



Ministry of Agriculture, Forestry and Fisheries



FAO Representation in Cambodia

NATIONAL MEDIUM-TERM PRIORITY FRAMEWORK



CAMBODIA



2011-2015

JOINT STATEMENT

The Royal Government of Cambodia, represented by the Ministry of Agriculture, Forestry and Fisheries (MAFF), as authorized by Samdech Prime Minister Hun Sen, and the Food and Agriculture Organization of the United Nations (FAO), represented by its Representative in Cambodia (FAOR), have the pleasure to jointly launch the second FAO National Medium Term Priority Framework (NMTPF) 2011-2015 in Cambodia, as per stipulated hereafter.

The second FAO NMTPF 2011-2015, following the successful implementation of the first NMTPF 2006-2010, is the result of extensive consultations held with the broad concerned stakeholders and partners within the country as well as with the relevant technical units of FAO Headquarters in Rome and the Regional Office in Bangkok. The co-signers hereunder express sincere appreciation to all who have so willingly made constructive comments and provided suggestions through the consultative process.

This document, co-owned by the Royal Government of Cambodia and FAO, indicates a broad commitment of FAO, subject to availability of necessary financial resources, to assist the Royal Government of Cambodia in its efforts to achieve the National Development objectives, as stipulated in the National Strategic Development Plan, as well as the Cambodian Millennium Development Goals. It is fully aligned and contributes to the strategic objectives of the United Nations common system as expressed in the United Nations Development Assistance Framework (UNDAF) 2011-2015 for Cambodia.

By endorsing the FAO NMTPF 2011-2015, the Royal Government of Cambodia is committed to renew and extend full collaboration, to the extent possible within the available means and resources, to facilitate the achievement of the objectives and actions proposed in this document.

The FAO NMTPF 2011-2015 will be pursued in as broad partnership as possible and in alignment with the joint efforts of the Royal Government of Cambodia and the donor community for enhanced coordination and aid effectiveness. The Royal Government of Cambodia and FAO look forward to seeking collaboration and support of those concerned partners in the successful implementation of the FAO National Medium Term Priority Framework 2011-2015.

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LIST OF ABBREVIATIONS

ADB	Asian Development Bank
A&W	Agriculture and Water (Resources)
ANR	Assisted Natural Regeneration
ASEAN	Association of South-East Asian Nations
CAMCONTROL	
or CamControl	Cambodia Import - Export Inspection and Fraud Suppression Department
CARD	Council for Agriculture and Rural Development
CBD	Convention on Bio Diversity
CDC	Cambodian Development Council
CCCO	Cambodia Climate Change Office
CCRF	Code of Conduct
CDM	Clean Development Mechanism for the Kyoto Protocol
CF	Community Forestry
or	
CF	FAO Core Functions
CFi	Community Fisheries
CITES	Convention on International trade in Endangered Species of Wild Fauna and Flora
CNIP	Cambodian Nutrition Investment Plan 2008-2012
CPRs	Common Property Resources
CSR	Corporate Social Responsibility
DNA	Designated National Authority (for Clean Development Mechanism for the Kyoto Protocol)
DPs	External Development Partners (or EDPs)
EC	European Community
EDPs	External Development Partners (or DPs)
ELCs	Economic Land Concessions to farmers

EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FAOR	FAO country representative
FIMS	Forest Information Management System
FMPP	FAO Multi-donor Partnership Programme
FNPP	FAO-Netherlands Partnership Programme
FSN	Food Security and Nutrition
FWUGs or	Farmer Water User Groups, or
FWUCs	Farmer Water User Communities
GAP	Good Agricultural Practices
GDP	Gross Domestic Product
GHG	Green House Gas (emissions)
GNI	Gross National Income
GMDGs	Cambodian Millennium Development Goals
GPA-PDRFA	Global Plan of Action for the Conservation and Sustainable Utilization of Plant Genetic Resources for Food and Agriculture
HACCP	Hazard Analysis and Critical Control Points
IFA	FAO Impact Focus Areas
IFAD	International Fund for Agricultural Development
IFIs	International Financing Institutions
IFSR	Independent Forest Sector Review
ILO	International Labour Organization
IMF	International Monetary Fund
IPA	Immediate Plan of Action for FAO Renewal (2009-2011)
IPM	Integrated Pest Management
JP	Joint Programme
MAFF	Ministry of Agriculture, Forestry and Fisheries
MIME	Ministry of Industry, Mines and Energy
MOWRAM	Ministry of Water Resources and Mining
MDER	Minimum Dietary Energy Requirement
MDG	Millennium Development Goals
NFP	National Forestry Programme

NMG	NMTPF Monitoring Group
NMTPF	National Medium-Term Priority Framework
NFI	National Forest Resource Inventory
NPRS	Cambodia National Poverty Reduction Strategy 2003-2005
NSDP	National Strategic Development Plan 2006-2010
NTFP	Non-Timber Forest Products
ODA	Official Development Assistance
OECD	Organization for Economic Co-operation and Development
OPEC	Organization of Petroleum Exporting Countries
OR	FAO Organizational Results
REDD	Reducing Emissions from Deforestation and Forest Degradation in Developing Countries
RGC	Royal Government of Cambodia
RAP	FAO Regional Office for Asia and the Pacific
RS	Rectangular Strategy for Growth, Employment, Equity and Efficiency (often simply referred as Rectangular Strategy)
RS I	Phase I of the Rectangular Strategy, often simply referred to as RS
RS II	Phase II of the Rectangular Strategy
SAID	Medium-term Strategy for Agro-Industrial Development
SAW	Strategy for Agriculture and Water - 2006-2010
SEDP 2	Cambodia Socio-Economic Development Plan 2001-2005
SFFSN	Strategic Framework on Food Security and Nutrition 2008-2012
SLCs	Social Land Concessions to farmers
SMEs	Small and medium enterprises
SO	FAO Strategic Objectives
SPAs	Strategic Partnership Agreements
SPS	Sanitary and Phyto-Sanitary
SRI	System of Rice Intensification
STDF	Standard and Trade Development Facility
TA	technical assistance
TCP	Technical Cooperation Programme

Telefood	FAO's annual campaign to help reduce the number of hungry people in the world by mobilising resources for hunger-fighting projects and to raise awareness about world hunger by organising broadcasts, concerts and other events. (Telefood Special Fund, TST, finances small grass-root level projects in developing countries and countries in transition).
TWG-AW	Technical Working Group on Agriculture and Water
TWG-F&E	Technical Working Group on Forestry and Environment
TWG-FSN	Technical Working Group on Food Security and Nutrition
UN	United Nations
UNDAF	United Nations Development Assistance Framework
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention for Climate Change
UNICEF	United Nations Children's Fund
UTFs	Unilateral Trust Funds
WFP	World Food Programme
WHO	World Health Organization
WTO	World Trade Organization

EXECUTIVE SUMMARY

Following the first NMTPF for Cambodia, launched in 2006 and currently under implementation, this document represents a renewed effort to articulate FAO's assistance to this country in a coherent Programming Framework aligned with national priorities. NMTPF is a planning, management and monitoring tool through which both the Royal Government of Cambodia (RGC) and FAO identify a set of medium-term priorities for FAO assistance, consistent with the policies and development goals pursued by the Government and the strategy pursued by FAO as a world organization, around which a consistent programming framework is developed and presented in a results-based matrix.

The National Medium-Term Priority Framework (NMTPF) 2011-2015 builds on the experience acquired with NMTPF 2006-2010, which dealt with FAO assistance in a comprehensive way. Its overall goal is to pursue the development of sustainable agriculture, fisheries and forestry as a contribution to the eradication of extreme poverty and hunger, improving the living standards of all Cambodians, especially the poorest, most food insecure, most vulnerable, in an economically, socially and environmentally sustainable manner. This goal also responds to the intensive challenges from the global economic crisis, instability of food prices and impact of climate change, which threatens the human conditions of so many Cambodians, especially those that are most food insecure.

The formulation of this NMTPF goes through number of steps conceived as a logical sequence (summarized in a diagram in Annex I), which will define priority areas after reviewing the following aspects:

- development challenges that the agriculture, fisheries and forestry sector faces (summarized in the situation analysis in Part 2 of this document), in light of the economic, social and environmental conditions prevailing in the country;
- national policies adopted by the Royal Government of Cambodia (RGC) that respond to these challenges, including the response to climate change (as illustrated in Part 3);
- external assistance that Cambodia receives from external Development Partners to complement national efforts in various sub-sectors of agricultural and rural development (contained in Part 4);
- current FAO activities in this country (see Part 5, section 5.1);
- comparative advantages of FAO, as UN specialized agency, as they emerge from the strategic objectives, related organizational results, core functions and impact focus areas that FAO has defined in its *Strategic Framework 2010-2019*, and other programmatic documents (see Part 5, sections 5.2 -5.3).

Through these steps, it will be possible to define a “niche” that FAO will occupy in responding to Cambodian challenges identified in Part 2, on the basis of the national policies, strategic and plans of the RGC recalled in Part 3, in a way that will complement and not compete with the contribution from other external Development Partners as examined in Part 4. This analysis of external assistance to agriculture and rural development is summarized in a Donor Matrix reported in Annex VI. This “niche” will emphasize the specific contribution that FAO as a knowledge organization can offer on the basis of its prolonged and specialized experience that the Organization has accumulated in Cambodia and elsewhere in a number of specific areas (see Part 5).

It is on the basis of this logical sequence (see Annex I) that this NMTPF will identify “priority areas” for the years to come as the outcome of an analytical process. The “priority areas” will emerge from a comparison between a demand for support, expressed by national needs and national priorities and policies (Parts 2 and 3) and the potential supply that can be expressed by FAO comparative advantages (the above mentioned “niche” illustrated in Part 5), taking into account that other suppliers of development assistance operate in Cambodia to support agriculture and rural development (Part 4).

For each priority area, a number of outputs have been identified and corresponding activities in a comprehensive Programming Framework that illustrates what FAO will accomplish in the 5-year cycle 2011-2015 (see Part 6 of this document and Annex III for a Results Matrix, with indicators, assumptions and risks). The NMTPF priority areas are integrated with two overarching priorities that are fundamental to FAO strategy: (a) gender equity as a priority; (b) the need to prioritize effectiveness of public and private investment in agriculture. They crosscut all FAO programmed activities in Cambodia.

The structure of this Programming Framework corresponds to the challenges examined in the sector situation analysis summarized in Part 2 (see also Annex IV for a more detailed analysis), with an agriculture sector still anchored to a fragile subsistence rain-fed system, dominated by smallholder producers, centred on paddy rice production, where access to irrigation is often inadequate; performance is highly affected by events like drought, flood and pest affectation; productivity, however increased, is still low; and commercialization of products needs significant improvement. The NMTPF response is aligned to the approach adopted by the RGC in its Rectangular Strategy, the National Strategic Development Plan, and the Strategy for Agriculture and Water, the National Forest Programme, the strategies adopted in fisheries and the emerging policy on climate change, recalled in Part 3 (see Annex V for details).

Consistently with these policies, the agricultural strategy on which this NMTPF focuses on the development of agricultural productivity and diversification by “deepening” agriculture productivity, i.e. by *increasing yields using the existing land through intensification*, and by improving water management technology for rain-fed agriculture by focusing on the rehabilitation of irrigation schemes. This approach is also instrumental to the pursuit of a national strategy on food security and nutrition in the country, which is another pillar of this NMTPF.

Community-based development is fundamental for the RGC approach to development and so is for NMTPF, which conceives its activities both as support to national capacity development at the policy-making and strategic level and as technical assistance and advice in pilot interventions addressing targeted communities. The emphasis on community-based development will be reflected in the overall advice to national authorities and will become even more evident when promoting productivity increases, better use of water resources (through the support to Farmer Water User Groups or Committees), and similar community-based approaches adopted in fisheries and forestry respectively, which are based on the empowerment of local communities that participate directly, actively and equitably in joint activities such as formulating plans and programmes, promoting new initiatives (e.g. in aquaculture and carbon-market opportunities for carbon sequestration), management and maintenance of irrigation infrastructures, and promotion of mutual savings schemes.

FAO is not the biggest provider of assistance to the agriculture sector in Cambodia. There are at least eight Department Partners that have an even bigger portfolio, while others have a role that is at least as important as that of FAO. FAO is more active in some areas and relatively less active in others compared with other donors. The Organization is not a major player where a high intensity of capital investment is required, or where the link to the use of natural resources (soil, water, forestry and fisheries) is weak. Other actors have a bigger role in emergency operations through food aid than FAO has. FAO is however one of the biggest partners in the area of education and training for agriculture, food security and rural extension, policy advice on planning and strategy-design in sector activities, food safety and consumer protection, and agriculture-related emergency initiatives related to natural disasters. Other donors may be more active in some sub-sectors in financial terms. However, the modest financial dimension of FAO presence in some sub-sectors does not show the real value of FAO contribution, which is the ***provision of the best specialized science-based policy and technical advice and technical assistance, based on solid and prolonged experience tested in a broad variety of country situations in support to national development efforts in the FAO-mandated areas.***

This is the basis of the NMTPF 2011-2015, which provides for high-level contributions in several specialized areas where it is important to get the support from missions of international experts in normative and standard-setting domains and the lessons learnt from world-wide accumulated experience. These areas expand from crop intensification and soil use to livestock production improvement, consumer protection and food safety, from sustainable forestry development to fisheries, especially aquaculture in the case of Cambodia, linking knowledge-based con-

tributions with pilot interventions at community levels. FAO interventions may entail the complementary use of provisions of agricultural inputs (seeds, fertilizers) or constructions or infrastructure repairing (in irrigation projects), addressing the needs of the most vulnerable rural population. Food security is a crosscutting concern, which is fundamental both for the RGC and the NMTPF. The knowledge-based contribution from FAO may be in minority position if estimated in financial terms as compared with other external Development Partners but FAO continues to be the most proactive player in this sector, engaged in the largest number of agricultural sub-sectors (12) with the largest number of projects (about 50 projects) as compared with other external Development Partners operating in agriculture and rural development. Its role is distinguished for the highly specialized and knowledge-based nature of the Organization.

The NMTPF 2011-2015 also illustrates FAO's contribution to the United Nations Development Assistance Framework (UNDAF). The UN Country Team is finalizing the new UNDAF for the period 2011-2015 by the end of 2009. The preparation of this NMTPF has enabled FAO to provide a clear position on the UNDAF process on the contribution of FAO to support poverty reduction as far the agricultural sector is concerned, through a coherent system of outputs, activities and indicators. This coherence is illustrated in Annex II, which presents a comparison between the two processes.

The structure of the NMTPF Programming Framework, based on the elements above described, can be summarized as follows:

Priority Area 1: Sustainable improved agricultural productivity for smallholder farmers

Cluster (A) : **CROP**

- Output 1.1 Continued support to the formulation and implementation of national policies, plans, strategies and programmes that target the increase of sustainable crop production and other agricultural advancements;
- Output 1.2 Provide policy-makers and public officials with enhanced statistical information on agriculture to stimulate crop productivity;
- Output 1.3 Continued support to the improvement of agricultural productivity through technical advice, extension services and enhanced research;
- Output 1.4 Ensure the enhanced support to the management of plant genetic resources;

Cluster (B) : **SOIL USE**

- Output 1.5 Enhance soil productivity in the context of sustainable intensification through integrated management of other inputs, such as water, and consideration of environmental factors;
- Output 1.6 Adopt sustainable pest and disease management practices;

Cluster (C) : **LIVESTOCK PRODUCTION**

- Output 1.7 Adopt a national holistic strategy for livestock and enhance integrated animal production and health management;
- Output 1.8 Support to smallholder livestock production;

Priority Area 2: Improved consumer protection and market access to agricultural and related products

- Output 2.1 Improvement of conformity with food safety laws, regulations and standards with a basis in international and regional norms and standards through the development of plans, regulations and mandates in order to guarantee access to new or more profitable markets for Cambodian agricultural and fisheries products;
- Output 2.2 Technical assistance and backstopping are provided, along with other partners, to en-

- Output 2.3 Enhance conformity with food safety laws, regulations and standards;
- Output 2.3 Compliance with good agriculture practices (GAP) and other standards (including safe pesticide management) ensured;
- Output 2.4 Improve the capacity of national competent authorities through training for regulatory personnel and inspectors, laboratory personnel and institution involved in accreditation;
- Output 2.5 Support to agro-business, complementing efforts of other partners, to ensure that improved variety, quality, safety and added value is achieved in high potential exports in order to guarantee access to new or better markets for Cambodian agricultural and fisheries products;

Priority Area 3: Improved food security

- Output 3.1 Capacity building for policy formulation and analysis for Food Security established;
- Output 3.2 Strengthened national and sub-national agricultural systems that promote physical and economics access to sufficient, safe and nutritious food for vulnerable populations in targeted communities through expanded capacity of food production and post harvest handling of smallholder farmers;
- Output 3.3 Improved integrated management of water resources, water control and crop intensification of prevailing farming systems;

Priority Area 4: Improved natural resource management

- Output 4.1 National capacities enhanced in sustainable use of natural resources (forestry, fishery, land, and protected areas) for improvement of livelihood while securing biodiversity conservation;

Cluster (A) : **FISHERIES**

- Output 4.2 Continued implementation of strategy for responsible and sustainable fisheries with special attention to small-scale producers and aquaculture;

Cluster (B) : **FORESTRY**

- Output 4.3 Continued support to sustainable forest management and its integration with sustainable rural livelihoods and biodiversity conservation ensured;

Cluster (C) : **WATER**

- Output 4.4 Continued development of holistic land and water resource strategy, based on river basin approach through rehabilitation of existing participatory irrigation systems and integrated rural development approaches;

Priority Area 5: Climate change mitigation and adaptation, and disaster risk management

- Output 5.1 National capacities to respond to climate change with mitigation and adaptation measures in agriculture, forestry, fisheries, water resources and coastal zones
- Output 5.2 National capacity established to develop forestry-related carbon market; opportunities to generate carbon sequestration (credits) and reduce emissions from deforestation and forest degradation (REDD);
- Output 5.3 Capacity for emergency preparedness and disaster risk reduction management for impending food, agricultural crises, and climate related natural hazards is enhanced.

