1. Background

1.1 The State of Poverty and Food Insecurity in Cambodia

Despite impressive economic growth in recent years, poverty remains a major concern in Cambodia. In 2004, 34.7 percent of Cambodians lived below the poverty line\(^1\). Amongst these people, 93.4 percent (4.4 million) were located in rural areas with the remaining 6.2 percent (0.3 million) residing in urban areas\(^2\).

Geographically, Phnom Penh had the lowest poverty rate (4.6 percent) in 2004. The Plateau/Mountains is the poorest zone with a poverty rate of 52 percent while the Tonle Sap region has a poverty rate of 42.8 percent compared with 32 percent in the Plains and 27 percent in the Coastal zone. The Plains has the largest share of the poor (40 percent) followed by Tonle Sap (37 percent), Plateau/Mountains (16 percent) and the Coastal zone (6 percent)\(^3\).

Poverty in Cambodia is closely associated with lack of food security and nutrition. Nationally, 23 percent of the Cambodian population, or 3 million people, were food-deprived in 2003-2004, consuming less than the minimum daily energy requirement of 1715kcal/day. In 2005, more than 37 percent (630,000) of Cambodian children under the age of five were suffering from chronic malnutrition (stunting), while 36 percent of the children under the age of five were underweight, and 7 percent were acutely malnourished (wasted). More than 60 percent of the children under the age of two suffered from anaemia. Malnutrition is also a major cause of the high level of maternal and infant mortality\(^4\).

The social and economic costs of malnutrition in the Cambodian population are high. Social costs include damage to individual health and physiological development, limiting the overall human potential of the malnourished and leading to high levels of suffering, debilitation and premature death. Economic costs include limitations on the development of the economy resulting from lower educational achievement, higher health costs, lower labour force quality and increased vulnerability to the impacts of natural hazards.

1.2 Food Security Policy Environment in Cambodia

Over the past two decades, poverty alleviation has been a top priority in Cambodia’s socio-economic development plans. Since 1994, the issue has been articulated in all national policy frameworks along with measures to improve food and nutrition security. Amongst vital cross-sectoral policy initiatives taken by the government was the Prime Minister’s Circulars on Food Security in 1999 and 2003. These circulars underscored the importance of improving food security and nutrition and identified a series of actions to be carried out by all levels of the government in order to reduce food insecurity in the country.

Food and nutrition security was also recognized as a priority development issue under the National Poverty Reduction Strategy 2003-2005. The Strategy covered five pivotal areas in relation to attaining greater food security, namely (i) disaster management, especially in light of impacts of flood; (ii) increasing environmental sustainability; (iii) land mine clearance; (iv) vulnerability of the disabled, those affected by HIV/AIDS, orphans, street and abandoned children, and the homeless; and (v) social safety net programmes.

\(^1\) Strategic Framework for Food Security and Nutrition in Cambodia 2008-2012
\(^2\) A Poverty Profile of Cambodia 2004, MoP 2006
\(^3\) Food Security Support Programme 2009-2013 under the Strategy on Agriculture and Water jointly prepared by the Ministry of Agriculture, Forestry and Fisheries (MAFF) and the Ministry of Water Resources and Meteorology (MoWRAM) in consultation with the Technical Working Group on Agriculture and Water (TWGAW)
\(^4\) Strategic Framework for Food Security and Nutrition in Cambodia 2008-2012
Improving food and nutrition security as the highest development priority of the Royal Government of Cambodia (RGC) is apparent from its current national strategic frameworks such as (i) the Cambodia Millennium Development Goals (CMDGs) adopted in 2003; (ii) the Rectangular Strategy (RS) for Growth, Employment, Equity and Efficiency Phase I (2004-2008) & Phase II (2008-2012); (iii) the Strategic Framework for Food Security and Nutrition in Cambodia (SFFSN) 2008-2012; and (iv) the First National Strategic Development Plan (NSDP) 2006-2010 and the NSDP Update 2009-2013.

Three of the CMDGs are directly associated with food security and nutrition. These include CMDG 1, "Eradicate extreme poverty and hunger", and most other CMDGs have food security related elements, particularly CMDG 4, "Reduce child mortality", and CMDG 5, "Improve maternal health". Both the RS-Phase I and the RS-Phase II have been developed and adopted as the sharp and focused policy frameworks for future development in order to achieve the goals of CMDGs. They stressed the need for “improving agricultural productivity and diversification, thereby enabling the agriculture sector to serve as the dynamic driving force for economic growth and poverty reduction”.

The NSDPs operationalise the RSs by setting poverty reduction as the foremost priority. It also recognizes the need for further significant progress in FSN as a key action in reducing persistent high levels of malnutrition and micronutrient deficiencies among women and children.

The SFFSN was prepared by the Council for Agricultural and Rural Development (CARD) in consultation with the Technical Working Group on Food Security and Nutrition (TWG-FSN) in 2007. It is a holistic framework to help guide, monitor and coordinate FSN interventions across sectors. Specific objectives of the SFFSN include increased food availability, increased food access, improved use and utilization of food, increased stability of food supply, and an enhanced institutional and policy environment for FSN.

1.3 The Current State of Food Security Information in Cambodia

Accurate, timely and credible food security-related information is required to effectively address both immediate and longer term food security challenges. In Cambodia, the essential role of information is clearly recognized in the fifth specific objective of the SFFSN 2008-2012. The framework is oriented towards the institutional and policy environment, and the need for capacity-building, de-centralized coordination and improved information systems. As a cross-cutting issue, there are many key players involved in developing and maintaining food security information systems and datasets.

An effort made at the national level to coordinate data collection and management, and disseminate food security information among a wide range of government and non-government actors, took place in 2004 when the "Food Security and Nutrition Information System (FSNIS)" was established with assistance from the FAO-Netherlands Programme (FAO-FNPP). The overall objective of the programme was to improve FSN of the Cambodian population in a sustainable manner. This should be achieved by successfully addressing food security and nutrition issues in national and sub-national policies. In particular, it aims to support governmental policy formulation and analysis capacities in the area of FSN through effective information and knowledge management and promoting the consideration of FSN issues in the decentralized planning process.

In July 2006, a national stakeholder workshop on food security and nutrition related information systems was organized by CARD. This workshop resulted in a proposal to establish the Food Security and Nutrition Information Management Task Force (FSN-IMTF). The Task Force chaired by CARD, the Ministry of Agriculture, Forestry and Fisheries (MAFF), and the Ministry of Planning (MOP), aims to address some of the problems related to food security information in Cambodia. It is charged with establishing a list of core indicators for FSN monitoring as well as enhancing active cooperation among the members in order to better match data user needs and to fill existing information gap.

1.4 Scoping Study on Food Security and Nutrition Information

As a rule of thumb, information plays a vital role in any informed decision-making process. In order to link food security and nutrition-related information and decision-making, a good understanding of national information systems and decision-making processes is required in each country.
The objective of the study is to add value to related assessments, studies, and reports that describe Cambodia's food security information systems in detail. Specifically, the study aims to identify information requirements, assess current information systems and products that help meet the requirements, and propose measures to guide efforts to fill the gaps. These are to be achieved by developing recommendations to improve the relevance, efficiency and co-ordination of data collection, management and dissemination efforts, in line with the roles and needs of key users. The Terms of Reference (TOR) for the study are presented in Annex 1.

1.5 Organization of the Consultancy Report

This report is written for the many institutions and individuals that are active in Cambodia's food security information systems, who must work together with good will and mutual respect in a coordinated and harmonised manner to fund and implement the recommendations. It is hoped that the donor community and technical agencies will lend their support.

The report is organised into five main sections. The next section defines food security and food security information. This is essential to understand the full scope and range of food security information and indicators that were considered during the study. This is followed by a demand side analysis that discusses the need for food security information - what are its uses, how is the information used, and who are the users. A supply side analysis follows to consider how the demand is, or is not, being met. Recommendations are then raised on how to build a better food security information system. Finally, a set of specific activities is proposed to turn the recommendations into action.

2. Defining Food Security and Food Security Information

To understand the full scope and range of food security information, what it is and what it is not, it is essential to understand the meaning of food security in its broadest sense. This begins with understanding the conceptual framework that illustrates the multiple dimensions of food security and its cross-cutting nature and multi-disciplinary linkages. In addition to a basic understanding of the nature of food insecurity in Cambodia, the causes, the context, and how people cope must also be examined to understand the multiplicity of data and information that comprise a comprehensive food security information system.

2.1 The Concepts of Food Security Defined

Concepts of food security have evolved in the last thirty years to reflect changes in official policy thinking. The term first originated in the mid-1970s, when the World Food Conference (1974) defined food security in terms of food supply – assuring the availability and price stability of basic foodstuffs at the international and national level:

“Availability at all times of adequate world food supplies of basic foodstuffs to sustain a steady expansion of food consumption and to offset fluctuations in production and prices”.

In 1983, FAO analysis focused on food access, leading to a definition based on the balance between the demand and supply side of the food security equation:

“Ensuring that all people at all times have both physical and economic access to the basic food that they need” (FAO, 1983).

The definition was revised to include the individual and household level, in addition to the regional and national level of aggregation, in food security analysis. In 1986, the highly influential World Bank Report on Poverty and Hunger (World Bank, 1986) focused on temporal dynamics of food insecurity. The report introduced the distinction between chronic food insecurity, associated with problems of continuing or structural poverty and low incomes, and transitory food insecurity, which involved periods of intensified pressure caused by

5 See FAO-Netherland Partnership Programme, 2006 (http://www.fivims.org/)
disasters, economic collapse, or political instability. Understanding the broad nature of food insecurity from the viewpoints of the two time dimensions is a key factor (Isaacson, 2008).

Cambodia’s SFFSN 2008-2012 adopts the 1996 World Food Summit Definition of food security, as follows.

“Food security exists when all people, at all times, have physical and economic access to sufficient, safe, and nutritious food, enabling them to meet their dietary needs and food preferences for an active and healthy life”.

Isaacson (2008) provides a simplified elaboration on the two time dimensions of food insecurity as follows:

Transitory, or acute, food insecurity has a short-term time dimension, is relatively unpredictable, and can emerge suddenly. It occurs as a result of a shock (such as a drought, flood, conflict, etc.) that disrupts people’s normal livelihood patterns. In such cases, some households will be able to cope with the results of the shock while others may require food or other types of assistance. In extreme situations, food aid can save lives. In other cases, it reduces the need for households to employ extreme coping mechanisms, such as selling off essential household assets (such as livestock), which could undermine their livelihood strategies and slow recovery efforts.

Chronic, or long-term or persistent, food insecurity is typically a result of structurally extended periods of poverty, lack of assets and inadequate access to productive or financial resources. In 2004, nearly 34.7 percent of Cambodians were below the poverty line. Nationally, 23 percent of the Cambodian population was considered food deprived in 2004, meaning they lacked the minimum amount of income required for a basic standard of living. High levels of chronic food insecurity are further indicated by high levels of chronic malnutrition amongst Cambodian children under the age of five, of whom 37 percent were stunted in 2004.

2.2 Understanding the Causes of Food and Nutrition Insecurity

![FIGURE 1: DETERMINANTS OF FOOD SECURITY](source: SFFSN 2008-2012)
The food security definition adopted by Cambodia, as adopted in its SFFSN 2008-2012, includes four conceptual dimensions of food security: food availability, food access, use and utilization, and stability. Theoretically, these conditions must all be fulfilled simultaneously for a nation’s food security objectives to be realized. To be considered as truly food secure, all people must enjoy all of these conditions at all times. Their linkages with food and nutrition insecurity are presented in Figure 1 above.

**Food availability** generally addresses the "supply side" of food security and is determined by the level of food production, stocks levels and net trade. Simply put, it refers to the physical existence of food, be it from individual production or markets. Food must be available in sufficient quantities to feed the population. At the national level, food availability is a combination of domestic food production, domestic food stocks, commercial food imports and food aid. At the household level, food availability is largely determined by one’s own production and on how markets are functioning in local areas. When markets are functioning well, food is typically available.

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**A Glance at Food Availability Situation in Cambodia**

Agriculture in Cambodia is largely dominated by rice production. There is a large rice surplus at the national level (more than 2 million MT in 2008/9), with large inter-regional and inter-annual variations. Rice yields have steadily grown over recent years to about 2.7 MT/ha in 2008/9, but yield is still much lower than the potential. Irrigated rice production covers 20% of the cultivated area. Rice shortages ("rice gaps" for two months and more) at household level are frequent and contribute to indebtedness of rural households. Many smaller producers for economic reasons are forced to sell much of their rice at harvest time, and proportions of this rice flow across the national borders to Thailand and Viet Nam with their larger rice markets. Storage and milling capacities are limited in Cambodia. Fish production (a main source for protein) is endangered. Cambodia still depends on imports of food stuffs other than rice (e.g. vegetables and fruit).

SOURCE: ADB Grant 0116 - CAM Emergency Food Assistance Project - INCEPTION REPORT

**Food access** is a dimension that gained importance in the early 1980’s and has helped bring food security closer to the poverty reduction agenda. It refers to all households and all individuals being able to obtain the food they need for a nutritious diet. Most rural Cambodians are typically food producers engaged in agriculture. However, they are also highly dependent on buying some types of food, particularly rice, for some period every year to meet their requirements. Therefore, having an well balanced diet in Cambodia is very much a matter of whether the people have the purchasing power (cash income) to buy the types of food they need aside from what they themselves can produce on their own farms, which is often limited due to lack of productive assets (such as land and livestock) to generate cash income\(^6\). Whether or not poor households can access food through markets depends on food prices, employment and income opportunities as well as on the level of household resources – capital, labour and knowledge. Food transfers, in the form of gifts from relatives or the community and/or food aid, also helps ensure food access for the very poor\(^7\). Within households, access to adequate food depends on how food is distributed among family members.

**Use and utilisation** has become increasingly prominent in food security discussions since the 1990s. Associated with both socio-economic and biological aspects, food use and utilization is commonly understood as the way in which the body makes the most out of various nutrients in the food for good nutrition. Oftentimes, this is determined primarily by a person’s health status. Individuals can achieve this objective by consuming foods that are considered safe, nutritious and properly processed, stored, and prepared. Equally important is good health and sanitation conditions, proper care-giving for the young and elderly, access to clean water, and a nutritionally diverse diet.