1 INTRODUCTION

1.1 BACKGROUND

This document summarizes a renewed effort to align FAO's assistance to Cambodia with the priorities that are most relevant in the present circumstances, taking into account the impact of recent external shocks, the evolution of national policies and the comparative advantage of FAO in its areas of competence. FAO began its development assistance to agriculture and related activities in Cambodia in 1993. Currently, the value of its portfolio of activities (for projects that have been active between January 2007 and September 2009) is estimated to amount to \$36, 286,169 (excluding regional initiatives and those funded as global initiatives). These activities are funded either with regular resources or extra-budgetary funds. They regard a large spectrum of domains, including improvement of agricultural productivity, irrigation, livestock, fisheries, food security, consumer protection and food safety (including sanitary and phyto-sanitary protection), promotion of access to new markets, forestry and environment, small-scale craft agro-industry. In the emergency relief area, the intervention in Avian Influenza and the initiative to relieve rural communities from the impact of volatile food prices deserve special attention. Regional initiatives (which amount to \$12,073,749) should be included too, although they are not easily attributable to Cambodia in monetary terms as distinct from other countries of the region. Nevertheless, they represent an important share of the development support that FAO provides to this country, mostly in areas such as fisheries, emergency, food security and natural resource management.

The value of FAO contribution however cannot be described by its financial dimension. As a knowledge institution mandated to support of agriculture, nutrition, and the protection of natural environment, FAO's main input to the development process is better expressed through its support to capacity development that the Organization can provide thanks to the qualified science-based technical advice that it can mobilize, its extensive world experience in specific areas, the widespread networks of specialized expertise that it maintains, and the lessons learnt from good practices in agriculture, fisheries, forestry and natural resource management accumulated in years.

The NMTPF process

In order to provide a better response to Cambodia's needs, FAO has been using, since 2006, the National Medium-Term Priority Framework (NMTPF) mechanism. NMTPF is a planning, management and monitoring tool through which both the Royal Government of Cambodia (RGC) and FAO identify a set of medium-term priorities for FAO assistance, consistent with the policies and development goals pursued by the Government and the strategy pursued by FAO as a world organization, around which a consistent programming framework of activities, and corresponding outputs, is developed and presented in a results-based matrix. The NMTPF process is also used to provide inputs to the United Nations Development Assistance Framework (UNDAF), where the specialized competencies of FAO are integrated with the activities of the rest of the UN system as support to Cambodia's development.

NMTPF is currently applied by FAO in several countries: 45 countries have a completed NMTPF, and in 37 countries its formulation is underway or under revision, while 29 other countries are planning to engage in the process soon. It is a new approach to planning and strategizing FAO activities. It is a framework based on national policies, strategies and plans but it is not a national programme. It is an innovative way of organizing a coherent response from FAO at the country level.

Adopting a programme approach, NMTPF intends to optimize the use of FAO comparative advantages, overcom-

ing the fragmentation that is immanent to its funding mechanisms, based on the combination of regular budget resources with more important flow of project-based earmarked extra-budgetary contributions that feed separate unilateral trust funds or other financing facilities.

As the NMTPF methodology is currently being revisited to ensure its full harmonization with the results-based regime adopted by the *FAO Strategic Framework 2010-2019*, this new strategic approach faces the challenge of demonstrating that it can generate a more effective response to national priorities, which are the primary driver of the Organization's activities in the country. NMTPF is an effective strategic tool only if it ensures alignment of the activities that it envisages with the national goals and strategies pursued by the RGC, as well as with FAO strategic objectives, organization results, core functions and impact focus areas adopted by the Organization at the global level.

Through the NMTPF process, areas where FAO has a comparative advantage are singled out to optimize the use of the Organization's support to Cambodia, identifying priority areas where FAO's capacity and technical skills offer the right answer. This process is also expected to facilitate the harmonization of FAO activities with the contributions of other donors that operate in Cambodia, emphasizing the complementary roles of different Development Partners, with different financial and technical capacities, different histories and mandates. For this reason, a donor matrix is introduced, both as a tool to define a "niche" for FAO's work in Cambodia and as potential platform to establish alliances, partnerships and complementarities with other Development Partners.

The NMTPF 2006-2010

The current NMTPF (2006-2010), the first ever done in Cambodia, was co-signed by the Ministry of Agriculture, Forestry and Fisheries (MAFF) and FAO in May 2006. It is FAO's response to the body of policies and strategies that were launched at the time, in particular the Rectangular Strategy and the National Development Strategic Plan for 2006-2010. Its priority areas are the following:

- Sector and sub-sector policy assistance and advocacy;
- National Programme for Food Security and Poverty Reduction;
- Productivity and competitiveness enhancement in agriculture;
- Community-based national resources management; and

Animal, plant and fish disease control, food safety and emergency response to natural disasters.

It is in the course of the implementation of the current NMTPF that FAO has contributed, together with other external Development Partners, to the formulation of the national Strategy for Agriculture and Water (SAW), which still represents the basic terms of reference for FAO's contributions in areas such as agricultural development and diversification, food security, irrigation, research, education and extension. While FAO has supported MAFF and MOWRAM, during the formulation of SAW, it is now its role to contribute, with other partners, to its implementation.

The need for a new NMTPF for 2011-2015

Given the challenges of the present economic juncture, FAO has intensified its engagement with the RGC, its Development Partners, national and international stakeholders, and the UN system (also through the UNDAF, currently under preparation). With the objective of making fuller use of FAO comparative advantages and better shaping its development assistance to meet the challenges that the country faces, the RGC has recently endorsed the proposal of FAO to start the preparation of a new NMTPF for the period 2011-2015. This will allow FAO to be better placed to respond to the evolving political and strategic environment of the country, while recovery, economic regeneration and sustainable development are pursued.

The approach adopted by the NMTPF 2006-2010 was comprehensive. The formulation of a new NMTPF allows the adoption of a more focused approach, as it may be required to respond the intensity of present challenges and the new strategies that the RGC intends to pursue under the threats of formidable external shocks such as the global economic crisis, the instability of food prices and challenges posed by climate change.

2 COUNTRY AND SECTOR ANALYSIS

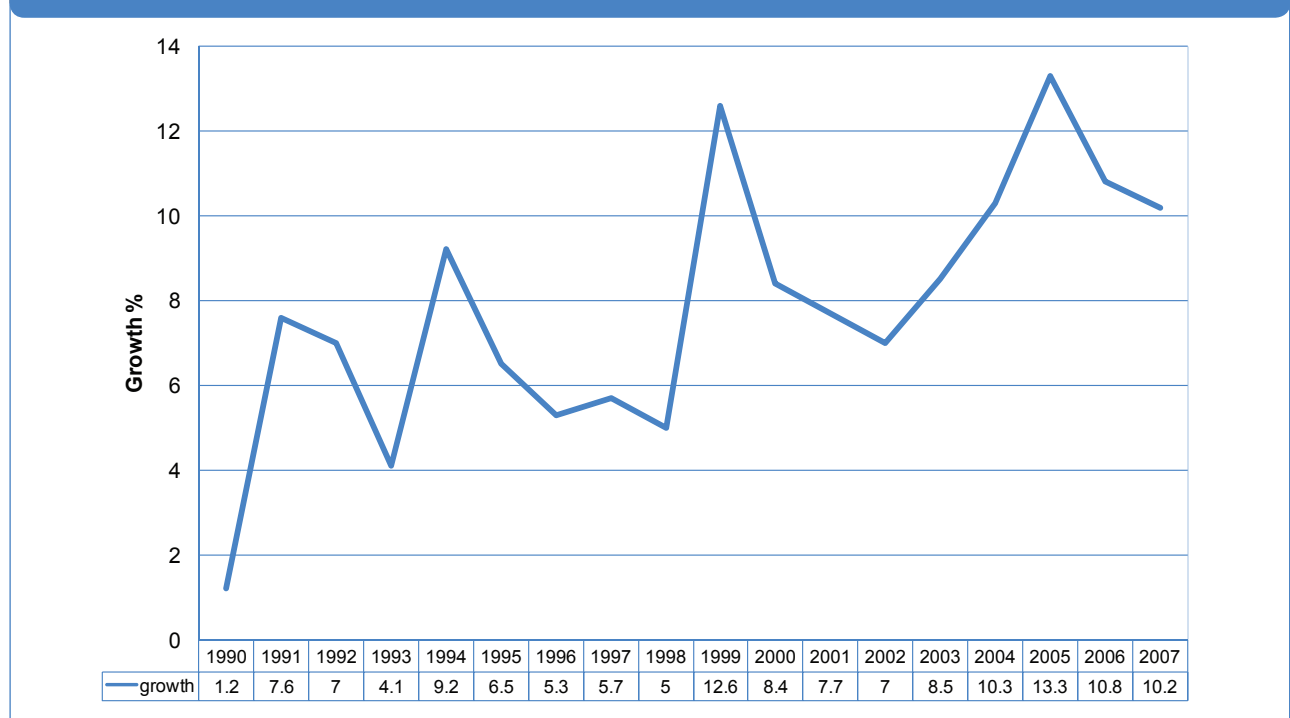
2.1 THE ECONOMY

The economic and social achievements of successful and sustained economic growth, with considerable progress in terms of poverty reduction since 1993, are the outcome of a strong determination of the Cambodian people in regaining trust in its potentials, *“strengthening peace, stability and social order, entrenching Democracy, promoting respect for human rights and dignity, ensuring sustainable and equitable development, and strengthening Cambodia’s social fabric to ensure that the Cambodian people are well educated, culturally advanced, engaged in dignified livelihood and living in harmony in family and society.”*¹

The main pillars of Cambodia impressive economic growth in the past decade have been agriculture, tourism, garment and construction, enabled by macroeconomic stability and peace. GDP growth in 1990-2007 has been impressive in the last 10 years, reaching peaks of 13.3% in 2005 and averaging 10.02% over the period 2002-2007.²

Since the end of 2007, however, the impact of the volatility of food and energy prices, followed by the devastating effects of the global economic downturn, put the fast expansion of Cambodian economy and its exports almost to a standstill, showing the vulnerability of the Cambodian economy to external shocks. Whilst two-digit growth rates have been registered in the period 2004-2007, economic predictions for 2008 and 2009 are pessimistic.

Figure 2.1: GDP Growth



Source: ADB

¹ Address by His Excellency Samdech Hun Sen, Prime Minister of the Royal Government of Cambodia on “Rectangular Strategy” For Growth, Employment, Equity and Efficiency, Phnom Penh, 16 July 2004.

² Source: ADB

The impact of the recent crisis is only marginally due to the financial turmoil but is mostly generated by the significant contraction in exports of the garment industry, decline in volume of tourists, and collapse of foreign investment, which also affected the construction industry. The reduced competitiveness of Cambodian economy, due to the higher rate of inflation in 2008, and the negative impact of lower prices of several agriculture products that follow the soaring food prices of two years ago, increased cost of energy and other productive inputs, complete the gloomy picture of a downward spiral, where the locomotive of the garment industry, tourism and construction has suddenly jammed.

The achievements reached in recent years in terms of poverty reduction, income growth, job generation, health care, access to educational services, food security and social protection, are now under threat. Unemployment in non-farming industries is increasing. Women working in the garment sector are particularly affected. Remittances of urban income earners to their rural households have dried up, making rural income the only source for subsistence. Indebtedness of individuals has reached unprecedented levels, including among small-scale farmers. Food insecurity is growing at a worrisome pace.

The improved prospects for a few industrial economies and a few countries in the Asian region for 2010 do not seem to have changed significantly the perception of a gloomy perspective for the Cambodian economy, and the most optimistic predictions do not allow for anything but a modest recovery in the years to come. In present circumstances, agriculture is the only sector that is expected to continue to grow in 2009, where there are a lot of potentials not yet fully exploited. This however requires that Cambodia better harnesses the opportunities for productivity gains, value addition, and product diversification available in this sector.

This NMTPF intends to identify these potentials and provide a framework for FAO support to the RGC.

2.2 THE AGRICULTURE SECTOR

Contribution of agriculture to the economy

Agriculture is one of the main drivers of the economy, although its contribution to GDP has historically decreased from 55.6% in 1990 to about 30% in 2007.³ If forestry and fisheries are included, it is the major employer of the country, with a total of 4.75 million workers (but also its share of employment has been declining in the last six years, down from 70.2% in 2002 to 55.9%). Cambodia has huge endowments of natural resources (land, water, climatic conditions and geographic position) which represent potential comparative advantages for agriculture. With 85% of the population living in the rural areas, and over 60% of the population directly or indirectly depends on income generated in agriculture, forestry or fisheries, agriculture is crucial to address poverty and influence on future directions of economic growth. Nevertheless, the rural economy grows only at a modest pace. Investments are needed to increase agricultural productivity, guarantee food security, better use of existing cultivable areas and improve food processing capacity, but are still very modest. Prevailing farming systems are of the subsistence type, where farmers rely on rain fed agriculture, in spite of the abundant water resources. Agriculture increasingly faces threats from climate change and erratic sequencing of floods and droughts.

Growth of the agriculture sector

Growth rates for agricultural production have seldom reached the high peaks of manufacturing and fluctuated over the time due to unpredictable weather conditions and other contingencies. The average annual growth of agricultural GDP was 4.07% in the period 1990-2007 and most recently (considering the period 2002-2007) has reached an average of 5.38% per year. While all the sectors of the economy have been recently suffering from a harsh decline, projections for the 2009 performance of the agricultural sector are still positive, ranging from 1.5 to 6% according to different sources.

³ According to ADB (it was 32% according to IMF).

Trade and agriculture

Agriculture contributes significantly to external trade but it cannot be compared with the garment exports. In 2007, rice exports amounted to \$411 million (10% of total exports, but garment exported amounted to more than 73.3%), while fish exports were \$105 million and rubber exports amounted to \$157 million, over a total of \$3,874 million for domestic exports. Garment exports drastically dropped in 2008 by 25%, while agricultural exports have been less vulnerable to the fluctuations of the economy. There is a huge potential for agricultural still unexplored.

Agriculture potentials for exports and import substitution are significant but require better compliance with stringent international trade standards, food safety requirements and quality controls for agricultural products, while improving food-based health and nutrition for Cambodian population.

Most rice exports are in the form of paddy, and not milled rice. Middlemen absorb high profit margins from collecting unprocessed production in the villages and selling it to the urban markets or exporting it to China, Thailand and Viet Nam. Cambodia still imports 70% of the fruits and vegetable that it consumes. Diversification of agricultural products is the obvious response to this imbalance through import substitution, whereas there is scope for expanding high-value crops for exports, moving from paddy to fine rice, and exploiting market spaces for products such as fine herbs and spices.