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\(^6\) Food Security Support Programme under the Strategy on Agriculture and Water 2009-2013 jointly prepared by the Ministry of Agriculture, Forestry and Fisheries (MAFF) and the Ministry of Water Resources and Meteorology (MoWRAM) in consultation with the Technical Working Group on Agriculture and Water (TWGAW)

\(^7\) Isaacson (2008).
Food utilization is determined by food safety and quality, how much a person eats, and how well a person converts food to energy. All of these factors affect proper biological use of food, nutritional status and growth. Adequate food utilization requires a diet providing sufficient energy and essential nutrients, potable water, adequate sanitation, access to health services, proper feeding practices and illness management. Constraints to food utilization can include nutrient losses associated with food preparation; inadequate knowledge and practice of health techniques; and cultural practices that limit consumption of a nutritionally adequate diet by certain groups or family members. While Cambodia has made considerable progress in limiting child malnutrition, more gains need to be achieved to reduce rural malnutrition and increase food utilization.

A Glance at Food Use and Utilisation in Cambodia

The average diet in Cambodia is still minimally diversified (rice makes up 80% of daily energy intake) and is poor in protein and micronutrients. Micro-nutrient deficiencies are widespread and hamper the intellectual development of children and the full use of human potential for development. Breast-feeding and caring practices of children need considerable improvement. Poor health status, related to limited access to quality health services and preventive health/immunization, impairs optimal utilization of food. Limited access to safe water (only 29% of rural households) and proper sanitation (only 8.6% of rural households) has led to a high prevalence of parasites, diarrhoea, loss of nutrients, and poor absorption of food intake.

SOURCE: ADB Grant 0116 - CAM Emergency Food Assistance Project - INCEPTION REPORT

Inappropriate use and utilisation of food contributes significantly to the overall malnutrition in Cambodia. Causal factors here are poor nutrition knowledge and practices, insufficient access to maternal care services, inappropriate mother-child care practices, high prevalence of child illnesses including diarrhoea and respiratory infections, and child micronutrient malnutrition. The poor have insufficient access to affordable good quality health care due to high costs and lack of services. Expenditure on care amongst the poor for serious health conditions has been shown to lead to indebtedness and asset disposal, resulting in further impoverishment and chronic food insecurity. A further important underlying cause of child illnesses in Cambodia is the insufficient access of rural households to sanitation (16 percent) and to safe drinking water (42 percent).

Stability is closely associated with the term "at all times" as reflected in the universally adopted definition of food security. This means that food must be made available and that individuals have physical and economic access to food at all times. The central importance of this dimension is to reduce the risk of adverse effects on the other three dimensions of food security.

Prolonged periods of food shortages can have detrimental effects on the health and well-being of all Cambodians, particularly for children, pregnant women and other vulnerable groups. Many food insecure households in Cambodia who live in rural areas suffer from a lean, or hunger season before the harvest when household reserves are run down. Households may have difficulties ensuring stable food supplies for all family members during such periods. Moreover, the Cambodian people, especially those residing in rural areas, are vulnerable to external shocks and stresses that can reduce their food supply, access to food, or food utilization to below-minimum needs. Agro-ecological vulnerabilities include high risks of flood or drought damaging crop production. Socio-economic vulnerabilities include dependency on low, erratic and insecure sources of cash income, illiteracy and a lack of education, and a broad range of factors related to security and human rights.

Vulnerable groups in Cambodia are unable to produce or purchase their food needs either temporarily (e.g. due to flood or drought impacts) or permanently (e.g. the aged living alone, orphans, those living with chronic illnesses such as HIV/AIDS, the destitute, and the underemployed). Another non-market-based dimension of stability of food access is the inadequate provision of social transfers or safety nets to provide food and other basic needs to such vulnerable groups. While some important programmes are active in this area, further development of disaster risk reduction and social safety nets is required to meet the needs of these vulnerable groups in society.

8 http://www.foodsecurityatlas.org/khm/country/utilization (As of December 2010)
9 Strategic Framework for Food Security and Nutrition in Cambodia 2008-2012
10 Cambodia Demographic Health Survey 2005
Households and communities often have individual strategies for overcoming particular food security problems. These individual strategies have resulted from the lack of safety net structures and clearly defined, efficient response structures, despite a number of initiatives, including ones in 2009, to strengthen safety net provision. Women-headed households and households with a high dependency ratio tend to be particularly vulnerable for a number of reasons. Despite some noted efforts, vulnerable group definition and assessment is still limited as the criteria of vulnerability varies in different systems, only covers certain parts of the country, and can change substantially over time.

2.3 Food Security Conceptual Framework

The Food Insecurity and Vulnerability Information and Mapping System (FIVIMS) Secretariat at the FAO developed a food security conceptual framework for the specific purpose of developing and operating comprehensive national food security information systems (Figure 2). The FIVIMS conceptual framework reflects the multi-sectoral nature of food security and explains the interplay between three important factors in determining food security: the overall socio-economic, political and natural environment; the performance of the food economy; and household-level factors. It helps provide a common understanding of possible causes and solutions of low consumption and poor nutritional status. This framework makes it easy to understand the multi-disciplinary and cross-sectoral nature of food security, and to identify the wide range and scope of food security information that could be included in a comprehensive food security information system.

This framework clearly illustrates food security conditions and determinates at the different levels of society: the national, sub-national and community levels, the household level, and the individual level. It is consistent with the definition of food security used by the RGC and helps explain the linkages between the four major conditions discussed above (food availability, access, stability, and use and utilisation), as well as with other important food security factors. It provides further insight into the wide range, diversity and types of information that could be included in a comprehensive food security information system.

2.4 Food Security Information
Fundamental to a food security information scoping exercise is having a clear understanding of exactly what is, what is not and what could be considered potentially important food security information. Using the conceptual framework, and work undertaken by the FIVIMS, it is easy to grasp the wide range of potential indicators that could be included in a food security information system (Figure 3).

FIGURE 3: FOOD SECURITY INDICATORS

<table>
<thead>
<tr>
<th>Demographic Conditions</th>
<th>Environmental Conditions</th>
<th>Risks, Hazards, Shocks</th>
<th>Political Conditions</th>
<th>Socio-Cultural Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Fertility rate</td>
<td>• Arable land per person</td>
<td>• National monthly rainfall index</td>
<td>• Number of conflict-related emergencies</td>
<td></td>
</tr>
<tr>
<td>• Population in different age groups (%)</td>
<td>• Average annual rate of deforestation</td>
<td>• Land use change</td>
<td>• Adult literacy/literacy rate</td>
<td></td>
</tr>
<tr>
<td>• Population growth rate</td>
<td>• Carbon dioxide emissions per person</td>
<td>• Population affected by droughts &amp; natural disasters</td>
<td>• Female literacy rate</td>
<td></td>
</tr>
<tr>
<td>• Multinational population share</td>
<td>• Carrying capacity of land</td>
<td>• Land with erosion risk (%)</td>
<td>• Net enrolment of girls in primary school</td>
<td></td>
</tr>
</tbody>
</table>

Economic Conditions
- Changes in cereal production
- Dropped area as a percent of total area
- Employment of population of working age (%) (percentage)
- Export price movements for wheat, maize, rice

Growth in cereal yields
Growth in GDP
Growth in GNP per person
Growth in staple food yields, by commodity
Informal sector employment as a percent of total employment

Ratio of five major grain exporters’ supplies to requirements
Share of agriculture in GDP
Volume of production, food use, trade and stock changes for major food commodities
Wages by economic activity (real wages per year)

Yields per hectare of major cereals
Road density (kilometres per road per unit area)
Share of national income by percent of population

Health and Sanitation
- Contraceptive prevalence rate (%)
- Estimated HIV adult prevalence rate (%)
- HIV prevalence in pregnant women under 25 years of age (%)

One year old children immunized against measles (percentage)
Population with access to adequate sanitation (%)
Population with access to primary health care services (%)
Population with access to safe water (%)

Food Consumption Status
Average per person dietary energy supply (DES)
Cereals, roots and tubers as percent of DES
Percentage of population undernourished

Average per person dietary energy supply (DES)
Cereals, roots and tubers as percent of DES
Percentage of population undernourished

Environmental Conditions
- Arable land per person
- Average annual rate of deforestation
- Carbon dioxide emissions per person
- Carrying capacity of land
- Existence of an environmental strategy
- Intensity of renewable water use Energy use in ag
- Forest, as a percentage of total land
- GDP per unit of energy use
- Land area protected as a percent of arable land
- Mangrove areas
- Change in forest land in the past ten years (%)
- Severely degraded land as a percent of total area
- Tree density outside forests
- Total human induced soil degradation
- Urban air pollution

Food Availability
- Animal protein supply per person
- Cereals supply per person
- Dietary fat supply per person
- Dietary protein supply per person
- Food production index

Household Characteristics
- Average household income (urban only)
- Average household size
- Number of persons per room, or average floor area per person
- Rate of dependents to wages-earners in average households

Health Status
- Life expectancy at birth
- Maternal mortality rate (%)
- Under-5 mortality rate (%)
- Infant mortality rate (%)
- Prevalence of anemia and cholera
- Prevalence of acute respiratory infections
- Prevalence of diphtheria
- Prevalence of HIV/AIDS
- Prevalence of malaria and TB

Risks, Hazards, Shocks
- National monthly rainfall index
- Number of emergencies
- Land use change
- Population affected by droughts & natural disasters
- Land with erosion risk (%)
- Rate of deforestation

Political Conditions
- Number of conflict-related emergencies

Socio-Cultural Conditions
- Adult literacy/literacy rate
- Female literacy rate
- Net enrolment of girls in primary school
- Literacy rate of 15-24 year-olds
- Net primary enrolment or attendance rate (%)
- Population with access to primary health care (%)
- Pupils starting grade 1 who reach grade 5

Stability of Food Supplies and Access
- Cereal import dependency ratio
- Frequency of published or broadcast market information
- Index of variability of food production
- Months of cereal self-provisioning capacity
- Variability of food prices

Care and Feeding Practices
- Number of meals eaten in a day
- Babies attended by skilled health personnel (%)
- Children under 15 in the labour force (%)
- Weaning age

NUTRITIONAL STATUS
- Adults with body mass index (BMI) <18.5 (%)
- Children under 0-3 months exclusively breastfed
- Children under 5 that are underweight (%)
- Children under 5 that are stunted (%)
- Children under 5 that are wasted (%)
- Children under 5 affected by night blindness (%)
- Households consuming iodized salt (%)
- Neonates with low birth weight (%)

Health and Sanitation
- One year old children immunized against measles (percentage)
- Population with access to adequate sanitation (%)
- Population with access to primary health care services (%)
- Population with access to safe water (%)

From a realistic viewpoint, however, not all of the identified indicators are required to understand food security within a country. Nor is it necessary that the list is fully comprehensive. The above long list of indicators simply aims to show the multiplicity of data and information that could be included in a national food security information system. As suggested by the FIVIMS secretariat, the long list of indicators is really just a starting point, providing a guide to identifying important underlying factors that shape the food security context of a country. The FIVIMS Tools and Tips kit recommends that each country review the relevance of each indicator to their particular setting to develop a country-specific list of relevant indicators (usually much shorter). Most importantly, the country’s list of relevant indicators has to be established with reference to its related development policy frameworks and based on the availability of supporting data.

The SFFSN 2008-2012 was developed with the aims of serving as a holistic cross-cutting reference for formulation and review of sector strategies and to guide the design and planning of programmes and projects for improved food security and nutrition in Cambodia. The SFFSN includes a section on monitoring and evaluation (M&E) with key indicators for the SFFSN goal and its five objectives. Those indicators were reviewed using three criteria: data availability, usefulness of the indicator in food policy decision making, and usefulness of the indicator to inform the quick response to a potential food crisis. Some of their significant findings are as follows:

First, the indicators are closely linked to the CMDG Report and the NSDP 2006-2010. Thirty six percent of SFFSN indicators are linked to the CMDG Report and forty eight percent to the NSDP. Both of these data sources are published by the Ministry of Planning (MoP). MoP is the Co-Chair of the TWG-FSN.

Second, the SFFSN indicators are focused as opposed to comprehensive. While the SFFSN intends to be a ‘holistic cross cutting reference’, its M&E indicators are focused on the frameworks goal and five objectives.

12 ADB Grant 0116 - CAM Emergency Food Assistance Project - MIDTERM REPORT (2010)
As a result, indicators do not holistically or comprehensively cover national food security and nutrition. For example, indicators for food availability focus on individual food production as opposed to providing information on all food sources. Indicators in the SFFSN M&E framework give an incomplete picture of the national food security and nutrition situation.

Third, current data availability for indicators in the SFFSN is limited and not timely. Review of data availability for indicators in the SFFSN shows that much of the data is not available. Available data is at least two years old. The indicators rely on specific surveys that feed into NSDP and CMDG processes as opposed to more timely data sources (i.e. CAMIS, NHIS and the Commune Database).

The current scoping study also found out that there is a general agreement that the current indicators are more than adequate. Availability of data to support these indicators, however, remains a major constraint.

2.5 Food Security in Cambodia: Implications on Food Security Information

Most poor and food-insecure households in Cambodia are rural smallholder farming households. Their livelihoods typically depend very much on a combination of activities including crop cultivation, keeping livestock, and harvesting common forests and fisheries for food. They also seek off-farm jobs to generate cash income to buy foods they cannot produce and to meet other basic needs. While these activities are critically important sources of food and income, rural Cambodians typically confront low productivity and high risks in their own efforts in food production and harvesting forests and fisheries\(^{13}\).