Crops

Crops represent the biggest and increasing share of sector production (52 % in 2007, equal to 15.5% of GDP) , and the major source of income to farmers, followed by fisheries (24 % of the sector and 6.9% of GDP), livestock and poultry (16 % of the sector and 4.4% of GDP)⁴, while forestry and logging share of this sector has been declining over the years and in 2007 represented less than 10 % (only 2.9% of GDP , while it used to be 16.1 % of GDP in 1994, reduced to 5.6% in 2003).

Among the individual crops, raw rice (paddy) dominates with 29% of total sector production (8.6% of GDP), with an average annual growth of 5.95% over the period 1993-2005. Rice production comprises 84% of total cultivated land and provides 75% of the population's food requirements. Other relevant crops are: corn, soybean, mung-bean, cassava, sugarcane, peanut, sesame, sweet potatoes, Chinese cabbage, cauliflower, lettuce, water melon and tobacco. There are plantations dedicated to industrial crops, such as rubber, cashew nut, pepper, palm sugar, palm oil and fruit trees (mango, pineapple, jackfruit, durian, rambutan and banana).

Livestock and poultry

The Cambodian livestock and poultry sector, dominated by smallholders, is one of the least developed in the region, with scarce investment. Cambodia continues to be highly dependent on imports of large quantity of livestock products from abroad. Animals are kept mainly for home consumption, provision of draught power and manure, or as a source of cash income, with a level of production significantly stagnant. Exception is poultry that has grown significantly in spite the effects of the Avian Influenza. The potential of livestock (cattle, buffalo and pigs) is considerable, but the vulnerability of its production to trans-boundary diseases has been a reason of major concern.

Fisheries

Freshwater and marine fisheries and aquatic resources provide employment to over three million people, involving up to 45% of the households living in riparian provinces, many of whom are among the poorest in the country. Fish represents the main source of protein and calcium intake for Cambodians and 75% of the total national intake, since the basic diet comprises fish and rice. The potential of inland fisheries is high: 90% of fish produced comes from freshwater basins. Nevertheless, fishing, fish processing and marketing systems are complex and highly fragmented, and depend on a large number of small-scale operators. Access to services in landing centres and to fish markets is inadequate. Prevailing hygienic conditions are insufficient, affecting fish safety and quality.

⁴ IMF data.

There is lack of trained staff in food science. Post-harvest technology is poor and so is endowment of equipment in food safety laboratories. Application of food safety control is inadequate, preventing expansion and diversification of fish exports.

Forestry

Although forests cover more than 58% of the total land, forestry contribution to GDP has declined, after the uncontrolled deforestation of past decades, with illegal logging and encroachment upon forest land still frequent. Introduction of “community forestry” is the recent approach to integrate progress in rural livelihoods with sustainable development through mitigation of climate change, biodiversity conservation, reforestation, and forestry-related voluntary carbon market opportunities through carbon credit investments in small-scale forestry initiatives.

2.3 CHALLENGES TO AGRICULTURE PERFORMANCE

NMTPF identifies priority areas for FAO action, after recognizing major constraints faced by Cambodian agriculture. What follows is a synthesis of key standing challenges to the sector.

Major constraints: an overview

In spite of its positive results and its potential, agriculture growth has so far been less than optimal. Cambodia’s agriculture is still anchored to a fragile subsistence rain-fed system, centred on paddy rice production, where access to irrigation is often inadequate. Its performance is highly affected by events like drought, flood and pest affectation. Low productivity prevails in subsistence agriculture, due to inadequate management of natural resources, low level of technology, poor farming skills, insufficient use of modern seed varieties and fertilizer, poor soil management, lack or limited state of infrastructures (roads and irrigation systems and access to them), weaknesses or inexistence of commercialization networks, poor social conditions prevailing in rural areas (education, health services, water quality, sanitation), limited access to extension services and rural credit (especially for small-scale farmers), inadequate post-harvest management and processing, institutional inefficiency in coordinating input supplies and output commercialization for small-scale farming. Smallholder producers prevail in agriculture, fisheries and forestry, but their community organizations are either inexistent or very weak, preventing to take advantages of the opportunities that community initiatives may generate in agriculture performance, water use, harvesting and post-harvesting operations, savings and mutual credit, procurement, commercialization and distribution. Agriculture competitiveness in Cambodia is lower than in its regional neighbours. Moreover, the sector recently suffered from the consequences of a steep decline in prices of commodities such as cassava, maize, rice and cashew nuts, after a phase of soaring food prices, which hinder the efforts of small producers to diversify production and gain better living through exports of production surpluses.

Productivity in agriculture

The low level of overall productivity, both in labour and land terms⁵, is a basic feature of the sector, even though significant improvements have been achieved, especially in rice production. Yields per hectare increased from 1.31 tons per ha (in 1993) to 1.97 tons (in 2004) and according to more recent estimates, have reached the unprecedented level of 2.489 tons per ha in 2008. These results explain the rice surplus, which goes above the needs for seeds and domestic consumption, making Cambodia a strong rice exporter, in spite of price fluctuations.⁶ Productivity is however inferior than in surrounding countries with similar geo-climatic conditions, where yields of 3 to 5 tons per ha are not rare.

Access to land and soil productivity

Cambodia is endowed with 18.1 million hectares of land but only 22% is agricultural land, whereas 58% is covered

⁵ According to the AusAid, *Cambodia Sector Report, Diagnostic Study*, 2006, labour productivity in agriculture was \$170 per worker and productivity of land was \$518 per hectare.

⁶ In 2004-2005, this surplus reached the level of 416,118 tons of milled rice.

by forests, 15% is grassland, shrubs and inundated land and 5% is urban area. Land distribution is inequitable, and most poor households own small parcels. The average size of the farm land is 1.53 ha per farm household (1.33 ha for the poor farm households).⁷ Male-headed households average 4.4 plots per household and 0.39 ha per plot, as female-headed households own only 3.8 plots per household and 0.30 ha per plot.⁸ Fragmentation of farming land affects efficiency.

Access to land is central. Many farmers do not have legal title to their land, which makes them vulnerable and reduces incentives to invest. The RGC's land reform programme is part of the Government strategy for development. Land tenure issues and land distribution however go beyond the scope of this NMPF, which focuses on soil productivity. Soil quality differs across the country. Intensification of rice production depends on land suitability for multiple cropping, potentials for other crops in lowlands, in wet and dry seasons (given prevailing conditions for irrigation or water storage), and upgrading of upland farming both in rice and non-rice crops.⁹ Information on soil fertility is often inadequate.

Natural resource management: water, forestry and fisheries

The sustainable use of these natural resources, including forestry, mangrove, protected areas and fisheries, has become a central component of government policy, given the rich endowment in land, water, forestry, and fisheries resources.

About 90 percent of its land lies in the catchment area of a perennial river, with an estimated annual runoff of 475 billion cubic meters of water that comes from the Mekong system. During the wet season (with a generous rainfall that lasts six months of the year), floods are frequent and practically unmanaged, except for a dike that protects the capital. Floods have some positive effects by replenishing soil nutrients and moisture but also damage infrastructures, crops and personal property.

Access to irrigation systems varies geographically. In some north-eastern provinces there are virtually no irrigated areas. Only 23% of the area dedicated to rice (473,000 ha.) is included in some kind of irrigation schemes (11% is limited to wet season irrigation, another 11% benefits from partial dry season irrigation and only 1% is fully irrigated in all seasons). A large scale expansion of the irrigation systems for rice production however is not economically viable. Less expensive rehabilitation of existing irrigation systems is more cost-effective. Current emphasis is on river-basin plans, complementing the use of irrigation for farming with inland fisheries and ensuring compatibility between natural flooding and flood recession regime and the involvement of Farmer Water User Committees (FWUCs).

Community-based natural resource management (both in the forestry and fisheries sectors) has become the main approach pursued for the enhancement of livelihoods in an environment-friendly strategy for poverty reduction. The pursuit of the Code of Conduct for Responsible Fisheries has been part of these efforts. In forestry, major efforts have focused on forest rehabilitation and responsible use of forestry resources, with emphasis on family-based smallholder forestry, extension to household and community empowerment through participatory approach in management, value-adding of wood products through improved wood processing capacity and development of non-wood forest products, and the development of forestry-related voluntary carbon credit opportunities.

Technology in agriculture

Fertilizer usage is lower than in neighbouring countries. Farmers show little interest in technological innovation, and low productivity technology prevails. Introduction of improved seed varieties is inadequate and so is information on new varieties of seeds, proper use of fertilizer and pesticides and soil testing. Only 25% of cultivated land is prepared with the use of machines. About 64% of farmers do not have access or do not own major farm

⁷ According to the 1999 Census. See AusAid, *Cambodia Sector Report, Diagnostic Study* cit., Phase 1 of Design, Agricultural Programme, Cambodia, 2007-12 – Programme Concept Document Final Report, Table 295.

⁸ See CDRI, *Cambodia Land Titling Rural Baseline Survey Report, December 2007*, page 2.

⁹ See "Assessing Land Suitability for Crop Diversification in Cambodia" by R.W. Bell, N. Schoknecht, W. Vance, and S. Hin, in CARDI, "Proceedings etc." cit.

machinery. Inadequate is the familiarity with the operational functioning and maintenance of agricultural machinery. Except for few cases, milling makes use of obsolete technologies, generating low-level quality of milled rice. Harvesting and post-harvesting technology is not comparable with that of neighbouring countries. Inadequate knowledge is available to raise livestock. Small-scale fishers face similar constraints.

Research and extension services are insufficient. Limited capacity of agricultural research is still prevailing in the country, also due to inadequacies of the existing research facilities, their limited research programmes and the limited resources to which they have access. Funds and facilities available to CARDI, the main research institution on rice, are not equal to the task.

There are 4 to 5 extension workers for each district, covering about 10 communes on average (almost 100 villages), which may have a population of as many as 10,000 households. Several communes do not have access to any extension services. Training provided through extension is often limited at introductory level and not followed up with adequate sequel to ensure effective productivity gains.

Competitiveness in agriculture

Competitiveness is central to catch up the opportunities for import substitution and exports in agriculture. It needs to be verified both in price terms and in terms of quality of Cambodian supplies.

In terms of price competitiveness, improvements in productivity have not been sufficient to reduce the gap in yields per hectare with neighboring countries, although the lower cost of labour has undoubtedly favoured Cambodian exports of paddy in regional exports. Other cost factors, however, are not so positive. Linkages between farmers/producers, wholesalers, and consumers or exporters are weak, and profit margins for Cambodian farmers are limited and often absorbed by intermediaries. Infrastructure for transportation, access to rural road and distribution and storage facilities are inadequate, affecting shipping costs. Post-harvesting processing and marketing operations are highly inefficient, affecting quality and reliability of supply. Access to good quality supplies of inputs (better seed and fertilizer) is often unreliable. Access to credit and working capital is inadequate, inflating cost of production. Rice exports are limited to paddy and are not extended to milled rice due to the limited capacity of Cambodian mills, scarce supply of working capital, and inadequate transport facilities.

Market access, food safety and consumer protection

Market access for plant and animal products has increasingly become subject to risk assessment by the importing countries. Therefore, one key component of competitiveness is the compliance with the WTO Agreement on Technical Barriers to Trade and the WTO Framework Agreement on the Application of the Sanitary and Phyto-Sanitary (SPS) measures. Significant Cambodian products continue to be excluded from export markets on the grounds of safety, due to poor hygiene in handling or other contaminations, or on grounds of potential environmental risks. International inspectors have highlighted both institutional and technical constraints in putting in place a credible regime of monitoring and surveillance, inspection, testing and certification of Cambodia export products. Certificates of conformity issued by the RGC institutions have little value to the importer of Cambodian goods unless they are internationally accredited. This applies to agricultural products as well as to fisheries.

Adequacy of food safety control system are crucial not only to meet international requirements for exports but also and particularly of the protection of domestic consumers. The country continues to import massive volumes of fruit and vegetable, only because of the low quality of its domestic produce and the low standards of hygiene applied in their production and distribution. The abundant fish supply, especially from inland fisheries, is not immune of serious safety limitations also for domestic consumption, and even more so for exports. Any efforts intended to enhance the quality of food products for the protection of Cambodian consumers' health, in the framework of food security policies that pursue the enhancement of the nutrition value of their food intake, would also increase the credibility of the measures taken to ensure international recognition to export certification. Domestic hygiene requirements need to be upgraded. Capacity for diagnosis laboratories need to be further developed. Inspection and surveillance system, both domestically and at the border, need to be strengthened and enforced.

Food security challenges

With 34.7% of the population living below the official income poverty line, and 20% of the population living below the food poverty line in 2004, food security is one of the most significant problems that Cambodia faces today. Nationally 23 percent of the Cambodian population, or three million people, were food-deprived in 2003-2004, consuming less than the minimum dietary energy requirement (MDER) of 1715 kcal/person/day but 69 percent of the lowest income quintile was considered food-deprived. The food-deprived population consists of the persons that would have to increase food consumption by 280 kcal/person/day in order to reach the average national level of food consumed. In Cambodia only the fifth (wealthiest) quintile was found to have a balanced diet, with the proportion of proteins, fats and carbohydrates indicated in the FAO/WHO guidelines. The remaining 80 percent lacked a balanced diet, having a diet low in fats and proteins and high in carbohydrates, the latter sourced particularly from cereals, notably rice.

Households who are more exposed to food insecurity need to protect themselves from disasters, both natural and man-made. The increasing frequency of natural calamities such as drought or floods is often compromising the source of income of the poorest or most vulnerable population, with the consequence of lowering their food intake. The recent global economic crisis put entire communities at risk, drying their income sources, and increasing their food insecurity. For them, the establishment or maintenance of rice banks and other types of “food-safety nets”, or access to other kinds of assistance from the RGC may be required, in concomitance with measures such as intensification and diversification of food production, particularly by smallholder farming households and local fishing and forestry communities.

Climate change: the new challenges

The sustainable use of these natural resources, including forestry, mangrove, protected areas and fisheries, is presently being combined with increasing attention to, and search of a right response to, climate change and protection of the environment. Biodiversity conservation is an important component of this approach. The protection of the environment from soil erosion, degradation, salinity and from the losses to the forestry endowment due to natural or man-made causes is also central. Demographic pressure increasingly threatens ecosystems such as the one in Tonle Sap, based on flooded forest and lake fisheries. The presence of landmines is still a major threat to the natural resources in several regions of the country.

Partly linked to natural resource management is the adoption of disaster prevention measures and disaster risk reduction management. Natural disasters are strongly linked to climatic conditions. Events such as floods and droughts have a major bearing on economic performance and poverty reduction. Between 1998 and 2002, floods accounted for 70% of production losses of rice and drought accounted for 20% of those losses. The link between the intensification of the frequency of these natural disasters and climate change is strong in Cambodia.

Cambodia is particularly vulnerable to the effects of climate change. Overall temperature increase could increase total annual rainfall by 35% as compared with current levels. Lowlands, where Cambodian population is currently concentrated, are going to be more affected though increase risk of pest infestation and reduced crop yields. Water availability is going to be altered. Erosions, inundations, increases in extension of wetlands and stress marshes, and salinisation of lands may occur more intensively. Measures are required to adapt coastal and water resource infrastructures and increase national capacity to predict the impact of climate.

3

DEVELOPMENT POLICIES AND STRATEGIES

3.1 AN OVERVIEW OF DEVELOPMENT POLICIES

NMTPF is the response not only to the national development needs as identified in the situation analysis summarized in the previous section. It is also and mostly FAO response to national policies and strategies adopted by the RGC while taking into account the strategic orientations of the Organization and its comparative advantages.

The main national development policies relevant for this NMTPF include the nine Cambodian Millennium Development Goals (GMDGs) adopted in 2003, the *Rectangular Strategy for Growth, Employment, Equity and Efficiency* (RS) launched in 2004, the *National Strategic Development Plan* (NSDP) for the period 2006-2010, *Phase II of the Rectangular Strategy* (RS II) launched on 28 September 2008, and the extension of the current NSDP until 2013, still under definition at the time this text is drafted. Other relevant government strategies and plans are to be found in specific sectors, including the Strategy for Agriculture and Water – 2006-2010, the Strategic Framework on Food Security and Nutrition 2008-2012, the National Forestry Programme and the Law on Forestry, and the Law on Fisheries and corresponding fisheries sector policy.¹⁰

The enhancement of the agricultural sector is the first pillar of growth process in the RS, being the other three pillars private sector development and employment generation, continued rehabilitation and construction of physical infrastructure; and capacity building and human resource development.