Results of the Cambodian Socio-Economic Survey (CSES) conducted in 2004 show that 30 percent of the poor’s income is sourced from crop cultivation against 10 percent for livestock rearing and 25 percent for common property resources, such as forestry and fisheries. The remaining income is sourced from non-agricultural activities, wage employment, remittances and transfers. Among wealthier households, the dependence on agriculture declines and the significance of non-agricultural activities and wage employment increases. Some of the common income-sourcing activities are as follow\(^{14}\):

**Own production**: Faced with few employment prospects and low agricultural productivity, poor rural households in Cambodia practice subsistence agriculture. The households own production consists of rice sold, buffalos, vegetables and fruits from the gardens, pigs produced on the farm and chickens. For better off and middle households, most of the income in this category comes from the sale of rice, pigs, chickens/ducks, some fruits and few vegetables in a typical year. Excess vegetables can be sold for a period of two months in a year. In a bad year, only the better off are able to sell some rice while the middle and poor households consume all the harvest and store the rest for seed (OXFAM, 2007).

**Temporally employment/casual labour**: This is a major source of income for poor households. Usually these households will provide labour to the better off households during rice production and are paid in cash. On average, a household will have 1-2 persons engaged in temporary labour (CIPS, 2004). The middle and poor households may access labour opportunities in nearby large towns, primarily in construction and textile industries.

**Permanent employment**: Permanent jobs in the commune are mainly to be found in government departments, security forces, teaching and administration. These positions are largely the domain of better off, and better educated households and, to a lesser extent, the middle group.

**Petty trade**: Households from the better off quintile usually have small shops. The middle group and some poor households often engage in petty trading. Middlemen sell goods at wholesale prices to some households who operate small shops within their homes.

**Remittance**: A small (but growing) percentage of households received support from their children who are employed in factories and construction jobs in towns and provincial centres.

\(^{13}\) Strategic Framework for Food Security and Nutrition in Cambodia 2008-2012.

\(^{14}\) [http://foodsecurityatlas.org/khm/country/access/livelihoods](http://foodsecurityatlas.org/khm/country/access/livelihoods) (as of December 2010).
3. The Need for Food Security Information: Demand Analysis

The previous section provided insights into the important roles of food security information and analysis. Understanding the range of uses and users (the demand) can provide valuable guidance in developing and strengthening food security information systems in Cambodia. This section discusses some of the main uses of food security information, how the information is used for different purposes and who the users are. This is essential to ensure that food security information systems and products are demand-driven. Only if information systems can respond to the expressed needs of the users on a continuous and reliable basis can they be effective, efficient and sustainable over time (Isaacson, 2008).

3.1 Different Uses of Food Security Information

There is a wide range of uses for food security information. The most common and most important include (1) for early warning purposes, (2) to inform and guide response efforts when an emergency occurs, (3) for longer term planning and programming, (4) for monitoring and evaluation, and (5) for vulnerability assessments (Isaacson, 2008). A brief description of how food security information is used for these purposes is provided below.

**Early warning** is amongst the most common and well-understood uses of food security information. This is extremely important in a country like Cambodia, which is increasingly becoming prone to climate variations with frequent droughts, floods and other climate events that threaten food security in the country. Data from the International Disaster database show that over the past two decades, the most serious damages from natural disasters in Cambodia have been flood and drought\(^\text{15}\). Heavy storms and flooding in the second half of October 2010 affected 33,000 households, temporarily displacing 6,300 families and creating food shortage for more than 18,000 households\(^\text{16}\).

In bad years, early warning systems have a crucial role to play by informing governments, donors, the humanitarian community, farmers and the general public of likely outcomes in specific locations on a timely and regular basis as events unfold. In good years, early warning systems provide advance information on where surplus production may be expected to allow traders and millers to take advantage of both local market and export opportunities.

Early warning information typically includes analysis and reporting of data and information on climate and climate forecasts, agro-meteorological conditions, input availability and prices, land preparation, the area under production, problems caused by insect pest and diseases, crop production forecasts, livestock conditions, market and trade including quantities, prices, imports and exports. Some early warning systems have integrated nutritional data and information into their analysis and reporting. More developed early warning systems also report on the human side of food security, people’s livelihoods, vulnerabilities and coping capacities. Early warning units typically play the crucial role of pulling together available information from the many corners of food security information systems. The more far-reaching, integrated and holistic the system is, the more effective the early warning will be.

In Cambodia, a system of this kind was recently established as part of the Cambodia Food Security and Nutrition Monitoring System under the oversight of CARD. Other key national partner ministries/agencies and external development partners which contribute to the system include the MAFF, the Ministry of Water Resources and Meteorology (MoWRAM), the MoP, the Ministry of Health (MoH), the National Center for Disaster Management (NCDM), and a number of external development partners such as UNICEF, ADB, WFP, EC and FAO. It shares relevant information in the form of the *Early Warning Bulletin*, which is released on a quarterly basis and aims to provide decision makers with a rapid overview of trends and emerging threats relating to food and nutrition security in the country (See Annex 2 for a sample *Early Warning Bulletin*).

Other early warning systems specifically related to food security in Cambodia are currently operated by MoWRAM. The Department of Hydrology and River Works supplies top-down warnings on flood levels.

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\(^{15}\) ADB Grant 0116 – CAM Emergency Food Assistance Project – INCEPTION REPORT (2009)
\(^{16}\) Early Warning Bulletin Issue No. 0-03 Nov 2010
Following on from earlier initiatives in Takeo and Kampong Cham provinces, however, the Mekong River Commission (MRC) with the Asian Disaster Preparedness Center (ADPC) have been piloting a community level EWS, and in Kandal province the use of mobile phones by villagers to send SMS messages twice daily to the MRC with data on water levels that it then collates and uses to make flood forecasts. The Department of Meteorology in MoWRAM uses rainfall and temperature data from their weather stations to provide drought warnings.

On 9 December 2010, CARD, in collaboration with the ADB under the framework of Emergency Food Assistance Project (EFAP), organised a Dissemination Workshop on "Early Warning and Monitoring Reports for Food Security and Nutrition" with the main objectives to: (i) share and discuss the findings of the preliminary report Early Warning Bulletin and Annual Monitoring of the SFFSN, (ii) identify capacity gaps in monitoring and evaluation and EW for FSN, and (iii) identify mechanisms for effective collaboration of agencies involved in FSN.

**Informing Emergency Response:** Food security information systems play a crucial role in emergency situations by informing and guiding responses. Early Warning information identifies which parts of a country have been affected by which kind of shock, the severity, the scope and the implications. This typically signals the need for a more detailed assessment to better understand the impact of the event on peoples’ livelihoods and how people are coping. This helps to identify exactly where and when assistance may be required, how many people have been affected and to what degree, and guides the nature and scope of the response.

Of growing importance is understanding not only the food situation in areas that may require assistance, but also other vulnerability factors that may need to be addressed in the response. This requires a much broader analysis that typically includes the impact of factors such as nutrition and health, particularly HIV/AIDS, in precipitating the emergency, and how this should influence the response. This helps determine both food and non-food aid responses that may be required. If local markets are functioning well, and food is readily available, cash transfers may be more appropriate than direct food aid transfers. Market information has an important role to play in determining the appropriate response.

**Long-Term Planning:** Effective planning and policy making requires accurate information. Strategic planning and policy making efforts to guide development programmes, projects and activities to improve food security in the long run depend on quality information during the formulation exercise. The range of food security information contributes to creating an understanding of people and their context, thus leading to better identification of solutions to the problems. This can greatly enhance the likelihood of developing appropriate and effective policies, strategies and plans.

**Monitoring and Evaluation (M&E):** M&E are usually an integral part of the implementation of development programmes and projects. Their roles are to ensure that work is being done correctly and meeting the set objectives and plans, and that results are having the desired impact. Both short and long-term efforts to alleviate food insecurity must be regularly monitored and evaluated to ensure that targets are being met and progress is being made according to objectives and plans.

**Vulnerability Assessment:** All communities are vulnerable to hazards and it is therefore important that a starting point is established to reduce vulnerability. Vulnerability assessment and analysis can provide a guide for developing mitigation strategies and prioritizing mitigation projects for immediate and longer-term food security initiatives. In this manner, vulnerability assessments contribute to all of the above uses of food security information. The degree of vulnerability of people to certain events usually depends on their capacity to cope with the events. For example, short-term threats to food security include natural disasters such as drought and flood, pest outbreak, or a sudden price hike of foods, while a long-term threat would be HIV/AIDS. When people are unable to cope effectively, the result or outcome may be food insecurity. Using a livelihoods approach to vulnerability assessment can help explain its context such as household livelihood strategies, assets and activities. This in turn helps identify unsustainable coping strategies, such as selling off household assets to purchase essential food staples, that could signal the need for certain types of interventions over both the short and long-term.

To be effective, vulnerability assessments must provide information that distinguishes between chronic and transitory food insecurity. It must describe which groups are vulnerable to what and guide the choice of interventions. Information must reach users at different levels, according to their requirements.
3.2 How is Food Security Information Used for Different Purposes?

The discussion above highlights the varied uses of food security information. Despite the wide range of uses, in most cases it is the very same data and information that is required for different purposes. Information that is gathered and reported by early warning systems is also required, and can effectively be used for many other purposes. What is important is how the information is to be used, as this will in turn determine how the information is analysed.

Food security data and information can be used for different purposes or functions depending on how it is analysed and the different timeframe used for analysis (Isaacson, 2008). Take for example market price information; such data can be analysed in the short-term (7-10 days) for purposes of "market transparency". Early warning analysis would look at month-to-month variations to look for unusual price movements that could immediately affect people’s access to food. To monitor household food security, market data over a period of several months provides insight into changes in purchasing power. For purposes of policy formulation, price movements over the course of a year or longer can help guide decisions on pricing policies or subsidies.

While "food security information" may in many ways be generic by nature, it is important to understand that the very same data can be used for a range of purposes by looking at different timeframes and employing different analytical methods and tools. It is therefore very important to be perfectly clear about who the users are, what they need, and how they will use the information and analysis.

3.3 Users of Food Security Information

Because of the broad range of uses, the users and potential users of food security information are many. They include decision-makers and practitioners across government line agencies, international development agencies, academic institutions and NGOs involved in planning, implementing and evaluating policies, and development programmes and projects including emergency response. Ultimately, even farmers themselves are important users of food security information to be used for their decision-making on livelihood strategies and activities. Each of these users has their own particular requirements that need to be met. These vary by the type of information required, the kind of analysis, the timing and how it can best be communicated.

In emergencies, timing is a critical issue for those who must plan and implement the response. For slow onset emergencies, such as a drought or pest infestation, they require fairly frequent and up-to-date information, such as 10-day and monthly rainfall reports, crop condition and market updates and other types of early warning information. A good early warning system should be able to spot emerging problems some months in advance. Once a potential emergency is confirmed they will require field level assessments to help develop response plans. For rapid onset emergencies, such as severe flash flooding, early warnings may be limited. Response planning generally requires rapid deployment of an assessment team to affected areas. In both cases, having baseline information on food security, livelihoods and vulnerability assessments in advance will greatly facilitate the planner’s job and the ultimate response.

For longer-term development, users do not necessarily need frequent reports on changing conditions. Annual production figures and trends may be more important than month-by-month accounts of rainfall levels and crop condition as the season progresses. Indicators of chronic malnutrition, such as stunting, may be more relevant than short-term indicators for planning policies and development programmes.

The top-level decision makers of the government and donor agencies, and other senior officials, require very different kinds of information compared to technicians, planners and project managers who work for them. They generally require fewer details and are more interested in well-prepared briefs rather than detailed technical reports. It is important that food security information products are appropriately designed and produced according the demands of different users.

In many cases it is the demand side that influences the state of the supply side. This suggests that without an effective demand from the users of food security information, systems that supply the information cannot be expected to develop and thrive. In Cambodia, such a linkage between the supply side and demand side has been

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reported to be weak. Poor quality of information products produced by the supply side and limited understanding on importance of the role of information on the user side remain key constraints. In general, production of data and information are not demand-driven.

4. Meeting the Demand: Supply Side Analysis

The discussion above looked at the demand for food security information. It is this demand that must drive the supply of food security information. This is essential to build and maintain effective and sustainable food security information systems.

4.1 Assessing the State of Food Security Information Systems in Cambodia

This section provides a supply side analysis of food security information in Cambodia. It examines different information systems operated by different institutions that piece together to form the puzzle of food security information. It provides a summary of the systems in terms of their main features and analyses. Detailed information about each of the datasets and information systems is presented in Annex 3.

There are many systems and datasets related to FSN information in Cambodia operated by different government and non-governmental agencies. However, it is generally noted that those FSN information systems often fall short of meeting the range and timing of food security information requirements. Most existing systems are not demand driven and often work in isolation from one another. In some cases, potential users are unaware of, or may not have easy access to, available information and analysis. Information that is available is not always meaningfully analysed and is often presented in a way that makes it difficult for non-experts to extract and understand key messages that could inform decision-making processes. There are very few effective food security information products and none that provide a holistic or integrated analysis of food security conditions, prospects or issues in either the development or emergency context.

The Midterm Report (2010) jointly prepared by the Agrifood Food Consulting International Inc., and the NIRAS A/S for the ADB provides a comprehensive analysis of the existing food security and nutrition information systems in Cambodia. It describes the most widely used, important, and relevant food security and food emergency related information systems and datasets (Annex 3, Table 1) together with an assessment of those systems and datasets in terms of their usefulness and timeliness in response to policy decision-making and quick response to potential food crisis (Annex 3, Table 2). The most useful data sets include the following:

- Natural Resource and Environment (NRE) Data Tool Box
- Cambodia Socio-Economic Survey (CSES)
- The Cambodia Anthropometric Survey 2008 (CAS)
- National Health Information System (NHIS)
- Identification of Poor Households Programme (ID-Poor)
- Commune Database (CDB)
- 2008 National Census

The information systems specifically related to food security early warning and emergency response currently operating in Cambodia are:

- The MOWRAM flood warning system which monitors river levels at 7 measuring stations and 14 villages.
- MOH Communicable Disease Control department (CDC) surveillance and rapid response system for diseases.
- The weekly rice crop report from the MAFF which monitors the current rice harvest and includes data on production affected and lost due to the effects of flooding, drought and pests.
- The CAMIS which monitors market prices for agricultural commodities.

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18 FAO-EC Project “Linking Information and Decision-Making to Improve Food Security – Term of Reference for Food Security and Nutrition Information Scoping Study.”
The ADB report concluded that existing food security and nutrition monitoring systems in Cambodia are uncoordinated and segmented. A large number of organizations collect relevant data but it is not consolidated nor used in coordinated national level strategic or policy decisions. Many of the datasets, websites and other sources of information relating to food security in Cambodia are fairly static. This means they are updated on an ad hoc basis as data becomes available (either through specific surveys or from other partner information systems). This limits regular and systematic monitoring. Weak coordination mechanisms amongst national and international stakeholders for data and information sharing is one of many challenges facing the existing systems. For example, the FIVIMS faced challenges in setting up a workable mechanism to coordinate and update the datasets with partners. This resulted in a system with data that is largely out of date.

Sokha and Kauffman (2009) identified several key challenges to FSN information system in Cambodia, including (i) a lack of understanding of FSN (dimension of FSN, linkage between chronic food insecurity, transitory food insecurity, crisis/emergency); (ii) complex and fragmented responsibilities with regard to FSN and response to food crisis; and (iii) low analytical capacity for FSN (with regard to data analysis and use for development of appropriate strategies and actions). Their recommendations to improve the state of food security and nutrition information systems include:

i. Intensify overall coordination of food security and nutrition and vulnerability related information management through TWG-FSN and other relevant TWGs;

ii. Coordinate/cooperate with primary data collectors (NIS, MAFF, MoH, etc.) to better match data users needs and to fill in existing information gaps;

iii. Develop local capacities to better understand FSN-related information, data analysis, and use of information for actions; and

iv. Design new initiatives with regard to FSN data collection, analysis and dissemination in order to add value and to complement existing systems and tools.

Furthermore, the existing systems have been characterized as being highly supply driven and do not consider or strive to meet user requirements. As a result, they are less effective in dealing with emergency situation. When Ketsana hit Cambodia, existing information systems added little if any value to response efforts.

One of the most significant efforts made by the RGC to improve food security information in Cambodia was the recent establishment of the FSN-IMTF. This is regarded as a good starting point for strengthening of FSN information systems through the design of initiatives and provision of support for the enforcement of its various defined functions. The Task Force is charged with establishing a list of core indicators for FSN monitoring; enhancing active cooperation among the members in order to better match data user needs and to fill existing information gaps; coordinating the development of capacities for a better conceptual understanding of the FSN situation in Cambodia; promoting the use of information to monitor the FSN situation in Cambodia and ensure that new initiatives relating to FSN data management are designed to add value and complement existing systems and tools. The ToR of the Task Force and Analysis Team are presented in Annexes 4 and 5, respectively.

The creation of the Task Force is an important step to harmonize existing information systems and an important forum for the discussion of the need for, and nature of, any new emergency response systems. The functioning of this Task Force, however, appears to be constrained by limited analytical capacity of the interdisciplinary FSN data analysis team coming from concerned agencies as well as several other constraints that may put the sustainability of the Task Force at risk.

19 Sokha – Deputy Director for FSN Health Department, CARD and Peter Kaufmann, Advisor on FSN and SSN in CARD, both discussed a topic on “Food Security and Nutrition Information Management in Cambodia at the FAO/MAFF inception workshop on “Linking information and decision making to improve food security in selected countries of the greater Mekong sub-region”, 2 December 2009

20 Typhoon Ketsana hit Cambodia on 29-30 September 2009 causing incredible damage and loss, affecting some 50,000 families, leaving 43 people dead and 67 severely injured. Total damage and loss was valued at USD132 Million.

21 Isaacson (2009) Back-to-Office Report for the visit to Cambodia to support the implementation of project GCP/RAS/247/EC and to participate in and facilitate the inception and working planning workshop.

22 In addition to the task force and interdisciplinary FSN data analysis team, composed of experts from NIS/MoP, MoP, MAFF, HIS/MoH, CARD, is established in National Institute of Statistics (NIS), Ministry of Planning, to regular compile and analyze data
4.2 Food Security Information Systems Landscape

Figure 4 presents the food security information landscape in Cambodia developed by CARD. It depicts several key government owned information systems in Cambodia, ongoing project support, and types of information and data produced by each institution in collaboration with donor agencies. The FSN analysis team, composed of representatives from these government agencies, plays an important role in data analysis and presentation to be submitted to the CARD-based FSNIS for dissemination. This should be considered a useful coordinating tool among stakeholders involved in food security information.

![FIGURE 4: FOOD SECURITY INFORMATION LANDSCAPE IN CAMBODIA](image)

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<tr>
<th>FMPP (FAO)</th>
<th>TWG FSN (CARD / MoP / WFP)</th>
<th>FSN Information Task force</th>
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<td>MDG-F (UN)</td>
<td>FSNIS foodsecurity.gov.kh (dissemination platform)</td>
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<td>VAM (WFP)</td>
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<td>EFAP (ADB)</td>
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5. Building Better Food Security Information Systems

5.1 Existing Efforts and Plans to Strengthen Information Food Security Information

The Sector Strategy for Agriculture and Water (SAW) was developed with the aim of providing a strategic framework to guide the work of the two main ministries concerned, the MAFF and the MOWRAM. Both ministries play an important role in assuring food security at the national, local and household levels, particularly for food production and availability, access and stability of supply. The SAW is comprised of five strategic programmes, one of which is the Food Security Support Programme (FSSP). The goal of the FSSP is to achieve improved access to food for the poor and food insecure through increased capacity for food and agricultural production, income earning and mutual safety nets. One of the two components of the FSSP aims to enhance the institutional and policy environment for food security and nutrition and improve the information base through (i) strengthened coordination for mainstreaming FSN among key stakeholders at national and sub-

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23 These are (i) policies and institution, (ii) FSSP, (iii) agriculture and agro-business development, (iv) water and land resources, and (v) agricultural extension, research and education.
national levels; (ii) improved capacity of commune councils and farmer communities in integrating FSN in their
development activities; and (iii) enhanced coordination in information and data systems, including improved
information quality and use.

The RGC, with assistance from the ADB, is working to strengthen the capacity of food response systems to food
crisis and improving the food security capacity of the NCDM, which is responsible for emergency coordination.
The project aims to improve the capacity of NCDM in the area of data management, analysis and use of
information in response to a disaster focusing on the following areas:

- Establish base data using existing sources of information such as the 2008 census.
- Identify poor database, commune database and maps. Improve the data management skills of the
  NCDM staff to manipulate these data in response to various disaster scenarios.
- Maintain a set of early warning indicators for various disaster scenarios and ensure that these indicators
  are understood and available at the lower levels (PCDM, DCDM etc) and to NGOs.
- Maintain an electronic library of disaster management and related material at NCDM, PCDM and
  possibly over the Internet.
- Identify what data is available from each line agency, its scope, accuracy and availability.
- Identify gaps in available information and work with the various agencies to fill these gaps.
- Improve the IT infrastructure at NCDM and PCDM.
- Establish and maintain effective communication networks and links from NCDM down to CCDM level for
  routine data sharing, dissemination of information and for coordination of emergency response teams.

Another important initiative is the development of the Integrated Food Security Phase Classification (IPC). It
aims to provide global standards and protocols for food security analysis and classification using a food security
severity scale. The IPC is being promoted and supported globally by a partnership of UN agencies, international
NGOs and donor agencies active in food security analysis and action. A national Introduction and Awareness-
Raising Meeting on the IPC was jointly organized by CARD, WFP, OXFAM (GB), CARE International in Cambodia
and the EC-FAO Food Security Programme on Linking Information and Action to Improve Food Security on 10
November 2010.

Other initiatives undertaken by various concerned stakeholders that aim to improve FSN related data collection,
analysis, presentation and dissemination include:

- In 2007 a national workshop on the need for a nutritional surveillance system for Cambodia organized
  by CARD recommended to focus first on promoting the harmonization, analysis and use of existing data
  sources (national survey from NIS and administrative statistics) with regard to FSN.
- In 2007 FAO/EC "Food Security Information for Action" supported NIS to analyze food consumption
  based on CSES 2004 data and capacities for crop yield forecasting as well as the production of FSN
  information products.
- In 2007 WFP, in cooperation with CARD, developed a web based "Food Security Atlas" for Cambodia
  which was updated in 2008 and a prototype "Integrated Food Security Phase Classification" (IPC) map
  for Cambodia.
- In mid-2008, CDRI, in cooperation with WFP, carried out a survey on the impact of high food prices in
  Cambodia.
- In November 2008, with support from UNICEF, NIS carried out the Cambodia Anthropometric Survey
  (CAS) to follow up on the impact of rising food prices on nutrition and the health status of children and
  mothers. Capacities for nutrition data collection and analysis in NIS were built up.
- In 2006, MoP developed a database on poor households, currently covering more than 7000 villages.
- Recently a new phase of the FAO/EC project was launched focusing on market information analysis,
  agricultural disaster preparedness/climate change analysis and chronic food insecurity and vulnerability
  assessment.
• A new project for Cambodia (MDG-Fund), jointly implemented by four UN Agencies and relevant line ministries under the coordination of CARD, intends to establish an integrated food security and nutrition monitoring system based on existing information systems and surveys.

5.2 Recommendations to Strengthen Food Security Information

The current scoping exercise was undertaken to help identify remaining gaps and strategic opportunities to further strengthen food security information in Cambodia. Building on the government's policies, and based on 
(i) the understanding of food security and relevant food security information developed in previous sections, 
(ii) the demand and supply analyses of information systems in Cambodia, and 
(iii) ongoing plans and initiatives by the government and stakeholders to strengthen food security information systems, the following recommendations are proposed to enhance food security information systems in Cambodia.

5.2.1 Institutional Mechanism Strengthening

Recommendation 1.1: Strengthen the FSN Information Management Task Force. It is important that further concrete efforts be made to realise the overall objective of this task force. This could be achieved by enforcing its functions which are well defined to address several core issues such as matching data with users needs (quality, frequency, etc.); developing a better conceptual understanding of FSN; improving coordination on data analysis, use, presentation and dissemination; and promoting the use of existing databases and information to monitor the FSN situation in the country (see Annex 4).

Financial and technical support from concerned stakeholders, particularly the external development partners, must be adequately mobilised to support the task force. The current scoping study noted that it is not the lack of mechanisms that constrain the development of the FSN information system in Cambodia, but rather the incentive to motivate the people that are directly involved in making the mechanism function. This is a common social reality that could be solved through the adoption of practical solutions. While the government should do more to ensure ownership of the information systems, donor communities should fill in the financial gaps for those working to ensure the development and success of the systems.

5.2.2 Food Security Information Exchange

Recommendation 2.1: Strengthen the National Food Security Forum. The forum has been active since 2003 and provides information on a monthly basis. It is an important mechanism for potential information suppliers and users to meet, interact and share various developments in the food security sector. Regular meetings could lead to an increased appreciation for their engagements, thereby increasing the likelihood of better coordination, data and information sharing and demand driven information systems. Efforts must be made to regularly post all the minutes on the FSNIS website to keep all stakeholders abreast with the ongoing events.

While resources and ownership from the government side remains limited, key external development partners, such as WFP and FAO, should take a more proactive role in sustaining this national forum. FAO, as the co-facilitator of the forum, should maintain regular participation by having its highest-level officer facilitate the forum.

Recommendation 2.2: Upgrade FSNIS to be a Search Engine for Food Security and Nutrition Information. FSNIS has been well recognised as the only web-based dissemination platform where users can find official FSN-related data, information and knowledge. Therefore, it should be upgraded to be a search engine and repository for diversified useful technical FSN-related information that meet the users’ needs on a timely basis.

Currently, information uploaded to FSNIS is more of news events, teaching on the general concepts on FSN and disseminating FSN-related statistics rather than practical technical knowledge and information. Specific technical content, such as best practices, lessons learned and innovative measures relating to FSN, have been reported to be lacking despite being the demand by development practitioners who want to...
learn how to successfully carry out their FSN-related activities. Additional efforts and activities should be planned and carried out to collect those valuable pieces of information from numerous actors.

To effectively maintain its status of being the only national source of FSN-related information meeting the needs of a wide range of users, FSNIS operators must do all they can to enrich the contents of the website. Realising this depends very much on the willingness of concerned stakeholders who are the real content contributors to the FSNIS. This could be achieved through the implementation of the Recommendation 1.1 above. Moreover, it is important that recommendations made by Dominik Bulla\(^\text{24}\) in 2007 be revisited and where possible further concrete actions be taken to implement the relevant recommendations.

**Recommendation 2.3: Ensure sustainability of the Food Security and Nutrition Monitoring System: The Early Warning Bulletin.** Commitment and support must be sustained to strengthen the functioning of this system. The Bulletin, released on a quarterly basis, should be considered a very important step towards creating a viable environment for food security information analysis, management, dissemination, and use in Cambodia. It represents a coordinated and consistent effort to assemble the bits and pieces of food security information from concerned national agencies and development partners to form a comprehensive, meaningful, and consolidated dissemination platform for food security information in Cambodia. It must be maintained as a reliable platform to communicate food security-related messages to a wide range of stakeholders in order to build trust among the users that it really is a useful aide to their informed decision-making.

Its usefulness and timeliness could contribute to building confidence, appreciation and a common understanding of food security information among decision makers. This should have positive implications for coordination and sharing of data and information. The more useful the Bulletin is perceived to be by decision-makers, the more likely they will overcome the hierarchical decision-making process in Cambodia on various politically sensitive issues such as food security.

**Recommendation 2.4: Use the Media:** Communicating successfully about an issue means learning how to send different messages through different channels to reach different audiences. Mass media is one of the most powerful means for information dissemination and various awareness-raising or promotional activities to influence change in attitude and behaviour among the public, as well as to mobilise collective efforts and resources for a common purpose. Effective use of the media will help ensure that useful information reaches all stakeholders in all sectors and parts of the country, from the average citizen to the most senior government officials. Use of the media to inform the public on food security issues and concerns will help ensure that appropriate and timely action is taken.

**Recommendation 2.5: Effective communication and reporting of food security information.** Effective communication is essential, whether it is verbal communication or written communication. All information producers report their information in one way or another. Writing an effective report, bulletin or brief is a skill that needs to be developed. To enhance basic report writing skills, training of food security information reporting is required for all key institutions that prepare food security-related reports. Capacity building programme on this particular area for food security report writers, particularly the FSN data analysis team, deserves special attention.