Three basic priority goals will be pursued in both phases of the RS and the NSDP as regard the agriculture sector: (1) enhancement of food security, (2) enhancement of agriculture productivity and diversification, (3) expansion of market access for agricultural products. These three basic goals should be integrated with the pursuit of better natural resource management, adequate response to climate change and improved preparedness to natural disasters, which are also core national priorities pursued by the RGC. All these priorities are the leitmotiv of the new NMTPF.

3.2 BASIC APPROACH TO A NATIONAL STRATEGY FOR AGRICULTURE DEVELOPMENT

The basic strategic approach adopted by RGC in the RS, the NSDP and the SAW, is that the promotion of agricultural productivity and diversification is pursued by “deepening” agriculture productivity, i.e. *by increasing yields using the existing land through intensification*, and not through the “expansion” of cultivated land through what has also been defined as “extensive” agriculture.

The RGC recognizes that in order to increase agriculture productivity, Cambodia faces difficult choices among alternative uses of limited funds, given the complexity of the irrigation requirements, since irrigable cropland represents less than 20% of total cultivable land, either for the unsuitability of land topography or for the excessive distance of farm lots from water sources. Decisions regarding the scale of investment in irrigation schemes are affected by this constraint. On the basis of findings of some cost-benefit analyses, the RGC recognizes that in this country it is more efficient (cost-effective) to improve water management technology for rain-fed agriculture than expanding existing irrigation infrastructures on a large scale, even though there are cases when benefits may justify expansion of irrigation schemes. The prevailing approach is therefore that rehabilitation of existing schemes is preferred to the promotion of large-scale investment in new systems. That entails that a large proportion of farms will continue to be confined to rain-fed agriculture.

¹⁰ See Annex 5 for previous policy strategies and a more detailed analysis of currently relevant policies and strategies.

The RGC also recognizes the relative importance of rice and other crops as a means of food security for Cambodia's subsistence farmers, which explains why rice production takes such a high priority over other crops in so many districts, and the difficulty of promoting other crops, when farmers fear for the high risk of investment in new productions.

On the basis of these key premises, the RGC has pursued – in the context of the RS, the NSDP and the SAW – an approach to improving agriculture performance which can be characterized by the following strategic actions:

- Intensification of cropping;
- Pursuit of an increase in rice yields (NSDP aimed at reaching at least an average of 2.4 tons per hectare, target that has been overreached);
- Encourage diversification of crops (including fruits and vegetables) that could be used not only for self-consumption but also for commercialization (turning into cash crops), in order to achieve better income security, thereby ensure food security;
- Initiate the “one village-one product” to attract the involvement of the private sector through contract farming;
- Enhance conformity of agricultural products with international standards;
- Modernize agro-processing of rural products;
- Strengthen and enlarge animal production and animal husbandry and veterinary services;
- Promotion of export markets for niche products, including organic farm exports.

The results achieved with these actions until 2007 in a relatively good economic environment – such as macro-economic stability, unprecedented economic growth with low inflation and stable exchange rate, and expanded industrial sector – were significant also in terms of increased agricultural productivity, but have not been sufficient to define a development path for future years that is immune from threats and risks, given the intensity and directions of the current challenges.

In RS II, the RGC recognized a number of these challenges:

1. The economy continues to be narrowly based around four sectors (garment, tourism, construction and agriculture) and three of them are extremely vulnerable while agriculture has not reached its full potential;
2. Climate change, increase in oil price, soaring food price, depreciation of US dollar, global economic imbalances and the deep financial crisis resulting in a global economic slowdown, have brought severe inflationary pressure on the Cambodian economy, further accelerated by the increase in domestic demand;
3. While poverty rate fell from 47% in 1993 to 32% in 2007, rural poverty rate remains high, with a widening gap between the rich and the poor, and deep urban and rural inequality;
4. Access to electricity in rural areas is still limited;
5. The irrigation system has not been fully developed and utilized to its potential;
6. Shortages of technicians and skilled workers are a major obstacle to accelerating economic development also in rural areas;
7. Provision of health care services, sanitation and clean water in rural areas has not yet met the targets set in the GMDGs.

It is by identifying all these facts that the RGC has been building a strategy for the development of agriculture aimed, most of all, at the improvement of productivity and diversification of agriculture, integrated with reforms that affect land use, water resources, fisheries and forestry. Such a strategy starts with the identification of five basic **potential** reasons why agriculture is so important for Cambodia and agriculture and agro-industrial activities can become major contributions to economic growth in the country:

- If agriculture benefits from improved productivity and diversification, it can serve as the “dynamic driving force for economic growth and poverty reduction”;

- agricultural growth is a major factor in providing better living conditions to the rural people;
- agricultural growth is a major contributor to ensure nutritional improvement and food security; and
- agricultural growth is potentially a major contributor to the expansion of exports.

Agriculture, however, cannot improve in isolation. Both RS and RS II recognize that adequate access to productive factors is required, and in particular: (a) access to land; (b) access to water and irrigation schemes; (c) access to support services such as agricultural research and rural extension; (d) access to inputs such as seeds, fertilizers, etc.; and (e) access to rural credit.

3.3 GOVERNMENT PRIORITIES FOR IMPROVED AGRICULTURE PRODUCTIVITY AND DIVERSIFICATION

This approach to agriculture development has been translated into a number of measures through which the RGC intended to pursue gains in crop productivity:

- Identification of best crops through soil surveys and other means;
- Pursuit of intensification of cropping, including multiple seasonal crops on the same land;
- Increase of yields by use of better inputs (seeds, fertilizers, proper practices), improved water management, and crop protection; and, at the same time, promotion of low-input, low-cost methods of production, including System of Rice Intensification (SRI), to avoid over-use of pesticides; and
- Diversification of crops.

RS II has suggested special efforts to improve performance of this sector:

- i. Expansion of the system of technical and agricultural extension services, to roll them out to the district level, and establish links with a community level volunteer network;
- ii. Partnership between small land holders and large-scale agricultural farms, between economic and social land concessionaires;
- iii. Encouragement of multi-purpose farms in order to increase productivity in animal husbandry and multi-crops;
- iv. Establishment of an enabling environment to attract private investments (domestic and foreign) and contributions from NGOs to the transfer of know-how to farmers;
- v. Enhancement of the link of farmers with regional and global agricultural markets;
- vi. Improvements of the quality of agricultural products in conformity with international standards.

The RGC recognizes that agriculture development requires an integrated approach to rural development, which takes account of a series of other concomitant factors such as the following:

- improvements in physical infrastructure, particularly through restoration and construction of transport infrastructure (inland, marine and air transport), and especially through the reconstruction of rural roads;
- better management of water resources and irrigation (high priority is given to the rehabilitation of existing irrigation systems, and construction of new ones, as well as their maintenance through an efficient management of irrigation infrastructure, water reservoirs, canals, pipes, drainages, flood and sea protection levies, and water pumping stations to increase irrigated areas and boost agricultural production);
- development of energy sources to support agricultural production (e.g. through the provision of electricity in rural areas through small-scale generating units);
- importance of community-based development of fisheries through the empowerment of local communities that can participate directly, actively and equitably in fishery plans, programmes and management;
- promoting aquaculture and assistance to fish farmers (also with contribution of technology, seed, credit and better market access); and

- pursuit of the goal of the Forestry Reform, which is to ensure a sustainable forestry management through a sustainable forest management policy, also through the development of a Protected Area System to protect biodiversity and endangered species, and the development of Community Forestry, also in parallel to interventions to address challenges of climate change.

3.4 STRATEGY ON AGRICULTURE AND WATER (SAW)

The policy for agriculture development pursued by the RGC is specified more in details in Strategy on Agriculture and Water (SAW) for the period 2006-2010, prepared under the leadership of MAFF and MOWRAM, which is likely to be implemented throughout the period of the extension of the NSDP (until 2013). SAW focuses on the *'enhancement of the agricultural sector'* and the *'rehabilitation and construction of physical infrastructure'*, which includes *'management of water resources and irrigation'*. Fisheries and forestry are not addressed in SAW, as they are covered by other specific strategic processes. Similarly, little attention is given to livestock in SAW, which focuses on crops, which explains why this NMPF suggests the formulation of a national livestock strategy.

The approach adopted by SAW is to promote a process that ensures first that a few basic pre-conditions are verified (e.g. governance), and specific capacities are built, mainly in MAFF and MOWRAM (not only at central level but also at province and district levels), so that an enabling environment for the development of relevant policies in agriculture and water is in place. In second place, SAW focuses on the interaction between the mobilization of natural resource and the mobilization of human and financial resource, with the intent of promoting the empowerment of farmers and local communities. In doing so, SAW applies a River Basin approach to integrated water and land management, since river basins provide a better basis for managing water resources than administrative boundaries. The ultimate goal of this strategic process is to increase both an increase in agriculture productivity and an expansion of commercialized agriculture. The increase in productivity entails both the achievement of food security and the increase in crop yields. The latter will be also depend on improvements in the quality of inputs, such as seeds and fertilizers, reduction of harvesting and post-harvest losses and introduction of innovative agricultural and water management practices.¹¹

In this logical sequence, the mobilization of natural resources (water, land and soil) requires an improvement of farm water management (e.g. through water harvesting/storage, gravity-fed irrigation systems, and technology such as drip irrigation of vegetables), promotion of soil fertility management, protection of water resources from pollution and degradation in order to be available also for fisheries and ecosystem maintenance, and promotion of rice-field fisheries and aquaculture.

Capacity building efforts to support farmers and other members of the rural households require measures to upgrade skills; improve access to credit, inputs (e.g. fertilizer or agricultural machinery) and facilities (e.g. pumps); promotion of investment skills (e.g. in rice milling) in agribusiness, through education, training and extension, and development of appropriate technology.

The empowerment of people and communities, such as Farmer Water User Communities, cooperatives and other organizations, to market crops and purchase inputs, by promoting access to micro-credit and other funding sources and encouraging community organizations (Commune Councils, Village Development Committees, etc., with access to Commune-Development Funds) is a fundamental feature of this strategy.

The Strategy is implemented in five National Programmes that aim to achieve corresponding development goals (see Annex 5 for details), currently being harmonized:

- Programme 1 : Institutional capacity building and management support programme for agriculture and water resources
- Programme 2 : Food security support programme
- Programme 3 : Agricultural and agri-business (value-chain) support programme
- Programme 4 : Water resources, irrigation management and land programme
- Programme 5 : Agricultural and water resources research, education and extension programme

¹¹ See Annex 5 for a more detailed presentation of SAW.

3.5 STRATEGIC FRAMEWORK ON FOOD SECURITY AND NUTRITION (SFFSN)

The centrality of food security as one of the National Programmes of SAW justifies the attention to a specific strategy that the RGC has adopted in this area. In 2007, the Council for Agricultural and Rural Development (CARD), in consultation with the Technical Working Group on Food Security and Nutrition (TWG-FSN), prepared the Strategic Framework for Food Security and Nutrition in Cambodia 2008-2012 (SFFSN), which is a reference document on the cross-cutting issue of food security and nutrition. SFFSN has influenced the formulation of Programme 2 of SAW (Food Security Support Programme) just described in the previous section. There is therefore an interaction between SAW and SFSSN. Its implementation should be harmonized with the Cambodian Nutrition Investment Plan – 2008-2012 (CNIP) developed by the RGC through the National Council for Nutrition chaired by Minister of Planning.

SFFSN adopts the following long-term vision: *“All Cambodians have physical and economic access to sufficient, safe, and nutritious food, at all times, to meet their dietary needs and food preferences for an active and healthy life.”* Its overall goal, already incorporated into NSDP and consistent with the CMDGs, reads as follows: *“By 2012, poor and food-insecure Cambodians have substantially improved physical and economic access to sufficient, safe, and nutritious food to meet their dietary needs and food preferences for an active and healthy life.”*

The five objectives of SFFSN (see Annex 5 for details) are: (1) *Increased Food Availability*; (2) *Increased Food Access*; (3) *Improved Use and Utilisation of Food*; (4) *Increased Stability of Food Supply*; and (5) *Enhanced Institutional and Policy Environment for Food Security and Nutrition*.

Since the SFFSN is intended to serve as a holistic cross-cutting frame of reference for the formulation and review of sector strategies, and to guide the design and planning of programmes and projects for improved food security and nutrition, it is here included as an important reference for the formulation of the NMTPF 2011-2015.

3.6 CAMBODIA'S NATIONAL FORESTRY PROGRAMME AND THE LAW ON FORESTRY

Although forestry is not smallest component of FAO activities in Cambodia, its importance should not be underestimated, especially if compared with its role in climate change. The strategic orientations of the RGC on forestry are based on the Law on Forestry adopted by the National Assembly in 2002, and find their best expression in the National Forestry Programme (NFP). The present revised version of the NFP, issued in 2009, provides the elements of a long-term forest policy for the period 2010-2030. Its overall vision states that the RGC *“considers the ecologically, socially and economically viable conservation and management of forest resources as a major pillar of public welfare directly contributing to environmental protection, poverty reduction and socio-economic development”*.¹² The NFP pursues the increase of contributions from forests to the overall socio-economic development, aims at making Cambodian forestry a producer of sustainable high-value timber and associated high-value non-timber forest products, as well as supplier to the emerging carbon sequestration markets.

The NFP is operationalized through six implementation programmes, and respective 5-year action plans, which go well beyond the immediate targets of FAO, as they relate to its current and expected activities. These implementation programmes regard the following themes, :

1. Forest Demarcation, Classification and Registration
2. Forest Resource Management and Conservation (including, *inter alia*, a sub-programme on biodiversity management systems for protected forests, another on conservation of genetic resources from forests and the establishment of seed sources for planting programmes)
3. Forest Law Enforcement and Governance
4. National Community Forestry
5. Capacity and Research Development (which covers also extension and public awareness)
6. Sustainable Forest Financing.

¹² See *Cambodia's National Forest Programme – Framework Document*, July 2009.

7. Two dimensions of the NFP should be highlighted as regards their immediate relevance for the NMTPF 2011-2015:
 - a. a. the overall policy mechanism that allows Cambodia to get involved in climate mitigation through reduced deforestation and forest degradation (REDD), which resulted from the Bali conference in 2007 of the UN Framework for Climate Change Convention (UNFCCC); and
 - b. the centrality of Community Forestry (CF) in the NF, developed since the mid 1990s, and based on the expectation that grass-root community organizations can significantly contribute to forest protection, enhance productivity, enhance their living conditions and, at the same time, stabilize watersheds and ecosystems by piloting initiatives for marketing carbon in Cambodia.

3.7 NATIONAL FISHERIES SECTOR POLICY

The importance of the fisheries sector for food security and the economy explains why the RGC has put this sector in such a prominent position in the RS, as one of the four sides of the “Enhancement of the Agricultural Sector” rectangle. Millions of Cambodians depend on fish for food, income and livelihoods. Fish is estimated to contribute three-quarters of the protein intake to more than two million Cambodians. Overall ***national goals*** in this area are *the maintenance of sustainability and to ensure regeneration of natural resources (environmental protection of fisheries, conservation of biodiversity, preservation of fish resources), and the establishment of better links between fisheries, on the one hand, and socioeconomic development, good governance and poverty alleviation on the other.*

The RGC is committed to support the implementation of the inter-governmental conventions related to fisheries such as the “*Regional Code of Conduct for Responsible Fisheries*”, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the Convention on Bio Diversity (CBD) and the agreement of the Mekong River Commission on water utilization of the Mekong River.

The RGC vision for the fisheries sector is the following: “*Management, conservation, and development of sustainable fisheries resources to contribute to ensuring people’s food security and to socioeconomic development in order to enhance people’s livelihoods and the nation’s prosperity*”.

A specific Law on Fisheries was adopted in 2006, addressing all aspects of the sector: fisheries administration, sustainability of fishery management, fishery protection and conservation, management of mangroves and inundated forests, management of fishery exploitation, inland and marine fisheries, aquaculture management, fisheries communities, transport and trade of fisheries products, licensing, procedures for solving fisheries offenses and in general law enforcement issues.