### 5.3 Data Quality, Harmonisation and Analysis

**Recommendation 3.1: Improve capacity of the FSN analysis team.** The team plays a crucial role in collecting, analysing, interpreting, and managing relevant administrative statistics and data from their respective ministries to help produce an informed, holistic assessment of food security and nutrition in Cambodia. The capacity building programme should be designed to best fit their respective needs, enabling them to effectively do their jobs with improved analytical capacities and data management skills for food security and nutrition. Training needs assessment should be conducted to identify the relevant training needs of the FSN analysis team.

\(^{24}\) Dominik Bulla (2007) Second Examination of the Stakeholders’s Usage of the Web-based Food Security and Nutrition Information System. The main objectives were to update the knowledge on use and impact of the FSNIS.
Recommendation 3.2: Conduct study on cross border trade of rice. Rice production in Cambodia has been increasing over the years. The growth rate of 6.0 percent in 2010 and 4.6 percent in 2011 has been projected in this sub-sector. The net rice surplus in 2010 is estimated at about 3.78 million tons. Despite this large paddy rice surplus, the volume of milled rice export to external marketplace remains incredibly minimal, representing less than one percent of the total export value in 2010. Most paddy rice informally flows out of Cambodia and into neighbouring countries, yet little is known about the volume of this cross-border trade. This is an important information gap with significant implication on food security analysis that should be filled in. Conducting cross-border trade analysis is required and useful for food security related decision-making.

5.4 Using Food Security Information

Recommendation 4.1. Develop FSN communication strategy and plan to promote the use of food security information among stakeholders. A communication strategy will provide a well-planned series of actions aimed at achieving certain objectives through the use of communication methods, techniques and approaches.

In its broadest sense, FSN information is an important resource for all socio-economic development agendas aimed at bringing about changes that would enhance the quality of life of the population, especially the vulnerable. As far as development is concerned, it is the response capacity of individuals to the respond to development challenges and opportunities that matters the most. Their response capacity oftentimes depends on how much knowledge and information they have for making an informed decision. Change agents need to effectively communicate the necessary knowledge and information to the target stakeholders to enable them to make informed decision regarding their participation in the development process. Effective communication and peoples’ participation are crucial factors for the successes of most development agendas.

Being a cross-cutting issue, designing a FSN communication strategy needs to be anchored using an inclusive and participatory approach that involves as many concerned stakeholders as possible. By doing so it will help ensure that the FSN information products are truly catered to the needs of end-users (needs-driven), thereby contributing to the increased likelihood of linking FSN information with decision-making processes at all levels.

Recommendation 4.2. Make products user friendly within the Cambodian context. It is important that food security information products are available in an appealing fashion that fosters readership among a wide range of intended end users, particularly the farmers who have a crucial role to play in ensuring the country’s food security. They should be given opportunities to benefit as much as possible from food security information products. Products must be straightforward and easy to understand. Provisions of related training courses to those involved in information production, such as effective communication and report writing skills and basic visual design and techniques, are deemed worthwhile.
Annex 1: Terms of Reference

National Food Security and Nutrition Information Consultant
25 days (5 weeks, in capital city with three day field visit)

Background
Under the EC-FAO Food Security Programme, project GCP/RAS/247/EC aims to link information and decision-making to improve food security in Cambodia, Lao PDR and Myanmar, by working with national, regional and global partners and information systems. Overall, national information systems in the three project countries often fall short of meeting the range and timing of food security information requirements. Most existing information systems are not demand driven and often work in isolation from one another. In some cases, potential users are unaware of, or may not have easy access to available information and analysis. Information that is available is not always meaningfully analysed and is often presented in a way that makes it difficult for non-experts to extract and understand key messages that could inform decision-making processes. There are very few food security information products, and none provide a holistic or integrated analysis of food security conditions, prospects or issues in either the development or emergency context.

Objectives and Expected Outcomes
In order to link food security and nutrition-related information and decision-making, a good understanding of national information systems and decision-making processes is required in each country. The objective of the proposed consultancy is to identify information requirements, assess current information systems and products that help meet the requirements, and propose measures to guide efforts to fill the gaps, both by the project and by related initiatives. The consultancy will make concrete recommendations to improve the relevance, efficiency and co-ordination of data collection, management and dissemination efforts, in line with the roles and needs of key users. It aims to enhance coordination of different systems in terms of their operation and in the delivery of more relevant and user-friendly information products to their clients, the information users.

Terms of Reference
Under the overall supervision of the Coordinator, Regional Operations Branch (RAPR), the direct technical supervision of the project’s Chief Technical Adviser (who will contribute at least one of week time to this study), the guidance of the FAO Representative, and in close collaboration with the National Project Coordinator (who will contribute at least three of weeks time to this study), the National Focal Point and relevant FAO technical divisions, the National Food Security Information Consultant will undertake the following specific activities.

- Review government food security policies and strategies, integrated national development plans and relevant sectoral policies and strategies that contribute and relate to food security, to (1) assess information requirements given national priorities and plans, and (2) identify and assess policies and plans that relate to information systems.
- On the basis of the above, articulate a country-specific food security conceptual framework that illustrate the multiple dimensions, multi-sectoral and multi-agency nature and scope of food security that will help define the scope of, and requirements for food security information in both emergency and development contexts, and for both chronic and transitory food insecurity.
- Review the demand side perspective by identifying food security and nutrition information requirements, the type of data and information used by different client groups in relation to their decision-making needs through. User groups considered should include, but are not limited to: ministers and parliamentarians, secretary-generals and senior staff of sectoral ministries and cross-sectoral government agencies, UN agencies, NGOs, donors, research and academic community, farmer groups and farmers, traders, millers, and others. Identify how the nature of the demand for different types of information, including assessments of food supply, varies among these client groups.

EXPECTED OUTPUTS
- Review of food security policies, strategies and food security conceptual framework.
- Mapping of national and regional food security information systems.
- Food security information supply and demand side analysis.
- Strengths and weakness of national food security information systems identified.
- Institutional and capacity building needs identified.
- Gaps that can be addressed by the project identified.
- Prioritisation of work plan activities.
• Review of the supply side through a systematic comparative analysis of the individual systems currently operating, including but not limited to: sectoral and multi-sectoral government agencies, national statistics office, UN agencies, NGOs, development projects, private sector, research and academic institutions and others. The analysis should include a review of the type and adequacy of data collected, the sample design, the methods of data management and analysis, responsibilities, current capacity, information products and dissemination strategies, including for national monitoring systems.

• Undertake a field visit to the provincial and district level to conduct a similar assessment as above of food security and nutrition information demand and supply at the sub-national level.

• Undertake field visit to community level to assess food security information and nutrition demand and supply at community and farmer levels.

• Prepare a comprehensive “map” of food security and nutrition information systems in the country that shows who provides what information, spatial and temporal coverage, the flow of the information, the products prepared, the frequency and timing of information flows and other relevant information. Relate this to the food security conceptual framework prepared for the country.

• Prepare a comprehensive “inventory” of food security and nutrition information products, including who prepares what, the content of each product (distinguishing between data reporting and analysis), the frequency and timing of information dissemination, who the product users are and how the products are used.

• Assess the current degree of coordination among institutions and the scope for enhancing coordination and reducing inefficiencies arising from duplication of effort. Propose roles, responsibilities and coordination mechanisms to enhance the efficiency of national food security information systems.

• Recommend enhancements to food security information structures, systems, products and capacity within sectoral and multi-sectoral government structures.

• To turn the above recommendations into action, prepare one page concept notes for technical and institutional improvements for possible support through the project, or by other partners.

• Undertake related activities as requested by the project CTA.

Timing and Deliverables
The consultancy is for 25 days working days, five working weeks. There will be a one week break in the consultancy to allow for technical review of the consultant’s draft report by FAO, on the basis of which the consultant will finalise the report. The expected output is a 20-25 page report with relevant technical annexes. The following key benchmarks are anticipated:

• By Day 3: Submit work plan to complete tasks.
• By Day 8: Submit an annotated outline of report.
• By Day 13: Complete field visits (est. 3 days)
• By Day 16: Submit first draft report.
• By Day 18: Present preliminary findings, conclusions, recommendations to stakeholders.
• By Day 23: Submit second draft report to FAO.
• By Day 25: Submit Final report.

Qualifications
The consultant will possess the following skills, qualifications and experience:

• Significant experience in working with a wide range of different institutions (government and non-government) involved in the collation, flow and use of information for decision-making purposes.
• Significant experience designing and working with food security information systems across government institutions, as well as understanding of how this information can be fed to decision-making processes.
• At least five years experience in designing and managing food security information systems.
• At least five years experience in managing, designing and preparing food security information products.
• Excellent English language capability (written and spoken) and good computer skills.
Annex 2: Cambodia Food Security and Nutrition Monitoring System
Early Warning Bulletin

Cambodia Food Security and Nutrition Monitoring System Quarterly Bulletin

Issue No. 0, August – October 2010

- The overall food security situation in Cambodia deteriorated in the previous quarter (August – October) primarily due to the seasonal increase in the price of rice and heavy flooding in several provinces in October. The period coincided with the traditional lean season.
- In the upcoming quarter, the overall food security situation is expected to improve as the main wet season rice harvest will drive down rice prices and the end of the wet season will mark the end of the drought and flooding season.

Key Highlights of the Food and Nutrition Security Situation and Outlook

Weather, Hazard and Disaster Risk
- While April and May were characterized by significant rainfall deficits, August and October rains were 70 and 55 percent above historical averages, respectively; the cumulative rainfall in 2010 now surpasses the historical average by more than 10 percent.
- Heavy storms and flooding in the second half of October affected 33,000 households, temporarily displacing 6,300 families and creating food shortages for more than 18,000 households; emergency food assistance was found to be mainly required in Kandal, Banteay Meanchey, and Pursat provinces.

Food availability: Crop Production and Food Trade
- The destruction of paddy surfaces due to weather hazards, plant diseases and pests in Cambodia remain well below the levels recorded in 2009.
- The national outlook for rice production is positive. Cambodia is currently projected to increase its production of paddy rice by 4.5 percent in 2010, corresponding to a surplus of 2.3 million MT of milled rice.

Food access: Food Prices and Purchasing Power
- Access to food deteriorated in the previous quarter (August—October) as households entered the traditional lean season and rice prices reached their annual peak. The price of rice is expected to decrease as the main wet season harvest begins in mid-November; this will improve household purchasing power and increase food accessibility.
- The relative price of food, in general, has stabilized at a level significantly higher than that seen prior to the food-price crisis of 2008. Further analysis is recommended to investigate this anomaly and determine its implications on household purchasing power.

Food use and utilization: Health and Nutrition
- The current levels of diarrhea are down from their mid-year peak, but reported cases are expected to increase as the country enters the dry, cool season in January 2011.
- There has been no significant change in the nutritional status of children under five since 2005; continued high levels of malnutrition are a cause for concern. In addition, there is a need to be vigilant during diarrheal outbreaks and to link responses with the nutrition sector as these can rapidly result in elevated malnutrition rates.

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This Early Warning Bulletin aims to provide decision makers a rapid overview of trends and emerging threats relating to food and nutrition security in Cambodia. It represents a collaborative effort between the Council for Agricultural and Rural Development (CARD), the Ministry of Agriculture, Forestry and Fisheries (MAFF), the Ministry of Water Resource and Meteorology (MoWRAM), the Ministry of Planning (MoP), the Ministry of Health (MoH), the National Center for Disaster Management (NCCDM), UNICEF, the World Food Programme, the EC-FAO Food Security Programme, and the Emergency Food Assistance Project of the Asian Development Bank (ADB).

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WEATHER, HAZARD AND DISASTER RISK SUMMARY

Impact of Flood in October 2010

Heavy storms and flooding in the second half of October affected 33,000 households, temporarily displacing 6,300 families and creating food shortages for more than 18,000 households; according to the National Committee for Disaster Management (NCDM) estimates of 29 October, emergency food assistance was mainly required in Kandal, Banteay Meanchey, and Pursat provinces. Banteay Meanchey province accounted for 80 percent of the displaced households and 50 percent of the affected households. Preliminary damage reports point to considerable destruction of private assets and public infrastructure, including over 8,000 ha of paddy, 7,000 ha of subsidiary crops (mainly cassava in Pailin and Banteay Meanchey provinces), 100 family homes (60% of which were in Siem Reap province), and 272 schools and roads. The Cambodian Red Cross, as well as various NGOs, responded by providing emergency assistance to the affected populations, while authorities, including the Ministry of Public Works and Transportation and Ministry of Rural Development, carried out more detailed assessments of damages.

Slow Onset of Rains in 2010 Wet Season

The beginning of the 2010 rainy season (which in Cambodia typically starts the last week of April and continues until mid-November) was significantly delayed: April rainfall was 33.8 percent below the 10-year monthly average and May rainfall was 43.5 percent lower than the historical average. The rainfall picked up in June (2.6 percent higher than the 10-year average) and nearly doubled the historical average for August, with the total by the end of the month (70.0 percent higher than the average). The cumulative rainfall data highlights the significant shortfalls in total rainfall at the beginning of the rainy season. However, with the above average rainfall in August and data from October 2010 showing rainfall was 55 percent higher than the 10-year average, the cumulative rainfall for the 2010 rainy season (May-October) was 10.8 percent higher than the 2000-09 rainy season average. It should be noted that large variations in rainfall distribution and intensity were found between the provinces: whereas the cumulative 2010 rainfall was over 30 percent above the historical average in certain provinces (Pailin, Prey Veng, Svay Rieng, Takeo), very significant deficits exist in others (Ratanakiri).

Water Levels Mirror Rainfall Patterns

Mekong water-level data from 8 stations monitored daily by the Mekong River Commission (MRC) corresponds with the rainfall data in the early months of the rainy season (May – July), when water levels in all stations were significantly lower than the 30-year historical average (1980 – 2009). Beginning in August 2010, water levels in all 8 stations rose rapidly to reach their October 2010 levels, which are on par with historical averages. In none of the 8 stations did the water levels reach flooding levels.
Areas Prone to Flood and Drought

The Asia-Pacific Disaster Report 2010 indicates that Cambodia has the highest risk of flooding in the region, with 12.2 percent of Cambodia’s population (1.7 million people) exposed to flooding. This is in line with the 2003 study by the NCDM and WFP which highlights that 292 communes out of a total of 1,621 communes in Cambodia are prone to drought and around 260 communes are prone to flood. Fifteen percent of Cambodia’s population lives in communes prone to flood.
FOOD AVAILABILITY
Crop Production and Food Trade

Due to the late onset of rains, land preparation and planting of the main wet season rice crop was delayed in most areas by one month to the end of May. This resulted in a negative food production outlook at the beginning of the season. With the rains intensifying during the following months, the overall outlook for Cambodia as a whole was subsequently revised positively. Current Ministry of Agriculture, Fisheries and Forestry (MAFF) estimates suggest that the country will be able to increase its paddy production by 4.6 percent compared to 2009, which corresponds to a surplus of about 2.42 million MT of milled rice.

Less Crop Destruction at National Level
The destruction of paddy surfaces due to weather hazards, plant diseases and pests during the 2010 season was significantly below the levels recorded in the previous year. Based on field observations and records consolidated as of November 3, MAFF estimates that the overall destruction of paddy surfaces has up to now been limited to 8,600 ha. This represents less than 19 percent of the 45,770 ha destroyed during the 2009 planting seasons and is a mere 0.3 percent of the total cultivated area.

The flash floods during October caused the large majority of the overall paddy destruction (6,351 ha out of 8,620 ha, translating into about 22,000 MT of lost harvests). Although 73,989 ha of paddy surfaces were temporarily submerged in 13 provinces, this resulted only on some 11 percent of the area in the actual destruction of rice crops once the flood waters receded and plants recovered. The provinces most affected were Banteay Meanchey, Pursat and Kandal, followed by Oddar Meancheay, Phnom Penh City, Siem Reap, Battambang and Kampong Speu.

In Banteay Meanchey province, 2,889 ha of paddy (corresponding to some 1.2 percent of the overall planted area) were destroyed according to MAFF records of 3 November 2010, translating into about 7,570 mt of lost harvest. As damage assessments in the province were still ongoing in early November, that figure is expected to increase further, possibly eclipsing the area damaged in 2009 which was over 10,000 ha.

Pursat farmers suffered paddy destruction on 2,018 ha (representing 1.9 percent of the overall estimated area planted within the province), translating into some 5,324 mt of lost harvest. Losses suffered by individual disaster-affected communes and families are however significantly more serious in percentage terms due to the fact that the damages were concentrated within only a quarter of all communes. This year’s level of destruction in Pursat importantly exceeds losses recorded during the preceding four years when destroyed surface figures were limited to between 0 and 1,307 ha. A 7.6 percent increase in the overall cultivated area is projected to increase paddy production in the province by 5.4 percent [13,829 mt] to 260,871 mt despite the floods.

Negative Production Outlook in Kandal Province
Kandal province saw 867 ha of paddy (2 percent of the province’s planted area in 44 communes) destroyed, translating into some 2,526 mt of lost harvest. A similar level of destruction in Kandal was last recorded in 2006 when farmers suffered paddy losses of 1,363 ha. Between 2007 and 2009 the destruction remained limited to between 0 and 269 ha only. Kandal is the only province where flood damages are expected to reduce the overall rice production below the levels of previous years. MAFF estimates from October project the total production in Kandal to be 126,532 mt, which is 2,452 mt fewer than produced in 2009 (a 2 percent reduction).

Estimates of flood-related destruction in Oddar Meancheay, Phnom Penh, Siem Reap, Battambang and Kampong Speu provinces were 859 ha, 842 ha, 205 and 159 ha, respectively.
Limited Losses Due to Drought and Pests

Farmers in Battambang province lost roughly 100 ha of paddy due to drought this season. An additional 266 ha were destroyed in Kratie (0.9 percent of the total planted paddy surface). Nationally, however, drought is expected to cause very limited damage to the current crop (just 455 ha have been destroyed). No drought damages have so far been reported from Kandal, where rainfall deviation charts show a deficit of more than 50 percent for the April to October period. To what degree this may influence the development of crops there during the remaining growth period is uncertain. Recorded destruction due to plant pests so far amount to only 19 ha in Preak Vihear and 11 ha in Mondulkiri, which represents a mere 0.05% of the planted area in those two provinces.

Overall Increase in Rice Production Expected

Assuming favorable weather during the remaining cultivation period, MAFF projects that the country will be able to increase its combined wet and dry season paddy rice production by over 0.3 million mt to reach 7.9 million mt. This is due, in part, to forecasted increases in total area cultivated (+2.1 percent) and harvested surfaces (+3.6 percent to 2.77 million ha), as well as to slightly higher expected yields (2.860 ton/ha in 2010 for wet and dry seasons combined; 2.656 ton/ha for the wet season and 4.126 ton/ha for the dry season). Advances in productivity are a result of improvements made in farming practices, seed quality, and fertilizer application, as well as the provision of agricultural extension services and technical assistance by NGOs and other development partners. In response to the delayed start of the season, farmers increased their reliance on medium- and early-maturing rice varieties instead of late-maturing ones traditionally used. The total area planted with medium-maturing varieties increased this season by 92,606 ha and represents 50% of the overall wet season rice production area. The area planted with late-maturing varieties decreased by 32,000 ha, while the cultivation of early-maturing varieties increased by 24,000 ha.

High Seasonal Variability of Fish Catches

Small-scale inland fishery, which is the main source of fish in Cambodia, is characterized by a high seasonal (and spatial) variability of catches. During the June to September period, fishing-dependent households commonly catch only a small fraction of the fish caught between October and May. Given the particularly low water levels in all parts of the country at the beginning of the season, it is expected that this pattern was further amplified in 2010.

Foot and Mouth Disease Outbreaks and Avian Influenza

Multiple recently reported outbreaks of Foot and Mouth Disease (FMD) may to some degree influence the outlook in the animal husbandry sector and in certain locations negatively affect the availability of cattle and buffaloes as draught animals. Latest new FMD cases in cattle and buffaloes were in October confirmed from Kandal (over 2,000 animals infected) and Kampong Chhnang (379 animals infected) provinces, whereas earlier in the year outbreaks reportedly caused partly significant damages and losses for farmers in Kampong Cham, Siem Reap and Kratie provinces. There have been no recent new cases of H5N1 Avian influenza.
Growing Trade in Rice
Exports of Cambodian milled rice are growing rapidly. Data released by the Ministry of Commerce showed an increase to 107,291 mt of exported milled rice during the January to June 2010 period, up from just 4,369 mt recorded during the first half of 2009. Some of the increase is due to trade now being conducted through formal channels, whereas previously it would have been informally exported across the border to neighbouring Thailand and Vietnam. Credit provided to rice millers, greater confidence from investors and the Cambodian government’s promotion of the sector are thought to have contributed to this development. Cambodia is also among the least-developed countries that can benefit from tariff-free imports allowed by the EU under its Everything but Arms initiative. Key exporters earlier in the year hoped that the country may export up to 700,000 mt of milled rice during 2010, which is however highly unlikely to be reached.

Cambodia aims to become a leading exporter of rice, although on August 18th the government announced that initially only one-half of the export target of at least one million mt by 2015 would be of high-quality. Although there have recently been investments in rice milling, meeting the export standards for developed countries entails costly modern machinery. Lower-quality rice with a higher percentage of broken grains, which can be produced using more basic milling machines, has already been successfully exported to Africa. Informal exports of un-milled paddy to Thailand and Vietnam (for the time being expected to remain the majority of exports) partly return to Cambodia as milled rice. Some is re-exported to other higher-value markets from Thailand and Vietnam.

FOOD ACCESS
Food Prices and Purchasing Power

Overall consumer prices have been stable in the past quarter (August—October). However, the price of rice, the major staple, has been rising since August, which coincides with the beginning of the lean season, and will most likely continue to do so until November, when the main wet season harvest begins. The capacity of vulnerable households to access food has decreased during this time, but seems within the bounds of typical seasonal patterns caused by fluctuations in the price of rice.

Domestic Rice Prices Increased
The average wholesale price of mixed rice in Cambodia saw month-on-month increases of 3.5, 8.8, and 1.0 percent in August, September, and October 2010, respectively. The increase in the price of rice in these months were expected as the price of rice typically increases and peaks during the lean season (August—November). In the lean season, demand for rice increases as households’ deplete rice from own production and purchase more rice in the markets and the supply decreases as the paddy rice stock in rice mills are depleted.

The year-on-year increase in the price of rice was significant. Rice prices in August 2010 were 8.7 percent higher than August 2009, and September and October 2010 prices were 18.6 percent and 7.8 percent higher than the same time last year, respectively.

If wage rates, especially for unskilled labor, have not increased on par with rice prices, it can be assumed that the food security situation of poor rural households has deteriorated in the last quarter, as the rice price increases has been significant both on a month-on-month and year-on-year basis.

![Wholesale Price of Mix Rice, 2005-2010](image)

Source: Cambodia Agricultural Marketing Information System, Ministry of Agriculture, Forestry and Fisheries

1 The CSES 2007 survey estimates that the poverty rate in Cambodia was 30.1% and the food poverty rate was 18.0%. 92.3% and 92.7% of those under the poverty line and food poverty line, respectively, live in rural areas.
International Rice Prices
In October 2010, the export price of Thai 100% grade-B white rice, the benchmark for Asia, was $510 per MT. This was a 2.2% month-on-month increase but a 4.6% year-on-year decrease. This price is significantly lower than in the food price crisis of 2008, but still higher than the price before the food price crisis.

Macroeconomic Indicators
The inflation rate, measured by the year-on-year increase in the Consumer Price Index reported by NIS, was 1.9% in September 2010. On a month-on-month basis, prices were stable in September 2010, as consumer prices increased only 0.7% percent. In the most recent quarter (July–September 2010), consumer prices were stable at 1.7% percent on average, after steadily decreasing from its 2010 peak of 7.3% percent in February.

Gasoline prices as indicated in the Consumer Price Index increased by 12.2% year-on-year in September 2010. After a averaging a year-on-year increase of 37.0% in the first quarter of 2010, gasoline prices have stabilized to 13.5% year-on-year increase in the third quarter, but still experienced significant year-on-year increase.

The chart below shows the relative changes of the CPI and some components since the 2007. The values of all items are near 100 in January 2007 as the base period for the Index is October-December 2006.

The riel is expected to remain under downward pressure in the following two years due to the persistence of a large current account deficit. This weakening of the riel against the US dollar could also contribute to inflationary pressures by raising prices for imported goods and services in local-currency terms.

After contracting by an estimated 1.5% in 2009 as a result of the impact of the global recession on garment exports, foreign investment and tourism, Cambodia’s real GDP is expected to grow 4.1% in 2010 and 5.1% percent in 2011. Private consumption is expected to recover in 2010-11 as personal disposable income will increase as agricultural commodities sell for higher prices and garment factories begin to hire again.

Food Purchasing Power
In September 2010, food and non-alcoholic beverages constituted 50.4% percent of the Consumer Price Index. The Food Price Index (FPI; Food and non-alcoholic beverage component of the Consumer Price Index) increased slightly more than the overall inflation rate as the year-on-year increase in the Food Price Index was 2.2%, and the month-on-month increase was 1.0% percent in September 2010.

The ratio of the Food Price Index and the non-food Consumer Price Index (FPI/non-food CPI) is, in the absence of regular wage data required to establish the terms of trade of daily unskilled wage and price of rice, used as a proxy indicator for food purchasing power. When the FPI/non-food CPI ratio goes above 1, i.e. when FPI increases exceeds non-food CPI, the relative cost of food is increasing relative to the prices of other goods in the typical consumer basket. This could indicate increasing difficulty in access to food, as food purchasing power decreases for households.

The FPI/non-food CPI ratio increased slightly during the last quarter (June – September), reflecting the fact that the price of food is relatively higher in the lean season, which ends with the beginning of the main harvest in November. The ratio has not decreased since rapidly rising during the latter half of 2007 and the first half of 2008.
In September 2010, the FPI has increased by 55.3 percent since the base period of October – December 2006, while the non-food CPI has increased by 24.0 percent during the same time period [in January 2007, the FPI/non-food CPI ratio is close to 1, as both FPI and non-food CPI are set at 100 for October – December 2006, the base period]. Further analysis is required to determine the causes of the relative increase in food prices. Also, the impact of the relative increase in food prices on household purchasing power can be better estimated using wage data.

Food Aid, Social Protection and Food Reserves

Food aid from donors accounts for a small portion of total food surplus (approximately 1 to 2 percent in 2007-10). The average level of food aid distributed by WFP for the period 2007-2010 was approximately 30,000 MT/year. WFP has been the major food aid donor in Cambodia, but considerable levels of food assistance are channelled through NGOs as well. Data on NGO food assistance is not available over this period, but figures for 2005 indicate that USDA provided 9,400 MT to Cambodia through several NGOs. Despite improving trends, government spending on social protection measures is low compared to regional levels, according to a World Bank report (citation). Given the current government budget structure, the World Bank (2009) states that it is difficult to determine the level of spending on social protection and safety nets. Most of the government's explicit social protection spending currently targets public employees and formal sector workers. About 8,000 mt of emergency rice reserves are currently being held by Green Trade and CRC.

Food Use and Utilization

Health and Nutrition

The current level of diarrhea is down from the mid-year peak, but it is expected that diarrhea incidence will increase again in the dry season. 2010 has seen the largest number of reported diarrhea cases in the last five years, although it is not possible to determine how much of this increase is true and how much is related to an improve in reporting as the reporting system was revised in 2009.
Seasonal fluctuations in the incidence of diarrhea likely follow trends seen throughout the SE Asia region where there is evidence of a strong association between weather and the incidence of diarrhea. Annual peaks of diarrhea are seen in the cold, dry season (November-January) and at the beginning of the rainy season (May-July). It is suggested that two peaks exist because different pathogens thrive in the different conditions. Density of vectors and source of drinking water also vary throughout the year and could contribute to fluctuations in the incidence of diarrhea.