The RGC is taking measures to strengthen national fisheries natural resource conservation, including action against the use of illegal fishing gear and other anarchic activities that undermine conservation efforts. Measures are taken to enhance fish processing and packaging by encouraging large-scale investment in that area, improving fisheries infrastructure, expanding domestic markets that should benefit small-scale fishermen and Community Fisheries (CFi). The promotion of measures to ensure quality and safety of fishery products is of the utmost importance. Like in forestry, the RGC emphasizes the centrality of the local communities, giving support to community-based fishing lots, both in inland and coastal regions. RS II counted 509 community fisheries management mechanisms in place, active both in marine and fresh water. Additional efforts are promoted to support aquaculture for its contribution to food security, encouraging the implementation of the “*Regional Code of Conduct for Aquaculture*”. RS II supports aquaculture emphasizing the need to provide assistance to fishing farmers with technology, seeds, credit and better access to markets.

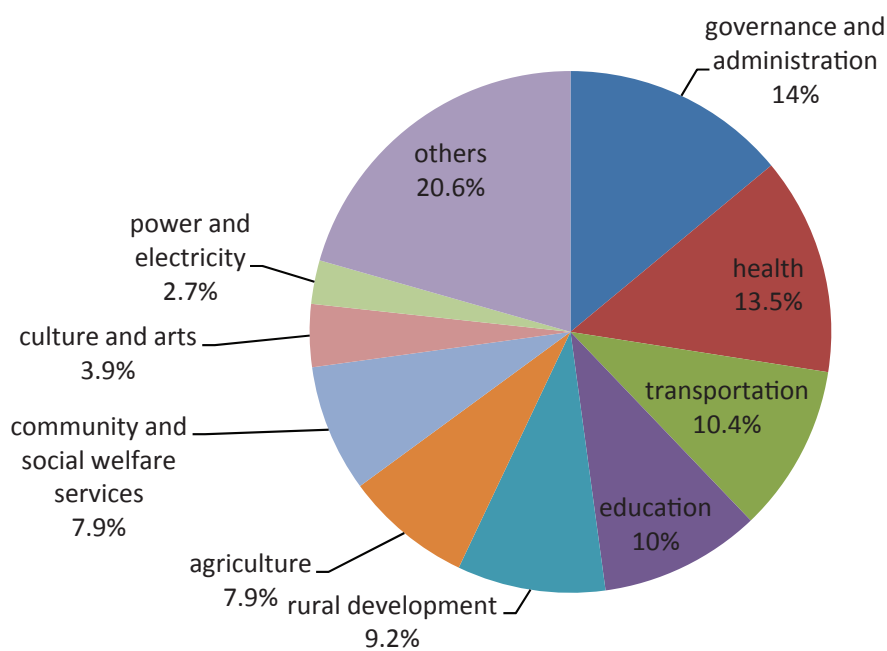
4 EXTERNAL ASSISTANCE TO AGRICULTURE

4.1 CAMBODIA DONOR MATRIX ON AGRICULTURE

External assistance to agriculture and other sectors: the overall picture

Public investments required to implement policies and strategies envisioned by the RGC in support of agriculture, forestry and fisheries, rely not only on resources provided by the annual national budget but also and significantly on contributions made available by external Development Partners. International development aid to Cambodia is mostly disbursed in the form of grants, coming from bilateral and multilateral agencies (including UN organizations). Grants represent the biggest share of external assistance, accounted for about 75 percent of total disbursements over the period 1998-2007. The remaining 25 percent was disbursed as loans, which represents a slight drop in relative terms over the last few years. Majority of loans come from international financial institutions (IFIs),

Figure 4.1: ODA in Cambodia by Sector: 1997-2008



Source: calculation from data of CDC's Development Cooperation Reports: the Cambodia Aid effectiveness report 2007

including regional development entities. On average, Cambodia receives about US\$550 million in ODA per year and ODA has accounted for about 12 percent of the GNI¹³ over the last decade.

From 1998-2007, more than half of all development aid went to social¹⁴, economic¹⁵ and physical infrastructure

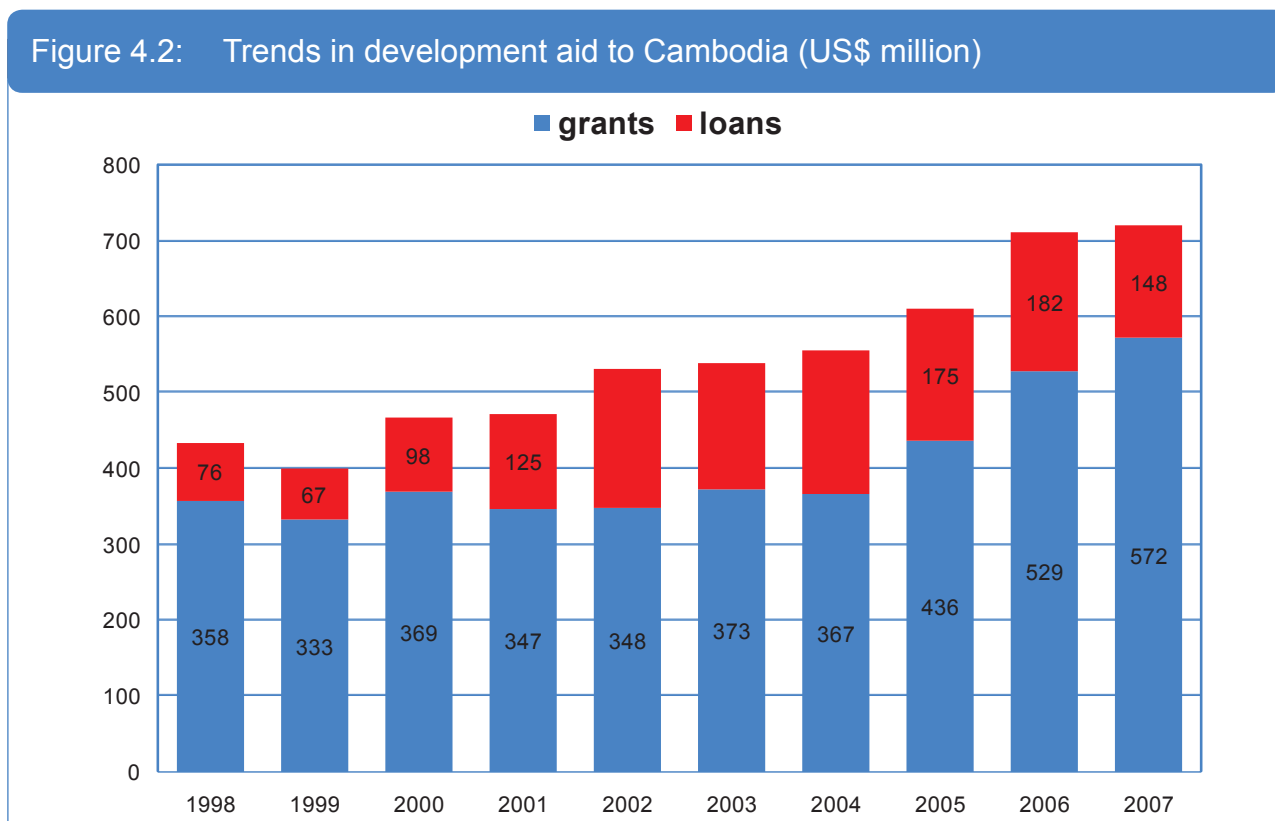
¹³ GNI comprises the total value produced within a country less net taxes on production and imports, less compensation of employees and property income payable to the rest of the world plus the corresponding items receivable from the rest of the world, i.e. GDP less primary incomes payable to non-resident units plus primary incomes receivable from non-resident units.

¹⁴ Social sector is composed by health and education sub-sectors

¹⁵ Economic sector is composed by agriculture, manufacturing, mining and trade, rural development and land management, banking and business services, and urban planning and management sub-sectors

sectors¹⁶. These sectors accounted for about 24 percent, 20 percent and 16 percent of aid, respectively. Agriculture development accounted for 7.9 per cent of the total ODA received in that period. The remaining funds were disbursed to so called multi-sectors (community and social welfare services, culture and arts, environment and conservation, gender mainstreaming, HIV/AIDS, governance and administration, tourism and others).

In general, aid delivery in Cambodia is highly fragmented. As of October 2009, there were 718 ongoing projects and 37 pipeline projects, implemented by more than 35 development partners as recorded in the CDC/ODA database¹⁷. Among these, 10 are bilateral donors contributing for less than US\$1 million of combined ODA. An additional 22 bilateral and multilateral donors provided just US\$5 million combined.



Source: Brookings institution, Aid Effectiveness report

There are currently more than 20 organizations engaged in the implementation of project related to Agriculture and Rural Development in Cambodia, including UN agencies (FAO, WFP, IFAD, UNDP and UNEP), International Financial Institutions (ADB and the World Bank) and bilateral donors, which include the European Union and some of its Member Countries (mainly United Kingdom, Denmark, France, Spain and Finland) and other bilateral organizations (Japan, Australia, USA, Canada, New Zealand). Other bilateral donors provide support not directly but through partnership agreements or trust funds provided to UN agencies.

Comparing agriculture and related activities with the other sectors that benefit from external assistance, high aid volatility levels have been seen in the agriculture sector, more than other comparable sectors and constantly increasing over time,¹⁸ turning aid to agriculture more unpredictable, with severe consequences on income levels of farmers and vulnerable population that depends on external assistance. Volatility and unpredictability of donor funding undermine aid effectiveness because they “*affect short- and medium-term budget planning and programming, disrupt implementation of expenditure allocations, complicate macroeconomic management, and deepen the challenge of building absorptive capacity*”.¹⁹

16 Physical infrastructure sector is composed by IT, power and electricity, transportation, and water and sanitation sub-sectors

17 <http://cdc.khmer.biz/index.asp>

18 Aid volatility levels are calculated as a percentage by dividing Root Mean Squared Error by Mean of the relevant aid flows during the corresponding period.

19 *Aid effectiveness in Cambodia*, Brookings Institution, December 2008.

Table 4.1: Aid Volatility by mayor sector (%)

Sector	1992-1996	1997-2001	2002-2006
Agriculture	28.4	31.4	47.6
Education	20.4	15.5	5.7
Land Management	28.7	7.0	20.2
Health	29.2	21.0	8.9

Source: Calculation from CDC statistics, Aid effectiveness in Cambodia, Brookings Institution

Structure of development assistance to agriculture

The Donor Matrix reported in Annex VI presents a synthesis of the development assistance provided by all external Development Partners operating in support of agriculture, fisheries and forestry and related sectors, including rural development ²⁰ (both in support to policies and administration and water and sanitation in rural areas).

Data provided is based on information on individual activities, programmes or projects regarding initiatives that were ongoing between the years 2007-2009. Projects initiated any time before 2007 and concluded after the beginning of the same year, are recorded. ²¹ The table offers an overall picture of the total commitments of key donors that have been supporting Cambodia’s agriculture, rural development and related sectors in the last three years but is not an accurate description of the volume of assistance delivered in those three years by the same donors, since it is based on the total value of committed resources emerging from information on individual programmes, projects or activities and not on actual disbursements for the same years. ²² It is our view that this is a better indicator of the overall size and weight of development support provided by each donor to agriculture and rural development at large at this period of time, even though it includes budgets for previous years or budgets for future years, than an indicator that reflects only aid delivery flows for the last three years. Notice, however, that the CDC/ODA data used as main source for this analysis has some limitations due to problems of attribution among donors, double counting and categorization of interventions. ²³ For these reasons, the value reported in the table overestimates the actual flows of resources committed or disbursed by some donors in those three years.

Considering the limitations with which this data has been calculated, it is however possible to identify all the donors, and the specific area of their interventions, that have committed significant amounts of resources to support agriculture development and related sectors in recent years. FAO is not the biggest provider of assistance to the agriculture sector in its broader sense. It contributes only 4.4% to the total ODA portfolio estimated according to our assumptions. Other eight Department Partners have a bigger portfolio than FAO: first of all ADB, which is by far the biggest partner in this area, with 26.72% of the total, followed by WFP with 11.63%, Japan (8.333%), United Kingdom (8.06%), Australia (7.86%), Denmark (6.42%), IFAD (4.77%) and UNDP (4.56%). Smaller than FAO,

²⁰ Rural development is not included in our analysis in Part 5 of this document, since in general refers to activities not related to food and agricultural production, fisheries and forestry, covered in other sub-sectors, directly related to FAO mandates. They are included in this Part 4 since these activities are complementary to what FAO does in rural areas, although they are not covered by the Organization but by other UN agencies.

²¹ For this reason, the *Gran Total* for the agricultural and related sectors exceeds 1 billion US dollars and cannot be compared with the total flows of disbursements for those years. Since original data are often expressed in national currencies, data are converted into US dollars using average compounded exchange rates between national currencies and US Dollars for the years 2007-2009

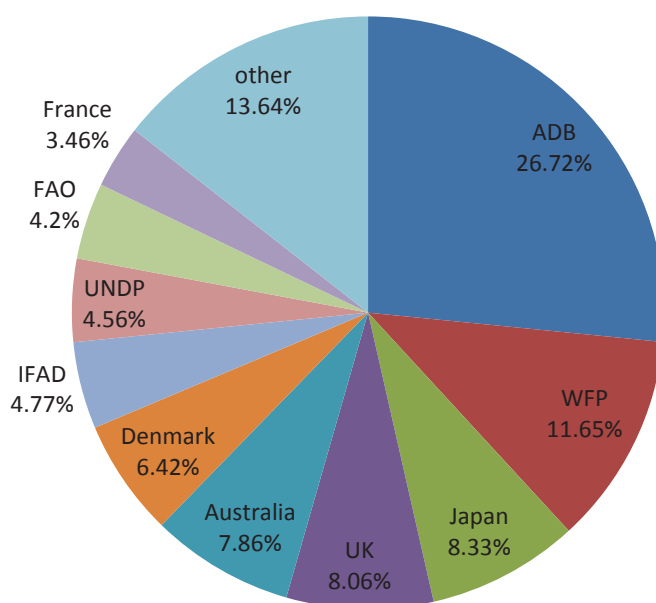
²² Our intent, in fact, is not to provide statistical information on flows of development assistance received by Cambodia in agriculture in those three years, nor on variation of intensity of that development support to agriculture over the years. That would have required a longer historical series of flows of disbursements in agricultural years, and not an analysis of the latest three years.

²³ In fact, in few cases, it is possible that a programme, project or activity funded by a donor but implemented by another donor, is recorded two times in the database. We also have some problems of project classification. In fact, sometimes project fall under more than one category, and hence are accounted multiple times in the CDC official figures. For the purpose of our work, we recorded projects in the donor matrix only once under the category that seems more appropriate for the analysis (see for example United States 33.853 million dollar “Economic Growth” Project, recorded both under fisheries and livestock & veterinary, recorded in the matrix only under fisheries).

but significant are also France (3.46%), South Korea (3.20%), USA (2.99%) and the European Union (2.49%). A modest contribution as small as \$19.000 (0.1% of the total) comes from the Netherlands, although the country is a significant supporter of activities carried out by UN agencies in Cambodia, with contributions not reflected above, since they are accounted as UN system activities. Overall, United Nations contribution to the agricultural and related sectors is about 25.56% of the total ODA for the same sector.

This shows that this quantitative information is only partially correct. There is often double counting in the statistics provided by CDC, so that a bilateral donor may be recorded twice when it provides funds to a multilateral agency (e.g. a UN agency), and CDC sometimes counts that grant both as a contribution from the bilateral donor and as a contribution from the UN agency.²⁴ However, double counting is not uniformly applied.

Figure 4.3: Agricultural and Related sectors: 10 biggest donors



Source: CDC database

It may be worthy highlighting the relatively low level of commitment of the World Bank and IMF resources in support to agricultural development and related sectors, as compared with ADB. This pattern highlights a clear division of responsibilities among international financial institutions operating in Cambodia (ADB, IMF, and WB), funnelling their abundant monetary resources where their regional mandate and comparative advantage lies. In terms of type of assistance, the great majority of intervention take place under the form of free-standing technical cooperation (about 70% of the total), followed by Investment Project/Programme (about 20%) and other type of cooperation, for a marginal part.

In spite of the above mentioned data limitations, the picture that emerges from this information is relevant for the formulation of the NMPF. It is based on this aggregate indicator of ODA commitments, reflecting the overall value of the ODA portfolio owned by the RGC for the indicated period, whether the actual delivery of those commitments has started happening before that period or will follow after 2009.