Diarrhea can cause malnutrition through the loss of nutrients and a lack of appetite. It is likely that in addition to high malnutrition levels during the lean season, there is seasonal fluctuation related to diarrhea incidence.

Child Nutritional Status

The most recent data found stunting (height-for-age, a measurement that captures whether there have been any recent changes in the nutritional status of the child) to be 19 percent (CAS 2008) and underweight (weight-for-age) to be 20.6 percent (CSES 2009). Stunting (height-for-age) is used to assess levels of chronic undernutrition. The most recent data, also from CAS 2008, found that more than one-third of children were stunted (39.5 percent); 17.3 percent were severely stunted. These estimates suggest there has been no change in the nutritional status of children since 2005, whereas from 2000 to 2005 there were large improvements in the nutritional status of children.

Nearly two percent of children are severely wasted and need therapeutic treatment. Of the 50,000 children a year estimated to have severe wasting, less than 5 percent are currently receiving treatment. The MoH plans to revise the Integrated Management of Childhood Illness (IMCI) protocol to achieve higher coverage by bringing outpatient therapeutic treatment to the health centers.

Weight-for-age data show that after a decline in Cambodia’s overall prevalence of underweight in the first half of the decade, the level has remained stagnant at around 26 percent in surveys conducted in 2005, 2008, and 2009 (CDHS, CAS, CSES). The rise in food prices is likely a major reason underweight is no longer improving. In 2009, 9.6 percent of children were severely underweight.
# Annex 3: Datasets and Information Systems for Food Security and Nutrition in Cambodia

*(SOURCE: ADB Grant 0116 – CAM Emergency Food Assistance Project-Midterm Report-2010)*

## Table 1: Summary of datasets relating to food security and food emergency

<table>
<thead>
<tr>
<th>Data source</th>
<th>Type</th>
<th>Content</th>
<th>Format</th>
<th>Coverage</th>
<th>Freq of update</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1 Food Security and Nutrition Information System (FNIS)</td>
<td>General resource for nutrition and food security</td>
<td>Documents, news events</td>
<td>Website and CD (every 6 months)</td>
<td>Various</td>
<td>Ad hoc</td>
<td>Content updates rely on CARD staff</td>
</tr>
<tr>
<td>D2 Food Insecurity and Vulnerability Information and Mapping (FIWIMS)</td>
<td>General resource for nutrition and food security</td>
<td>Indicators and maps relating to food security and vulnerability</td>
<td>Website with interactive queries and maps</td>
<td>National</td>
<td>Not updated since 2006</td>
<td>Not actively maintained</td>
</tr>
<tr>
<td>D3 System of Rice Intensification in Cambodia (SRI)</td>
<td>General resource for SRI</td>
<td>Documents, news events</td>
<td>Website</td>
<td>Various</td>
<td>Ad hoc</td>
<td>Content update rely on CARD staff</td>
</tr>
<tr>
<td>D4 WFP Food Security Atlas</td>
<td>General resource for nutrition and food security</td>
<td>Static information grouped into a number of categories related to food security</td>
<td>Website</td>
<td>National with provincial profiles</td>
<td>Ad hoc</td>
<td></td>
</tr>
<tr>
<td>D5 National Resource and Environment (NRE) Data Toll Box</td>
<td>Mapping resource</td>
<td>Many maps relating to the environment and natural resources</td>
<td>Website and CD</td>
<td>National and can query by commune</td>
<td>Not since 2007</td>
<td>Active</td>
</tr>
<tr>
<td>D6 Cambodia Socio-Economic Survey (CSES)</td>
<td>Household survey about living conditions and the extent of poverty</td>
<td>Data relating to household expenditure/consumption, housing, education, literacy and poverty</td>
<td>Report</td>
<td>National with indicators to province level</td>
<td>5 surveys between 1993-2004 annually since 2007</td>
<td></td>
</tr>
<tr>
<td>D7 Cambodia Anthropometric Survey (CAS)</td>
<td>Survey about nutritional status of children</td>
<td>Detailed nutritional data</td>
<td>Report</td>
<td>National with indicators to province level</td>
<td>One off survey in 2008</td>
<td></td>
</tr>
<tr>
<td>D8 Cambodian Demographic Health Survey (CDHS)</td>
<td>National Health Survey</td>
<td>Data on range health indicators</td>
<td>Report</td>
<td>National with indicators to province level</td>
<td>One off survey in 2005</td>
<td></td>
</tr>
<tr>
<td>D9 National Health Information System (NHIS)</td>
<td>Routine health statistics</td>
<td>Health statistics reported by government health facilities</td>
<td>Database at MOH</td>
<td>All government health facilities</td>
<td>Monthly</td>
<td>Ongoing data collection</td>
</tr>
<tr>
<td>D10 Communicable Disease Control Department Early Warning System (CDC-EWS)</td>
<td>Health early warning system</td>
<td>Zero reporting of notifiable disease and other emergencies</td>
<td>Database at Department Communicable Disease Control at MOH</td>
<td>All government health facilities</td>
<td>Weekly</td>
<td>Public hotline available for the public to report cases</td>
</tr>
<tr>
<td>D11 ID Poor Database</td>
<td>Poor households and individuals</td>
<td>Lists of all households and all poor individuals</td>
<td>Database at MOP. Copies of the database and extracts are available, Hard copy available at</td>
<td>Approximatel y 50% of all villages covered, full coverage planned for</td>
<td>Aims to update the lists every two years</td>
<td>Each poor household issued with a card with the picture of all household members. The card is valid for three years.</td>
</tr>
<tr>
<td>Dataset</td>
<td>Use</td>
<td>Food Policy Decision Making</td>
<td>Quick Response to Potential Food Crisis</td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>---------</td>
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<td>-----------------------------</td>
<td>----------------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Usefulness</td>
<td>Timeliness</td>
<td>Usefulness</td>
<td>Timeliness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D1 Food Security and Nutrition Information System (FNIS)</td>
<td>Used by people and organizations interested and involved in food security</td>
<td>Moderate</td>
<td>Low</td>
<td>Limited</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>D2 Food Insecurity and Vulnerability Information and Mapping (FIVIMS)</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>D3 System of Rice Intensification in Cambodia (SRI)</td>
<td>Government and development sector staff interested in rice</td>
<td>Moderate</td>
<td>Low</td>
<td>Limited</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>D4 WFP Food Security Atlas</td>
<td>People interested in food security in Cambodia</td>
<td>Moderate</td>
<td>Low</td>
<td>Limited</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>D5 National Resource and Environment (NRE) Data Toll Box</td>
<td>Civil society, government institutions, development partners and the public interested in the environment and related socio-economic issues</td>
<td>Low</td>
<td>Low</td>
<td>Moderate</td>
<td>Low</td>
<td></td>
</tr>
</tbody>
</table>

Source: ADB Midterm Report, 2009
<table>
<thead>
<tr>
<th></th>
<th>Name</th>
<th>Sectors</th>
<th>Quality 1</th>
<th>Quality 2</th>
<th>Quality 3</th>
<th>Quality 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>D6</td>
<td>Cambodia Socio-Economic Survey (CSES)</td>
<td>Government, non-government sectors and the private sector</td>
<td>Good</td>
<td>Moderate</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>D7</td>
<td>Cambodia Anthropometric Survey (CAS)</td>
<td>Government, non-government sectors and the private sector</td>
<td>Good</td>
<td>Moderate</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>D8</td>
<td>National Health Information System (NHIS)</td>
<td>Government, non-government sectors and the private sector</td>
<td>Good</td>
<td>Moderate</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>D9</td>
<td>Cambodian Demographic Health Survey (CDHS)</td>
<td>Ministry of Health, referral hospitals and health centers</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
<td>Moderate-good at a district level</td>
</tr>
<tr>
<td>D10</td>
<td>Communicable Disease Control Department Early Warning System (CDC EWS)</td>
<td>CDC, the Media, Ministry of Health, referral hospitals and health centers</td>
<td>Moderate</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
</tr>
<tr>
<td>D11</td>
<td>ID Poor Database</td>
<td>Government and non-governmental partner</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
</tr>
<tr>
<td>D12</td>
<td>Commune DB</td>
<td>Used as part of annual government planning exercises</td>
<td>Good</td>
<td>Moderate</td>
<td>Moderate</td>
<td>Moderate</td>
</tr>
<tr>
<td>D13</td>
<td>2008 National Census</td>
<td>Government, non-government sectors and the private sector</td>
<td>Good</td>
<td>Moderate</td>
<td>Moderate</td>
<td>Moderate</td>
</tr>
<tr>
<td>D14</td>
<td>CamInfo 3.2</td>
<td></td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>D15</td>
<td>MOWRAM/MRC Flood Warning System</td>
<td>Pilot used by Government and MOWRAM/MRC</td>
<td>Low</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
</tr>
<tr>
<td>D16</td>
<td>MAFF weekly rice crop report</td>
<td>Tracking the current rice harvest, details of planned areas affected and destroyed by floods, drought and pests</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
</tr>
<tr>
<td>D17</td>
<td>Cambodian Agricultural Market Information Service (CAMIS)</td>
<td>FAO, traders, farmers, government, NGOs and researchers and other interested in agriculture and food security</td>
<td>Good</td>
<td>Good</td>
<td>Moderate</td>
<td>Good for vegetables, moderate for rice</td>
</tr>
</tbody>
</table>
Annex 4: Terms of Reference of Food Security and Nutrition Information Management Task Force

(Finalized as of Dec 2009)

Background

Food security will be achieved “when all people, at all times, have physical and economic access to sufficient, safe, and nutritious food, and meet their dietary needs and food preferences for an active and healthy life” (FAO-World Food Summit: Plan of Action, 1996).

FSN is addressed in Cambodia’s Millennium Development Goals (CMDG) and specifically in the first Goal aiming at the eradication of extreme hunger and poverty. Food Security and Nutrition contributes to and is influenced by poverty reduction and is related to various sectors such as agriculture, health, rural development and education. A cross-sectoral and integrated approach with enhanced coordination among all stakeholders is therefore necessary to improve FSN in Cambodia. The Royal Government of Cambodia (RGC) assigned the responsibility to coordinate food security and nutrition to the Council for Agricultural and Rural Development (CARD) chaired by H.E. Dr. Yim Chhay Ly, Deputy Prime Minister. CARD works with relevant ministries and local authorities in all provinces and in collaboration with UN agencies and national and international organizations.

To ensure the implementation of the recommendations made at two National Seminars on Food Security and Nutrition (1999 and 2003), CARD created the National Food Security Forum (FSF) in February 2003. The FSF meets on a monthly basis and has successfully served as a place to share information and to promote coordination among stakeholders, RGC, IOs and NGOs. In December 2004, out of core participants of the FSF, a "Technical Working Group on Food Security and Nutrition" (TWG-FSN) was officially established to coordinate and harmonize efforts of the RGC and the development partner community in this area. The TWG-FSN is co-chaired by CARD and MoP, and facilitated by World Food Programme (WFP).

During the last years, various initiatives to establish food security and vulnerability related information systems or tools in Cambodia started and the need for a more intensive coordination emerged.

On 5th of July 2006, a national stakeholder workshop on FSN-related Information Systems was organized by the secretariat of the TWG-FSN in CARD with support from FAO under the chairmanship of the Minister of MAFF, H.E. Dr. Chan Sarun. The high-level workshop has resulted in a clear commitment to enhance coordination and cooperation of stakeholders with the aim of achieving synergies in building up a sustainable network for FSN related information management in Cambodia. The conclusions of the workshop (see Annex) were circulated among stakeholders and approved during a meeting of the TWG-FSN in July 2006. One of the concrete steps proposed by the national workshop was the establishment of a task force for FSN information management to be lead by MAFF. However, as the FIVIMS based in MAFF which should chair the meeting was stalled due to disrupted funding the establishment of the FSN information task force was postponed. Meanwhile, several activities were carried out in Cambodia to bring forward FSN related data collection, analysis and presentation/dissemination since then:

- In 2007 a national workshop on the need for a nutritional surveillance system for Cambodia organized by CARD lead to the conclusion to better focus first on promoting the harmonization, analysis and use of existing data sources (national survey from NIS and administrative statistics) with regard to FSN. Sentinel surveillance
- In 2007 FAO/EC "Food Security Information for Action" supported NIS to analyze food consumption based on CSES 2004 data and capacities for crop yield forecasting and the production of FSN information products was supported through the same project.
- In 2007 WFP in cooperation with CARD developed a web based "Food Security Atlas" for Cambodia which was updated in 2008 and an "integrated phase classification" (IPC) map for Cambodia was developed.
- Mid 2008 CDRI in cooperation with WFP carried out a survey on impact of high food prices in Cambodia.
• In November 2008 NIS carried out the Cambodia Anthropometric Survey (CAS) to follow up the impact of rising food prices on nutrition and health status of children and mothers with support from UNICEF. Capacities for nutrition data collection and analysis in NIS were built up.

• Since 2006 MoP built up a data base on poor households covering currently more than 7000 villages.

• Recently a new phase of the FAO/EC project was launched focusing on market information analysis, agricultural disaster preparedness/climate change analysis and chronic food insecurity and vulnerability assessment.

• A new project for Cambodia (MDG-Fund) jointly implemented by 4 UN Agencies, and relevant line ministries under the coordination of CARD intends to establish an integrated food security and nutrition monitoring system based on existing information systems and surveys.

The need for a harmonized and well coordinated FSN information and monitoring system is still pertinent for Cambodia and a specific task force of the TWG-FSN needs to be established for this purpose as recommended earlier.

**Objective and Mandate of the Task Force**

The overall objective of the FSN Information Management Task Force is to support the further development of a FSN related information network in Cambodia and to enhance coordination and cooperation of stakeholders with the aim of achieving synergies between various initiatives based in different government structures and supported by various donor agencies. The task force follows up the implementation of the recommendations of the national workshop on FSN-Info System from July 2006.

**Functions of the Task Force**

The task force has the following main tasks:

1. To enhance active cooperation among the members in order to better match data user needs and to fill existing information gaps with regard to FSN (quality, frequency, disaggregating levels of FSN data). The task force will organize a FSN information users/providers forum at least once a year and establish a list of core indicators for FSN monitoring.