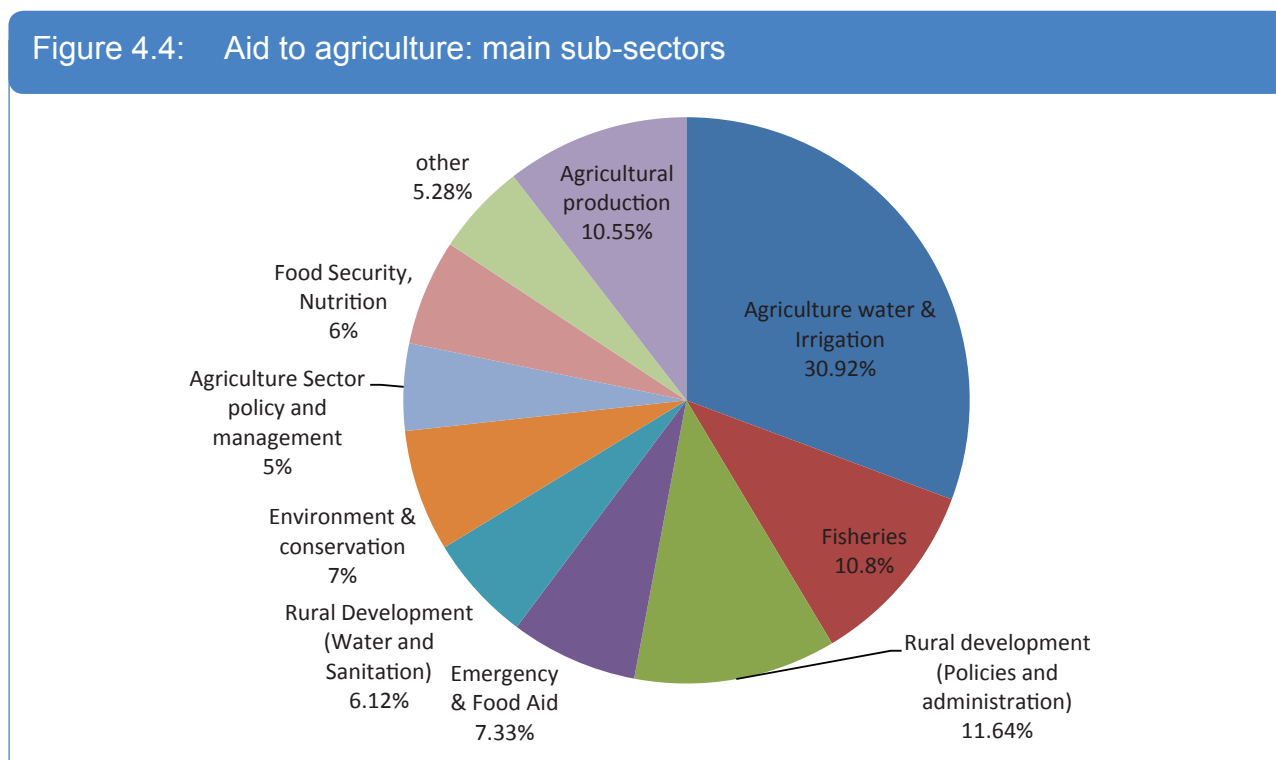
This aggregate information, however, compares values of aid budgets for agriculture of different donors that are not really comparable with each other, since compares destinations of aid funds to sub-sectors that are very different from one donor to another. A sub-sector analysis is therefore necessary in order to arrive at more significant

²⁴ Since double counting is not applied uniformly, there are some countries that are considered minor donors to agriculture, since their contribution is only through multilateral organizations (e.g. Sweden and Netherlands), while others have an inflated value as bilateral donor, since their contribution is counted both as a bilateral contribution and as part of the multilateral support.

conclusions on the division of labour among Development Partners regarding the support to agriculture. Let us analyze first how development assistance is allocated among these sub-sectors for all donors as a whole, and then examine the contribution of the individual donors.

Donor contributions at the sub-sector level

Agriculture water and irrigation absorbs the biggest share of foreign aid to agriculture (30.92% of our aggregate), followed by rural development (policies and administration) (11.64 %), fisheries (10.8%), agricultural production²⁵ (10.55%), emergency and food aid (7.33 %), environment and conservation (7%), and rural development (water and sanitation) (6.12%). Forestry (in the diagram included under “other”) represents only 0.79% of the total, although environment and conservation may include several activities that are closely related to forestry.



Source: CDC database

Some sectors that are very important for FAO, such as agricultural sector policy and management or food security and nutrition represent 5% and 6% of the total, respectively. Under the item “agricultural production” (which is not a combination of various sub-groups and represents 10.55% of the total), we grouped several important items, such as rural extension (2.84%), livestock and veterinary services (2.85%), food crops (1.73%), cash and export crops (1.69%), education and training (0.66%), agricultural inputs (0.55%) and post harvest support (0.23%).

In section 5.1 in Part 5 of this document, we shall make a comparison of this information with the structure of FAO activities, highlighting diversity of priorities among various Development Partners as regards agriculture and rural development. This variety of positions reflects different institutional focus, different vocations, a variety of comparative advantages, which are reflected in different experiences in development programmes, and different emphases in the allocation of resources among the various areas that have been here grouped under agriculture and rural development. This also entails that there is large room for complementarities, synergies and collaboration among Development Partners, given this variety of interests and capacities, including the opportunity of reducing useless duplications and negative rivalries.

²⁵ “Agriculture production” is not a category used in the CDC databank. It has been introduced here to have a group comparable with the first NMTPF priority areas identified in Part 5 by adding information from the following CDC categories: rural extension, livestock and veterinary services, food crops, cash and export crops, education and training for agriculture, agricultural inputs and post harvest support

As above indicated, FAO is not the biggest provider of assistance to the agriculture sector. There are at least eight Department Partners that more relevant than FAO, with a much bigger portfolio. FAO is more active in some areas and relatively less active in others compared with other donors operating in the agricultural and rural development sector. The sub-sector that attracts the biggest share of donor support is agricultural water and irrigation (30.92%), where the biggest donor is ADB that provides 25.94% of the support to the sub-sector, followed by WFP (16.25%),²⁶ IFAD (15.42%), Australia 13.01%), Japan (9.61%), South Korea (8.34%), United Kingdom (5.24%) and France (4.89%). FAO provides only 1.17%, confirming that the Organization it is not a major player in irrigation schemes, given the high intensity of capital investment that irrigation infrastructures require. FAO involvement continues to be present in the domain, but more in soft areas (rehabilitation of existing canals, support to Farmer Water User Groups, support to holistic land and water resource management).

In the rural development sub-sector, which regards mostly non-farming activities, FAO is practically absent, while big donors are ADB, United Kingdom and, among UN agencies, UNDP (for policies and administration support). Again, this does not seem to be FAO niche, although the Organization has some activities in non-farming activities indirectly related to the use of natural inputs (e.g. in the craft industry) although mostly as initiatives that promote alternative source of income for food insecure rural population (therefore, they are mostly food security interventions). Other big absences of FAO are found in agriculture financial services (where the biggest contributor is ADB, and in a more modest, but significant position, also by Canada), cash crops (where France provides 64% is the biggest supporter, and Germany almost 36%), and post-harvest operations (although they are included in FAO integrated interventions in water management and crop intensification), where the only donor recorded by CDC for providing specific contributions to this sub-sector is only Japan.

On turn, FAO is one of the biggest partners in the area of education and training for agriculture (34.56% of support to this sub-sector), second only to Japan, which provides 44.66%. Another big champion for FAO is the support to food security (FAO provides 24.5% of development assistance), second to ADB that offers the greatest amount of funding (58.09%), while in third position we can find the European Union (17.41%).

A significant role is provided by FAO in rural extension (9.94% of the subsector), although its contribution is incomparable with that of Australia, which provides 73.26% of the total. Japan is another big player in rural extension with 15.66%. Other two sub-sectors where FAO contribution is noteworthy are emergency and food aid (7.8% of the sub-group), although 90.39% of support is provided by WFP, and environment and conservation (7.06%), where several other players are involved: ADB (32.56%), Japan (19.99%), UNDP (13.81%), World Bank (12.64%), Denmark (11.88%). In some of these areas, however, these data underestimate the role played by FAO, since they do not take into account the contribution of regional activities, which are particularly intensive in some areas (e.g., forestry, fisheries, food security, and emergency).

Finally, there are subsectors where FAO plays some role, even though not a prominent one, which should be however mentioned: agricultural inputs (3.21 %), where the biggest partner is Japan (95.31%); fisheries (5.81%), which is an area where Cambodia can count on the support from Denmark (53.38%) and Japan (7.85%), among the most important supporters; livestock (5.73%), supported by World Bank (34.07%), European Union (26.56%), Japan (19.40%) and Canada (11.87%); and forestry (3.89%), which benefits from the support of donors such as Japan (52.84%), European Union (20.54%), and UNEP (20.01 %). There are also other minor presence of FAO, which may very functional to its strategic presence in some sub-sectors, in crops (0.33%), where big player are Australia (86,54%) and the European Union (11.02%), and agricultural sector policy and management (0.25%), supported mostly by ADB (47.75%) and United Kingdom (46.06%). In several of these areas, the modest financial dimension of FAO presence does not make justice of the technical value of its contribution, which may high in content, however modest when translated in financial resource flows.

Although often in minority position, we notice that FAO is a proactive player engaged in the largest number of agricultural sub-sectors (12) with the largest number of projects (about 50 projects). As already mentioned, in all these sectors, where FAO operates in minority presence, FAO explores room for complementary interventions based on

²⁶ WFP role in this sub-sector is exaggerated, since CDC database classifies interventions that are actually purely food security measures also as agricultural water and irrigation, due to the link between beneficiaries of food interventions and water resource development.

its fundamental technical advantages. The intensity of the needs in the agricultural sector call for a multiplication of efforts much needed to cover an increasing number of targeted communities at the provincial and district level. At the same time, FAO plays an important role in some sub-sectors above mentioned, covered by a small number of donors, such as food security & nutrition, education & training and extension services. In these domains, FAO has a recognized comparative advantage and contributes also securing resources from third parties.

It is interesting to trace a correlation between the number of donors involved in each sub-sector and the amount of resources committed for the same area of intervention. We can notice in general that, if a greater number of donors are involved in a specific sub-sector the total contribution too tends to be big, hence suggesting a tendency to a diffused distribution of efforts among donors, but with some interesting exception. For example, Food Security and Nutrition, accounting for 6% of the total, is funded only by FAO, ADB and the European Union. The same is valid for Emergency and Food Aid, which accounts for about 7.33% of the total, receiving funds only from 3 donors (FAO, WFP and ADB). Following an inverse reasoning, we can notice how the Livestock and Veterinary sub-sector, which accounts for 3% of the total, is being supported by 7 different donors (mostly bilateral, plus FAO and the World Bank). This inference shows how, in some sub-sectors, we have a small number of donors involved with great amount of resources, while in others we face the opposite situation: many donors contributing with little money to the same sub-sector. In general, UN agencies (with the exception of FAO), are present in few sub-sectors intervening with a big amount of resources. For instance, WFP contributes \$75 million to Emergency and Food aid, IFAD support with \$53 million agriculture water and irrigation and UNDP provides \$43 million to support rural development, while other bilateral donors allocate smaller resources in a greater number of sub-sectors, adopting a more scattered approach in resource allocation.

4.2 PARTNERSHIPS OF FAO WITH OTHER DEVELOPMENT PARTNERS

FAO established a number of partnerships with different Governments' development agencies, both at Headquarter and country office level, for the technical implementation of projects related to FAO mandated areas. Some of them use the mechanism of Unilateral Trust Funds (UTFs), linked to specific projects. In recent years, FAO has established, at the headquarters level, a number of *Strategic Partnership Agreements* (SPAs) with a number of donor countries, which aim at a progressive increase of unearmarked or lightly earmarked contributions to fund activities, while pursuing the overall strategic orientations of the Organization at the global level. This new funding modality includes the FMPP initiative (FAO Multi-donor Partnership Programme).

At the country level, many FAO projects are fully or partially funded by different Governmental donors that entrust FAO for the implementation of specific intervention in which the Organization is recognized to have a strong comparative advantage. Bilateral Development Partners contributing to FAO projects, either through UTFs or SPAs, in different domains are: New Zealand, Italy, Spain, Netherlands, Sweden, Germany, European Commission, Australia, USA and Japan.

It is worthy highlighting the newly established FAO-Netherlands Partnership Programme (FNPP), aiming at supporting future projects and programmes related to food security and forestry in targeted areas in Cambodia. On top of these bilateral partnerships based of financing or co-financing arrangements, a number of multilateral Organizations are also supporting financially FAO, such as the World Trade Organization (WTO) through the Standard and Trade Development Facility (STDF) and the Organization of Petroleum Exporting Countries (OPEC).

4.3 PARTNERSHIPS WITH UN AGENCIES

FAO and UNDAF process

FAO is an active member of the UN Country Team in Cambodia and participates in several joint initiatives of the UN system in the country. For the purpose of this NMTPF, we should mention the commitment of the Organization in the development and formulation of the United Nations Development Assistance Framework (UNDAF), which is under way while this document is being drafted.

The interaction between the NMTPF and UNDAF processes is straightforward since both exercises aim at align development support activities to national priorities in the framework of the more global set of goals, as the Millennium Development Goals, which in the case of Cambodia find their expression in the CMDGs. FAO has participated in the UNDAF formulation process, co-chairing with the RGC an UNDAF Working Group on Economic Development and Sustainable Development, which defined an UNDAF Outcome as follows: *By 2015, more Cambodians benefit from, and participate in, increasingly equitable, green, diversified economic growth through enhancing national capacities.*

Under that UNDAF Outcome, four Country Programme Outcomes have been defined, which shows directions that the UN system and FAO intend to pursue to support RGC efforts to achieve this result:

1. On Agriculture Development: *Enhanced national capacity for improved public service delivery of sustainable development and management of agriculture, food security and nutrition that ensures equitable outcomes.*
2. On Environment and Sustainable Development: *Strengthened national & local capacity and private sector to plan, implement and monitor sustainable use of natural resources (fisheries, forestry, mangrove, land, and protected areas) and to respond to climate change.*
3. On Trade and Private Sector Development: *Strengthen national and local capacity to formulate, implement and monitor pro-poor investment, trade and private sector development strategy to develop and diversify the economy.*
4. On Employment and Local Development: *Increased employability and productive and decent employment opportunities, particularly for youth and women, through diversified local economic development in urban and rural areas.*

In Annex II, we shall report a more detail comparison between the priority expressed in the UNDAF and the NMTPF processes, comparing outputs of the NMTPF and relevant outputs of the UNDAF exercise.

FAO and Joint Programmes with UN agencies

FAO is also an active player in the implementation of United Nations Joint Programmes in partnership with other UN agencies in Cambodia. A Joint Programme (JP) is a set of activities with a common work plan and related budget, involving two or more participating UN agencies and national or sub-national partners. Joint Programming maximises synergies between national partners and the contributions of United Nations system organizations, avoids duplication, reduces transaction costs and provides coherent results.

FAO is currently engaged in two Joint Programmes, working closely with a total of other 6 UN agencies (ILO, UNDP, UNESCO, WHO, WFP, UNICEF). The first JP, funded by the MDG-F Spanish fund under the thematic window “Culture and Development”, is called “Creative Industries Support Programme” (FAO, UNESCO, UNDP, ILO). It is a \$3.3 million joint intervention over three years, aimed at increasing income of vulnerable populations through commercialization of cultural products in four targeted provinces. Giving special attention to women and indigenous minorities, this JP also aims at preserving natural resource and sustainable use of local production inputs.

The second joint initiative is the “Joint Programme for Children, Food Security and Nutrition in Cambodia” (FAO, WFP, WHO, UNICEF, ILO). It is a \$4.9 million programme over a period of 3 years, addressing issues of critical importance for the health of women and children, and of highest priority for nutrition and food security, such as improvement of the nutritional status of children aged 0-24 months and pregnant and lactating women and strengthening of the implementation of existing nutrition, food security, and agricultural policies of the RGC.

It is expected that during the implementation of the new NMTPF, additional joint initiatives will be promoted in a larger number of sub-sectors.