2. To coordinate the development of capacities for a better conceptual understanding of the FSN situation in Cambodia, data analysis and the use of data for action in ministries and relevant institutions at national and decentralized level.

3. To coordinate effectively with regard to data analysis, presentation and dissemination and in this context to promote the use of already existing data base, presentation, analysis and dissemination tools in order to minimize duplications of efforts, to reduce costs and transaction costs for government and to foster the sustainability of development efforts.

4. To promote the use of information for the monitoring of the FSN situation in Cambodia, FSN relevant strategy/programme formulation and the design and targeting of interventions.

5. To ensure that upcoming initiatives with regard to FSN related data management (collection, analysis, presentation and dissemination) are designed in the spirit to add value to and to complement existing systems and tools.

**Modalities and Members of the FSN Information Task Force**

The task force is an integral part of the TWG on FSN and reports to the TWG-FSN on a regular basis. The Task Force is headed by CARD, which is responsible for organizing regular (monthly) meetings, elaborating and disseminating minutes and other outputs of the task force and to report on progress and outcome of the work to the TWG-FSN (and other relevant TWG on request). The task force will establish an annual work plan outlining the priority activities with regard to FSN information management.

In order to be an efficient working body, the task force has as permanent members only representatives from key Government structures and development partners directly involved in food security and nutrition related information management in Cambodia, namely:
• CARD (chair) (2)
• MAFF (co-chair) (2)
• NIS (co-chair) (2)
• MoH (PM) (2)
• WFP (PM) (2)
• FAO (PM) (1)
• UNICEF (PM) (1)

Other information providers and data users (including sub-info systems in MAFF or other ministries) can be invited to meetings on an ad hoc basis and according to need. The chair will call for a forum twice a year to match user’s needs and information services. The information users and providers invited for theses meetings are the following (list is not exclusive):

• HIS (MoH) (1)
• Danish Church (1)
• EIS (MoEYS) (1)
• MoWA (1)
• MRD (1)
• MOWRAM (1)
• UNICEF (1)
• UNDP (1)
• NCDM (1)
• Red Cross Federation (1)
• CIDA (1)
• EC/EU (1)
• Fishery Administration (1)
• Forestry Administration (1)
• D&D data base system (Former Seila data base system) (1)
• Agricultural Information Documentation Center (1)
• NSDP Secretariat/MoP (1)
• Farming System Information Management system (Department of Agriculture Extension) (1)
• Land Use Management Information System (1)
• Rice Information System for Extension (RISE) (1)
• Market Information System (Department of Agricultural Planning and Statistics) (1)
• CDRI (1)
• Other interested stakeholders (1)

In addition to the task force an interdisciplinary FSN data analysis team will be established in NIS to regularly compile and analyse data from health and agricultural administrative statistics and to follow up specific FSN-related data analysis from national survey (CSES, CDHS..). The analysis team will also prepare FSN-related information outputs for dissemination. The FSN data analysis team will be composed by:

• MoP/NIS (2)
• MoP (1)
• MAFF (2)
• MoH/HIS (2)
• CARD (1)
The capacities of this team will be strengthened by development partners through their ongoing projects and linkages to regional and global data bases on FSN will be established.

Web-based dissemination of information will be carried out by CARD though the FSNIS, that serves as a national entry portal to FSN related information in Cambodia.

**FIGURE 4: STRUCTURE OF FSN INFORMATION MANAGEMENT TASK FORCE IN CAMBODIA**
Annex 5: Terms of Reference of Food Security and Nutrition Information Management Data Analysis Team

(Working Document: September 2010)

This document is intended as a working document. The terms of reference will be revised during initial implementation and should continue to be revised on an annual basis.

Background

The Council for Agricultural and Rural Development (CARD) is mandated by RGC to coordinate policies and institutional innovations related to Food Security and Nutrition (FSN) in Cambodia. To help carry out this agenda, in December 2004 a FSN Technical Working Group (TWG-FSN) was established to “coordinate and harmonize efforts of the RGC and development partner community in this area.”

One important aspect of this coordination is monitoring and evaluation related to FSN, which covers two broadly-defined areas: 1) monitoring and evaluation of the progress towards objectives delineated in the Strategic Framework for Food Security and Nutrition in Cambodia; and 2) the establishment of a Food Security and Nutrition Early Warning System (FSN-EWS) to provide up-to-date information about the current FSN situation in Cambodia and to offer projections that forecast future problems.

At a meeting in July 2006, the TWG-FSN created a FSN Information Management Task Force to lead these efforts by: 1) enhancing member cooperation to better match data user needs and to fill existing information gaps; 2) developing a better conceptual understanding of the FSN situation in Cambodia through data analysis; 3) promoting the use of existing data to minimize duplication; 4) promoting evidence-based monitoring of the FSN situation; 5) ensuring that FSN initiatives add value and complement existing system tools.

One task of the FSN Information Management Task Force was to develop a small, cross-sectoral Analysis Team—whose members would be drawn from Ministry of Planning (National Institute of Statistics), Ministry of Agriculture, Forestry, and Fisheries (Department of Planning and Statistics), Ministry of Health, Ministry of Water Resources and Meteorology, and CARD—that would serve to organize and to interpret various existing sources of data.

Objectives

The overall objective of this “interdisciplinary” Analysis Team, as defined in the FSN Information Management Task Force ToR, is:

To regularly compile and analyse data from health and agricultural administrative statistics and to follow up specific FSN-related data analysis from national survey (CSES, CDHS...). The analysis team will also prepare FSN related information outputs for dissemination.

To this end, the Analysis Team is expected to pursue two parallel, output-based objectives that cover the main priorities of the TWG-FSN:

- Produce quarterly Early Warning System reports that analyze routine administrative data from various line ministries (e.g., MAFF, MoH, MoP/NIS, MoWRAM) and provide an outlook on the future FSN challenges facing Cambodia.
- Produce annual assessments of Cambodia’s progress towards the major objectives in the SFFSN, providing evidence-based monitoring and interpretation of food availability, food access, food utilization, vulnerable household coping abilities, and FSN policy environment.

During initial implementation early warning will focus on indicators that forecast a potential, future issue. It is expected that information requiring an immediate response will continue to be communicated directly to the Prime Minister.

26 TOR for Food Security and Nutrition Information Taskforce, September 28, 2009 Draft.
Tasks

Each team member is expected to perform various tasks to the overall process of formulating these valuable reports. These tasks will include, but are not limited to:

1. Collect and share relevant administrative statistics with the rest of the team members;
2. Analyze and interpret the relevant data from his/her line ministry to help produce an informed, holistic assessment of the FSN situation in Cambodia;
3. Attend routine meetings to share information and to keep members and users up-to-date on FSNDAT activities and reports;
4. Attend trainings aimed at improving functional skills related to FSNDAT activities, e.g. GIS training;
5. Assist with the dissemination and uptake of FSNDAT reports to ensure that all partners are aware of available information.

Information Benefits

The FSN information produced by the Analysis Team will have myriad benefits for the public sector and development community. Currently, there is limited use of the available, routine administrative data for projecting crop production and disruptions. Among others, the ability to predict these types of shortfalls months in advance will enable various actors to position themselves to adequately prevent these scenarios or, if and when the predictions become reality, to respond effectively. Information will be disseminated through Food Security Forums, including forums designed specifically around monsoon forecasting, and through the Food Security and Nutrition Website.

In addition to the public benefits, the routine reporting of this FSN information is expected to have tangential benefits for the private sector, including considerable economic interest in the more nuanced estimates the Analysis Team can likely produce (e.g., by using more accurate rainfall data in crop production forecasts). Especially for Cambodia’s newly announced rice initiative, these analyses could very well play a large role in enabling RGC activities to assist evidence-based decision-making to achieve these goals.

Institutional Arrangements

Because the Analysis Team will play a unique role in compiling and analyzing FSN information, the institutional set-up must balance its need for data access and its responsibility to fulfill CARD’s mandate. As such, it is expected that the NIS will serve as the repository for the data (i.e. administrative and household survey) that the Team will use to generate its reports. However, it is expected that CARD will lead this effort to aggregate, organize, and interpret the FSN information. It is envisioned that this will be done primarily through a “workshop”-type of mechanism, whereby CARD will call together the Analysis Team (4 times a year for the EWS and 1 time a year for the SFFSN monitoring) and coordinate the work, bearing final responsibility for ensuring that the reports are produced timely and disseminated through the proper channels (see Figure 1).

Among the agencies involved, various support roles are envisioned to be divided roughly, with UNICEF accepting the role of assisting CARD to coordinate the analysis team. A detailed matrix of current support and commitments is included as an annex. This matrix will require continuous updating and should serve to coordinate both the analysis of household surveys and the strengthening of administrative statistics.

Composition of Team

Due to the complex and over-lapping nature of food security and nutrition information in Cambodia, the Analysis Team must be composed of a wide range of line ministries. In addition, because of the specific type of information required and the technical nature of the analysis and interpretation to be carried out, it is important that the various ministries nominate participants that are familiar with the corresponding data and routine analyses of it. It is expected that the team will draw from four main ministries, namely MAFF, MoH, MoP/NIS, MoWRAM, MoI and NCDM. Each ministry will contribute one or two staff to serve on the analysis team according to the aforementioned schedule; a list of ministry staff currently responsible for selected indicators is included as an annex.
1. CARD (3)  
2. Ministry of Planning:  
   • Household Surveys (1)  
   • CamInfo (1)  
   • NIS (1)  
3. Ministry of Health  
   • Communicable Disease (1)  
4. Ministry of Water Resources and Meteorology  
   • Department of Hydrology (1)  
   • Department of Meteorology (1)  
5. Ministry of Agriculture, Forestry and Fisheries  
   • Planning and Statistics (1)  
   • Agricultural Marketing Office (1)  
   • GDA (1)  
   • Animal Production (1)  
   • Fisheries (1)  
6. National Center for Disaster Management (NCDM) (1) ?  
   • Total member from government partners: 15  
7. Representative from each involved UN agencies (FAO, UNICEF, WFP, ADB?, ...)  

Indicators and Sources of Data  

1. Food Security and Nutrition Early Warning System  

1.1 Initial Sources of Information  
Table 1 defines a set of indicators and data sources that can be used to generate the initial FSN-EWS report. These indicators, with accompanying interpretation derived from previous trends, can be used to make projections about future FSN conditions in Cambodia (e.g., from 3–6 months out).  

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rice Production Preliminary Estimate</td>
<td>MAFF - Department of Statistics</td>
</tr>
<tr>
<td>Rice Production Area Planted</td>
<td>MAFF - Department of Statistics</td>
</tr>
<tr>
<td>Rice Production Area Lost / Destroyed</td>
<td>MAFF - Department of Statistics</td>
</tr>
<tr>
<td>Industrial Crop Production Area Planted</td>
<td>MAFF - Department of Statistics</td>
</tr>
<tr>
<td>Rice Export Orders</td>
<td>Federation of Rice Millers</td>
</tr>
<tr>
<td>International/Domestic Rice Price</td>
<td>MAFF</td>
</tr>
<tr>
<td>Employment levels in garment industry</td>
<td>MoP - NIS</td>
</tr>
<tr>
<td>Rural and Urban Wages</td>
<td>MoP - NIS</td>
</tr>
<tr>
<td>Informal Sector Wages</td>
<td>MoP - NIS</td>
</tr>
<tr>
<td>Outstanding Microfinance Loans</td>
<td>MoP - NIS</td>
</tr>
<tr>
<td>Cost of one litre of petrol</td>
<td>MoP - NIS</td>
</tr>
<tr>
<td>Incidence of cholera</td>
<td>MoH</td>
</tr>
<tr>
<td>Price of non-rice food commodities</td>
<td>MAFF - CAMIS</td>
</tr>
<tr>
<td>Inflation Rate</td>
<td>MoP - NIS</td>
</tr>
<tr>
<td>Consumer Price Index</td>
<td>MoP - NIS</td>
</tr>
<tr>
<td>Interest Rate (Central Bank Base Rate)</td>
<td>Ministry of Economy/Finance</td>
</tr>
<tr>
<td>Rainfall Average weekly rainfall</td>
<td>MoWRAM</td>
</tr>
<tr>
<td>Water level in key waterway locations</td>
<td>MoWRAM</td>
</tr>
</tbody>
</table>
From these pieces of information, the Analysis Team will be able to assess the current FSN situation, and through analysis and interpretation produce informed recommendations for the coming time period. An extensive effort led by ADB to build the capacity of the Analysis Team and a model report is set to take place in September and October 2010. The list of indicators will be further refined at that time.

1.2 Additional Sources of Information
Most of the above indicators are considered currently available through routine collection channels of various line ministries. To further assist the projection process, a second set of information is proposed to fill in the gaps currently present. Most pressing among these is better weather information from MoWRAM (e.g., humidity, wind speed, solar radiation). While eight synoptic stations capable of collecting these data are present throughout the country, only two are operational due to disrepair and limited resources.

Furthermore, the current state of the Health Information System does not allow the FSN-EWS to make use of its extensive set of data. Were the system to be streamlined and updated in a timelier manner, this data could also be used to provide a picture of the current FSN situation.

The ID Poor Database is another source of data that can potentially expand the relevancy of the work carried out by the Analysis Team. ID Poor could provide a poverty/vulnerability profile of the entire country every two years. While this is not a routine source of data, there is potential to link the findings from the FSN-EWS to a poverty/vulnerability profile. This will help to identify areas that are able or not able to cope with a FSN shock.

1.2 Strategic Framework for Food Security and Nutrition in Cambodia – Monitoring and Evaluation
A set of indicators and associated data sources for monitoring Cambodia’s progress towards the goals and objectives identified in the SFFSN has been developed and is included as an annex. The information that will feed into this annual assessment draws largely from routine national surveys. The report should identify for CARD the areas in which Cambodia is succeeding and those where it is lagging in ensuring food availability, food access, and adequate food utilization at the national, regional, and household level. These areas have been specifically designed to represent the country’s progress in achieving the benchmarks set in the NSDP and the CMDGs.