5 FAO MEDIUM-TERM STRATEGY AND PRIORITIES

5.1 STRUCTURE OF CURRENT FAO ACTIVITIES IN CAMBODIA

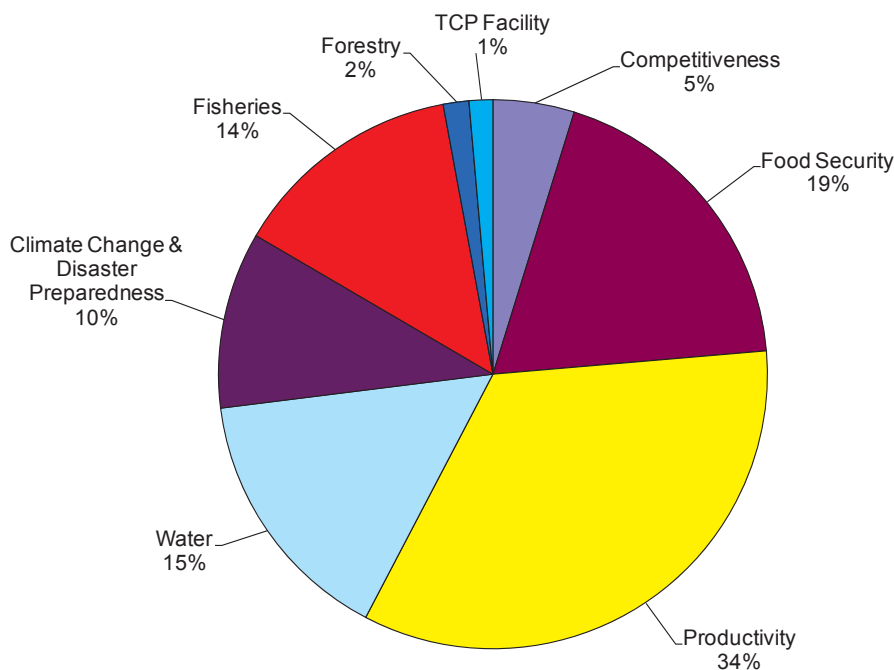
FAO activities undertaken in the framework of the current NMTPR - 2006-2010 focus on key areas such as agricultural productivity and competitiveness (including sanitary and phyto-sanitary measures), natural resource management (land and water management, forestry and fisheries), food security (including through diversification of income opportunities), climate change, disaster preparedness and emergency relief.

The portfolio of projects handled by FAO during the period 2007-2009 is estimated to have an overall value of \$ 36,286,169 (excluding regional initiatives and those funded as global initiatives), funded either with regular resources or extra-budgetary funds. This value includes both projects that have been completed within this period (before the end of September 2009), amounting to \$9,010,394, and on-going projects that amount at the time this text was written to a total of \$27,275,775. Current activities, however, also include projects approved and/or launched after 1 October 2009, which are not included in the current estimate of FAO portfolio. The NMTPF 2006-2010 will also cover activities that at present are just in the pipeline. They have not been estimated as part of the portfolio, since they have not been approved and, in some cases, their operational details or even their total value are not defined.

The structure of FAO activities in the 2007-2009 portfolio is illustrated by the following diagram.

The classification used in this diagram however requires some precaution, since projects often address more than one category at the same time. Many food security interventions, for instance, are cross-cutting and ad-

Figure 5.1: FAO activities in the 2007-2009 period



Source: FAO

dress constraints in a number of other areas. An integrated approach was often adopted since sustainable food security may require a multi-dimensional platform, including initiatives such as promotion of alternative sources of income and off-farm income generation for food security (e.g. small-scale craft agro-industry), supplies of inputs and materials (seeds and tools) to stimulate productivity among the most food insecure farmer populations, enhancement of irrigation schemes, their maintenance, repairing and partial development as part of an integrated approach to water management. Therefore, while they address food security problems, these components may be classified as “improvement of agricultural productivity”, “water and irrigation” or others, even though they all contribute to enhance household wealth and hence improve food security. Where nutritional dimensions are directly addressed, they are obviously classified as “food security”. When commercialization aspects of farming activity are addressed, those project components should be added to those that stimulate market access, in the category “Consumer protection, food safety and market access”.

A case in point is the recently initiated EC-funded project (approximately \$15 million) that will be implemented over 2009 and 2010 for improving food security of farming families affected by volatile food prices in Cambodia. This will be done through a series of interventions ranging from supplies of inputs (seeds, cultivation tools, and post-harvest infrastructure), training, crop diversification and capacity building in developing appropriate food security policies and strategies at the national and local levels.

Several activities classified under “Consumer protection, food safety and market access” focus on capacity building in government and improvement of the level of service provision in agencies whose mandate requires an improvement of quality of products for food safety and for export market quality, in conformity with international standards and norms, such as the sanitary and phyto-sanitary (SPS) measures. Interventions in this area also include support to policy formulation and strategic planning.

Natural resource management has always been a key concern for FAO in Cambodia, secondary only to the promotion of agricultural productivity improvement. Its focus areas comprise Water and Irrigation, Forestry and Fisheries (it should include Land Improvement and Soil Use, which we have preferred to classify under “improvement of agriculture productivity” in this document for practical purposes). Depletion of natural resources in fisheries and forestry are of prime concern.

FAO interventions in these areas are largely comprised of activities for developing management capacity of local organisations and communities to manage their resources more sustainably, assisting government management capacity and support government and communities to work in a more cooperative manner in the management of natural resources, infrastructure development or enhancement, providing also input supplies to contribute directly to identified needs and address specific constraints, as required in relation to irrigation infrastructure, fisheries habitats, forestry protection.

An area that is very close to natural resource management is that of climate change and disaster preparedness and risk reduction management, the latter mainly focused on addressing emergent and critical issues, such as the support to rural communities affected by the volatile food prices or interventions that take care of the impact of transboundary animal diseases. This is the case of the Avian Influenza support, which featured prominently at this time. These interventions are comprised mainly of capacity building support at the national and local levels by enhancing government responsiveness to outbreaks and its preparedness for natural disasters but also by educating communities on appropriate responses and control mechanisms.

Projects funded under the TCP facility have been singled out as they make use of regular budget resources, even though they have not been classified into activity groups since their total is too limited compared with the resources absorbed by others projects that are funded with extra-budgetary resources.

Initiatives that are explicitly characterized as capacity building activities have not been considered as a separate category, since capacity building (or capacity development, as most recently called within FAO as well as the rest of the UN system) is a cross-cutting theme that permeates all FAO activities in the field. They address the need to build national and local government capacity in food security management, consumer protection and food safety,

policy formulation, strategy development, as well as the enhancement of capacities of local communities of farmers, fishers, forest-dwellers, other food-insecure communities, for instance by increasing their capacity to diversify food and agricultural production, improve soil and water management, enhance smallholder animal husbandry and stimulate income generation initiatives for small-scale producers,

The structure of resource allocation that emerge from this diagram shows the prominence of actions that address the improvement of agriculture productivity (34%), followed by food security (19%), water and irrigation (15%), fisheries (14%), climate change and emergency preparedness and disaster management (10%). Interventions related to consumer protection, food safety and market access and conformity to international standards and norms represent 5%, and forestry comes last with only 2% of the total. TCP facilities represent only 1% of total resources. A word of caution should be spent on the interpretation of this quantitative information. First, as indicated above, it is often difficult to classify interventions among these sectors for the frequency of cross-cutting activities. In second place, the value of FAO interventions does not necessarily reflect FAO priorities but only their financial value, and definitely not their “knowledge” content. There are project components that are more expensive than others (therefore valued more in financial terms) even though their knowledge value may not be so high. This is the case when a project includes provision of agricultural inputs (seeds, fertilizers) or constructions or infrastructure repairing in irrigation projects, even though their “knowledge” content may be lower than those of other more specialized interventions, which may require high qualified science-based inputs but may be less demanding in terms of financial resources. This is the case for many interventions in consumer protection and food safety, which are determinant for the access to international and domestic markets, which require missions of specialized nature by international experts in normative and standard-setting domains. Disbursements to cover these costs (which cover “soft” inputs only) are usually much smaller than those that require the procurement or implementation of “hard” components such as agricultural supplies or undertaking of constructions.

In addition to these activities, conceived, funded and implemented as country initiatives, FAO provides support to Cambodia through a number of other activities conceived as either regional or global development initiatives, whose amount cannot be attributed to Cambodia in a very precise way. As for regional activities, projects that have a more evident application to this country amount to a total of \$12,073,749, even if we cannot estimate the actual share of Cambodia for those initiatives. Among the most important regional initiatives that have a special relevance for this country, those in the areas of fisheries, emergency, food security and natural resource management (in particular biofuel and forestry) should be emphasized.

5.2 FAO STRATEGIC OBJECTIVES, CORE FUNCTIONS AND COMPARATIVE ADVANTAGES FOR THE NMTPF FOR 2011-2015

Cambodia development challenges, FAO Strategic Framework and strategic objectives

The challenges to the performance of agriculture, fisheries and forestry examined in Part 2 of this document, and the response that the RGC is providing through its policies and strategies correspond to the challenges identified by FAO in its *Strategic Framework 2010-2019*.

The *Strategic Framework* identifies trends, risks and opportunities for the world as a whole in the same areas, taking into account the tendency of global population growth, urbanization trends, the consequent implications for food demand and the fragile food security situation of vast portions of developing regions, which are consistent with the finding of the situation analysis for Cambodia. The conclusions reached on food production requirements and the need to multiply efforts to better water and land use, crop intensification, livestock development, focusing in particular on lifting productivity of smallholder farmers, are on the same line of this country’s priorities. The *Strategic Framework* also addresses the requirements of small-scale fisheries and aquaculture and adopts a people-centred approach to forestry, which happened to be top priorities for the RGC in Cambodia. The Strategic Framework recognizes the need to increase the attention to trade dimensions of development assistance, which has become of vital importance in Cambodian fragile economy, so dependent on exports, especially in this economic phase, where agriculture currently represents the only sector where positive results can be expected in exports and in terms of import substitution. Finally special attention is given to the increasing pressure on natural

resources (land, water and genetic resources) as well as climate change and the incidence of emergencies, which are on the front line of the development debate in Cambodia as well.

It is therefore possible to conclude that there is perfect synergy between the highest priorities for development of agriculture and related areas identified in the situation analysis for Cambodia (Part II) and pursued by the RGC with its policies (Part III) and the overall approach that FAO adopts in its Strategic Framework.

Consequently, it will be useful, before identifying priority areas for the next NMTPF in Cambodia, to recall the list of 11 *Strategic Objectives (SO)* identified in the FAO *Strategic Framework*, since they will be important parameters for the definition of the NMTPF Results Matrix. The SO are the following: ²⁷

- A. Sustainable intensification of crop production;
- B. Increased sustainable livestock production;
- C. Sustainable management and use of fisheries and aquaculture resources;
- D. Sustainable management of forests and trees;
- E. Sustainable management of land, water and genetic resources and improved responses to global environmental challenges affecting food and agriculture;
- F. Improved quality and safety of foods at all stages of the food chain;
- G. Enabling environment for markets to improve livelihoods;
- H. Improved food security and better nutrition;
- I. Improved preparedness for, and effective response to, food and agricultural threats and emergencies;
- J. Gender equity in access to resources, goods, services and decision-making in rural areas;
- K. Increased and more effective public and private investment in agriculture and rural development.

Every single SO just listed finds its corresponding echo in the priorities pursued by the RGC in its policies and strategies reviewed in previous chapters, suggesting a perfect alignment between the two sides of the equation of this NMTPF, i.e. national priorities and FAO strategy. The formulation of the programming components of the NMTPF that requires the identification of the priority areas for FAO action for the next few years, their goals, expected outcomes, outputs and corresponding activities, can therefore benefit from the SO as well as from the set of priorities and policies pursued by the RGC, given their perfect correspondence with each other. That formulation may also benefit from Organizational Results (OR) that are associated to each SO in the FAO Strategic Framework 2010-2019. Being sector specific, the OR bring elements of concreteness to the definition of the NMTPF and, together with the SO, provide a suitable platform to shape the Programming Framework for this NMTPF in Cambodia.

Defining the areas of comparative advantage for FAO development support: the core functions of FAO and its impact focus areas

The comparative analysis of the contributions that Cambodia receives from external Development Partners reported in Part 4 shows that FAO, even if present in a large variety of domains in the agricultural sector, is better positioned to assist the RGC in some areas and not in others. The nature of FAO as a specialized agency of the United Nations is that of a **knowledge organization** specialized in agriculture, fisheries, forestry, food security and environment protection. This is why FAO is barely active where significant amounts of capital investment are required, as it is the case in the development of road infrastructure, large irrigation schemes, big processing plants in agro-industry, installation of big scientific laboratories, promotion of national platforms for rural credit and, in general, financial support to investment in agriculture, fisheries and forestry. FAO is not an international financing institution. On the contrary, its vocation as a UN specialized agency places FAO in the most suitable position to **provide the best specialized science-based policy and technical advice and technical assistance, based**

²⁷ Numbering by letter is the same adopted by FAO in its official documents. There is no Strategic Objective J.

on solid and prolonged experience tested in a broad variety of country situations in support to national development efforts in the FAO-mandated areas.

This vocation is spelled out in eight Core Functions (CF) defined in FAO Strategic Framework as well as in an initial set of seven Impact Focus Area that the Immediate Plan of Action (IPA) for FAO Renewal (2009-2011) ²⁸ proposed in 2008, ²⁹ which partly overlap and integrate each other.

The eight CF are:

- a. Providing long-term perspectives and leadership in monitoring and assessing trends in food security and agriculture, fisheries and forestry;
- b. Stimulating the generation, dissemination and application of information and knowledge, including statistics;
- c. Negotiating international instruments, setting norms, standards and voluntary guidelines, supporting the development of national legal instruments and promoting their implementation;
- d. Articulating policy and strategy options and advice;
- e. Providing technical support to:
 - promote technology transfer,
 - catalyse change, and
 - build capacity, particularly for rural institutions,
- f. Undertaking advocacy and communication, to mobilize political will and promote global recognition of required actions in areas of FAO's mandate;
- g. Bringing integrated interdisciplinary and innovative approaches to bear on the Organization's technical work and support services.

The initial list of IFA includes:

1. Action towards global food security in the context of the current food crisis and climate change;
2. Prevention and reduction of the negative effects of transboundary animal and plant pest and food safety incidences;
3. Strengthening the information base for sustainable forest management;
4. Implementation of the Code of Conduct for Responsible Fisheries to help ensure sustainable fisheries and aquaculture as integral components of food production;
5. Coping with scarcity of land and water resources, including for the implications of climate change;
6. Strengthening information and statistics capacities;
7. Strengthening capacities for development and implementation of standard setting and regulations.

The simultaneous consideration of the CF and IFA should be the basis for defining the comparative advantages on which we shall build the strategic Programmement Framework for the new NMTPF (see Annex I for a graphical representative of this link).

5.3 VISION, OVERALL GOAL AND DEVELOPMENT GOALS FOR THE NMTPF 2011-2015

The moment has come to put the vision of development priorities of the RGC emerging from the body of strategies and policies described in Part 3 of this document with FAO strategic approach and comparative advantages highlighted in this chapter in order to arrive at the definition of the Programming Framework for the NMTPF. By doing so, it is possible to suggest a ***vision for the NMTPF 2011-2015***, which is inspired by FAO overall vision

²⁸ Approved by the 35th (Special) Session of the FAO Conference in November 2008

²⁹ The list is subject, suggested as a pilot, has an initial duration of four years, and is expected to be reviewed at the end of each biennium.

expressed in its Strategic Framework as well as the strategic orientations expressed in the Rectangular Strategy and the NSDP, as well as the Strategy for Agriculture and Water (SAW). It is here suggested that the RGC and FAO agree on the following vision:

A society free from hunger and malnutrition where food and agriculture, fisheries and forestry, and related activities, contribute to improving the living standards of all Cambodians, especially the poorest, most food insecure, most vulnerable, in an economically, socially and environmentally sustainable manner.

In order to translate this vision into an operational platform, the RGC and FAO agree on the adoption of an NMTPF for the years 2011-2015 that pursues the following **overall goal**:

To promote the development of sustainable agriculture, fisheries and forestry as a contribution to the eradication of extreme poverty and hunger in Cambodia, in accordance with GMDG 1 that pursues halving, between 1993 and 2015, the proportion of people whose consumption is less than the national poverty line and the proportion of people who suffer from hunger.

5.4 PRIORITY AREAS FOR THE NMTPF 2011-2015

In order to translate the NMTPF into a strategic framework, the RGC and FAO agree to the pursuit of five specific **development goals**, based on this vision and this overall goal:

1. to enhance agriculture productivity and diversification,
2. to improve consumer protection, food safety and market access for agricultural products
3. to improve food security,
4. to achieve sustainable natural resource management, and
5. to improve the response to climate change threats and improve emergency preparedness and disaster risk management.

These development goals are a synthesis of several considerations, priorities and goals identified by the RGC in its policies, strategies, plans and programmes, as well as elements covered by the FAO SO, OR, CF and IFA. These development goals also define five priority areas for the NMTPF in 2011-2015.

Priority Area 1: Sustainable improved agricultural productivity for smallholder farmers

The basis of this priority area and its corresponding development goal can be found both in FAO Strategic Objective A and B, respectively on “sustainable intensification of crop production” and “increased sustainable livestock production” and the RGC set of policies that put the “enhancement of agriculture productivity and diversification” as the first pillar of the growth rectangle in RS I and RS II, and an overarching goal of SAW. This area is covered by a variety of contributions that FAO can provide through some of its key core functions, and in particularly core function “b” (referred to dissemination and application of information and knowledge), core function “d” (on provision of policy and strategy options and advice), and most of all core function “e”, through the provision of technical support to promote technology transfer, catalyze change and build capacity. This priority area is articulated in the NMTPF Programming Framework in three clusters, respectively regarding: (A) crop production, (B) soil use and (C) livestock production. The RGC is committed to this priority and is determined to confront key challenges where the great potentials of agriculture face constraints imposed by low productivity in a system still anchored to subsistence agriculture and dominated by smallholder producers. Growth in agriculture performance requires a sustained effort to increase the overall level of productivity of labour and soil, where the role of local communities is the backbone for any improvements. FAO intends to support this effort.

Priority Area 2: Improved consumer protection and market access to agricultural and related products

Food safety is essential to the welfare of Cambodian population as much as food security. This priority area addresses one of the key concerns of FAO strategy (Strategic Objective D on “Improved quality and safety of food at all stages of the food chain”, which is also linked indirectly to Strategic Objective G on “Enabling environment for markets to improve livelihoods and rural development”). It corresponds to Core Function “c” of FAO – “*Negotiating international instruments, setting norms, standards and voluntary guidelines, supporting the development of national legal instruments and promoting their implementation*” – and Impact Focus Areas 7 (on *Strengthening capacities for development and implementation of standard setting and regulations*). It responds to one of the goals of the RGC’s Strategy on Agriculture and Water as regards agricultural performance and the call of the RS II to undertake special efforts to achieve “improvements of the quality of agricultural products in conformity with international standards”. Cambodian consumer protection requires improvement in the food quality and safety, which takes place at the production level, through the adoption of good practices but also in the phases that follow production. Poor hygiene in handling or contaminations of plants and animal products may put at risk the commercialization of agriculture and fisheries products both in domestic and international markets. Compliance with international standards and norms on food safety, e.g. through the application of the Sanitary and Phyto-Sanitary (SPS) measures, is key to expand market access to important markets. The RGC is aware of it and has indicated this type of priority on top of its strategies. FAO pursues efforts in this area as one of its key strategic priorities.

Priority Area 3: Improved food security

This is an area where FAO has a special role to play. The analysis of Part 4 in this document shows that FAO is a major player in food security in Cambodia. Food security corresponds to its Strategic Objective H, as well as to its first Core Function and the first Impact Focus Area identified in IPA. It is also one of the ultimate goals of SAW and its Programme 2 is fully devoted to it. The RGC also adopted a special strategy that addresses it as a top priority (SFFSN), as indicated in Part 2 and Annex V of this document. All this reflects the urgency for both RGC and FAO to support the population living below the official income poverty line, which faces huge food insecurity threats, enlarged by the frequency of natural calamities such as drought or floods and the impact of external economic shocks. For both the RGC and FAO, the pursuit of freedom from hunger (which correspond to GMDG 1) goes hand in hand with the improvement of agricultural productivity and diversification of food production, particularly by smallholder farming households and local fishing and forestry communities, improvement of income opportunities for food insecure population, especially in the rural areas, also in non-farming activities, enhancement of living conditions of rural population, and design of appropriate policies and strategies.

Priority Area 4: Improved natural resource management

This is a crucial priority area in a country with a rich endowment of natural resources. The area addresses a variety of sectors and corresponds to three Strategic Objectives of FAO: Strategic Objective C on “sustainable management and use of fisheries and aquaculture resources”, Strategic Objective D on “sustainable management of forests and trees” and Strategic Objective E on “sustainable management of land, water and genetic resources and improved responses to global environmental challenges affecting food and agriculture”. These lines of interventions also correspond to three specific Impact Focus Areas identified in the IPA, in particular IFA 3 on “strengthening the information base for sustainable forest management”, IFA 4 on “implementation of the Code of Conduct for Responsible Fisheries to help ensure sustainable fisheries and aquaculture as integral components of food production” and IFA 5 on “coping with scarcity of land and water resources, including for the implications of climate change”. These three areas are all covered in the RS I and II and the NSDP, through which the RGC establishes main lines of action on natural resource management. In particular, in those strategies and plans, the Government pursues better management of water resources and irrigation, and better management, conservation, and development of sustainable fisheries resources and sustainable forestry.

Priority Area 5: Climate change mitigation and adaptation, and disaster risk management

The priority area is comprised of two sub-themes: (A) climate change, and (B) emergency preparedness and disaster risk management. FAO addresses the first theme in Strategic Objectives D and E, respectively on “sustainable management of forests and trees” and “*sustainable management of land, water and genetic resources and improved responses to global environmental challenges affecting food and agriculture*”, whereas the second theme is particularly addressed by Strategic Objective I on “*improved preparedness for, and effective response to, food and agricultural threats and emergencies*”. This priority area also corresponds to Impact Focus Area 7 on “action towards global food security in the context of the current food crisis and climate change” as well as all those related to natural resource management just mentioned, to the extent that they are linked to climate change mitigation and adaptation. This priority is of the utmost importance for a country like Cambodia, which is particularly vulnerable to the threats of climate change and its impact through the alteration of weather conditions, their intensity and predictability. The RGC is formulating a strategy to address these challenges as this document is being prepared. The Climate Change Forum planned for the month of October 2009 is an opportunity to launch a dialogue with the external Development Partners to formulate basic elements of a national strategy on climate change. The RGC is also particularly sensitive to the urgency of taking policies that pursue biodiversity conservation, conservation agriculture, protection of the environment from soil erosion, degradation, salinity, and natural calamities that threaten ecosystems. The growing frequency of natural disasters, including threats from transboundary animal diseases and plant pests has also increased awareness within national authorities of the need for enhanced preparedness, with adequate contingency planning, early warning system and other methods to mitigate or prevent the impact of these disasters.

Gender equity as a priority

In addition to these priority areas, the RGC and FAO recognize that the development of agriculture, fisheries and forestry cannot be achieved in Cambodia unless the ***highest priority is given to gender equity and equal access by men and women to resources, goods, services and decision-making in rural areas***. This is Strategic Objective K of FAO but, most of all, is a key development priority issue in Cambodia, as reflected also in the UNDAF priorities for 2011-2015. Women, especially in rural areas, are among the most vulnerable social groups in terms of food security and food safety. Their role in decision-making is not equal. Their access to resources, land, rural credit, goods, extension services and other support services needs to be addressed while designing activities in all priority areas. They also play a crucial role in the promotion of an improvement of agricultural productivity and the increase of diversified income opportunities as contribution to enhanced food security.

Prioritizing effectiveness of investment in agriculture

These priorities define the basic structure of the NMTPF Programming Framework for 2011-2015, which is a means through which FAO intends to contribute to the national efforts to enhance effectiveness of public and private investment in agriculture and rural development. This corresponds to Strategic Objective L of FAO, and represents an area of special concern for RGC, where the high priority attributed to agricultural development unfortunately faces a weak flow of investment to the sector, limiting the effectiveness of any support to agriculture.

6 NMTPF 2011-2015: PROGRAMMING FRAMEWORK

On the basis of the priority areas identified in Part 5 and their logic therein illustrated, a Programming Framework of FAO activities is here proposed, reflecting national strategies, plans and goals as defined in the RS, RS II, NSDP, SAW, SFFSN and the other policy frameworks recognized in Part 3. The basis of this Programming Framework is the enhancement of the agricultural sector, which is the overall goal of RS, RSII and SAW, particularly in the framework of the improvement of productivity and diversification of agriculture, integrated with reforms that affect soil use, water resources, fisheries and forestry.

The structure of the new NMTPF Programming Framework is articulated in a number of outputs for each priority area, which correspond to specific activities. The Part 6 contains a synthetic presentation of this structure of priority areas, outputs and activities. Annex III will specify also indicators for each output, related assumptions and risks in Annex III, and their links with the FAO strategic objectives, organizational results, core functions and impact focus areas.

An overarching feature of this Programming Framework is the focus on capacity development, which is a cross-cutting theme for all activities undertaken by FAO in Cambodia, and permeates every programme in all sub-sectors.

Priority Area 1: Sustainable improved agricultural productivity for smallholder farmers

This Priority Area comprises three clusters (crop, soil use and livestock) and eight specific outputs. Increase in crop productivity is the basic objective of SAW and a central development goal that, if achieved, will generate benefits for Cambodian economic and social development in several other areas. Technical advice is expected to ensure the integration of sustainable crop production into the food security strategy of the country.

(A) CROP

The increase of crop productivity is facilitated through improved use of resources to achieve higher yields while promoting sustainability and progress from subsistence farming to market-oriented agriculture. FAO is expected to intervene at two levels: (a) policy, strategic and programming level, and (b) pilot interventions at the community level. The first group of actions is conceived as policy and technical support and capacity development activities aimed at strengthening national institutions, in particular MAFF. Technical advice and guidance will pursue the integration of plant protection into sustainable crop production in a wider food security perspective. Nuclear strategies to allow for the management of plant pests and diseases will be explored. Upstream interventions include the enhancement of the analytical capacities of decision-makers, including through the improvement of quality in statistical information accessible to MAFF officials and other operators in the sectors. This type of intervention is especially geared towards enhancing the skills of technical units of the RGC on quantitative analysis as required to monitor agricultural productivity improvements. The launch a statistical census in agriculture is foreseen.

Pilot interventions in selected communities will include access to inputs necessary to increase productivity through crop production intensification and the provision of technical advice. Smallholder farmers are the main beneficiaries of these activities. Farmer organizations are encouraged and supported. The link between these interventions and enhancement of food security will also be ensured. Rural extension services are an important means to improve agricultural productivity. FAO interventions will support MAFF in ensuring the continuing adoption of the Farmer Field School approach in its extension services. Efforts will be focused also on the need to ensure wider application of that approach, monitoring the effectiveness of the services provided, with the intent of achieving

a broader district coverage of these services at the national level, ensuring that both men and women farmers benefit from these activities.

Intensification of research activities in crop-related activities is pursued with initiatives at various levels. Improved management of plant genetic resources is supported, including with initiatives that are being designed through MAFF to establish a national information system with appropriate capacity building with the aim of improving the seed system used by farmers.

Outputs and activities under this Priority Area for the Crop cluster are indicated in the following box.

Box 6.1: Priority Area 1: Sustainable improved agricultural productivity for smallholder farmers

Cluster (A): CROP

Output 1.1 **Continued support to formulation and implementation of national policies/plans/strategies/programmes that target sustainable crop production and other agricultural advancements**

Activities:

- 1.1.1 Support MAFF in the development of strategies and programmes on sustainable crop production intensification and diversification
- 1.1.2 Provision of technical assistance to MAFF for capacity building in planning and formulation of sound 'bankable' agriculture development projects
- 1.1.3 Ensure gender equity is promoted in crop sustainable intensification strategies

Output 1.2 **Provide policy-makers and public officials with enhanced statistical information on agriculture to stimulate crop productivity**

Activities:

- 1.2.1 Design and implement an Agricultural Census
- 1.2.2 Support the establishment of data baselines for an increasing number of statistical indicators related to improvement of agriculture productivity, as part of the national system of agriculture statistics

Output 1.3 **Continued support to the improvement of agricultural productivity through technical advice, extension services and enhanced research**

Activities:

- 1.3.1 Continue to support the adoption of the Farmer Field School approach in the extension services of MAFF for men and women farmers and wider application at district level
- 1.3.2 Technical assistance and policy advice for the intensification of innovative research in agriculture and related areas, with emphasis on adaptive research and technology transfer for bridging productivity gaps
- 1.3.3 Technical assistance and advice to enhance research component of activities of agricultural universities, improve technical content of curricula in vocational training, and promote technical support to farmer organizations

Output 1.4 **Enhanced support to management of plant genetic resources ensured**

Activities:

- 1.4.1 Establishment of a national information sharing mechanism established for monitoring the implementation of the Global Plan of Action for the Conservation and Sustainable Utilization of Plant Genetic Resources for Food and Agriculture (GPA-PDRFA) and corresponding capacity-building activities
- 1.4.2 Train the trainers on plant genetic resource management
- 1.4.3 Dissemination activities with stakeholders
- 1.4.4 Provision of technical and policy advice

(B) SOIL USE

Agricultural productivity is closely dependent on the use of soil. Technical support will focus on the identification and use of mechanisms for the development and implementation of integrated interventions on conservation and sustainable use of soil, and generation and management of knowledge, tools and technologies regarding soil use, land suitability, land degradation, conservation, agricultural biodiversity and sound agronomic practices that combine efficient crop, soil, nutrient and water efficient management. An important output concerns the achievement of sustainable plant protection as it relates to crop production and reduction of losses due to pests and diseases, while reducing the risks attached to the use of pesticides, though the expansion of the Integrated Pest Management (IPM) approach to reduce reliance on pesticides (in particular, highly hazardous pesticides). Technical assistance to communities, in particular to smallholder farmers will focus on sustainable management of crop diversity, seed systems, use of fertilizers and sustainable soil use. Extension services will be supported in the context of the Farmer School approach. Attention to women farmers will be ensured..

Box 6.2: Priority Area 1: Sustainable improved agricultural productivity for smallholder farmers

Cluster (B): SOIL USE

Output 1.5 **Enhancing soil productivity, in the context of sustainable intensification (integrated with management of other inputs, such as water, and consideration of environmental factors)**

Activities:

1.5.1 Policy advice and technical assistance provided on enhancing national land use and soil productivity, including use of land suitability/degradation, conservation agriculture, environmental factors (such as pollination) and soil management best practices, also with regard to interaction between land use and climate change

1.5.2 Training and technical support provided to men and women farmers through the Farmer Field Schools for soil use improvements

Output 1.6 **Sustainable pest and disease management practices adopted**

Activities:

1.6.1 Review IPM work undertaken in Cambodia with policy makers in the light of continuing need for sustainable intensification of crop production, and produce a strategy for sustainable pest management.

1.6.2 Advise on further development of IPM programmes nationally, and assist RGC in identifying further sources of funds

(C) LIVESTOCK PRODUCTION

Cambodia does not have a national strategy for livestock, although the support of livestock production is considered in the context of the improvement of agricultural sector in the RS and RS II, as well as NSDP. SAW does not give special attention to this sub-sector. The growth of the livestock sector has a decisive relevance for food security and can benefit the economy by reducing the dependency of the country from imports from neighbouring countries for livestock that can be efficiently produced in Cambodia. Increase in livestock productivity requires: significant improvements in animal breeding, nutrition and husbandry; prevention and control of animal diseases; and improvement of animal welfare while reducing the risk of the emergence of zoonotic diseases. A holistic approach is recommended, through the development of a strategic approach to the sector, giving special attention to the needs of smallholder producers, and diffusion of good management practices for responsible intensification and increased efficiency of livestock production. This requires the intensification of extension and capacity building initiatives, and expansion of advisory services, including veterinary services, on a nation-wide scale. Interventions will be harmonized with other FAO initiatives aimed at attenuating the significance of terrestrial and aquatic animal and zoonotic diseases.

Box 6.3: Priority Area 1: Sustainable improved agricultural productivity for smallholder farmers

Cluster (C): LIVESTOCK PRODUCTION

Output 1.7 **National holistic strategy for livestock adopted and integrated animal production and health management enhanced**

Activities:

1.7.1 Development of holistic strategies to livestock

1.7.2 Launch of national capacity building initiatives to analyze data and enhance management through networks, activities and veterinary services

Output 1.8 **Support to Smallholder Livestock Production**

Activities:

1.8.1 Improve the capacity of livestock smallholders, with special attention to women, to acquire and/or utilize better animal husbandry practices, appropriate technology for production efficiency and improved marketing approaches

Priority Area 2: Improved consumer protection and market access to agricultural and related products

Priority Area 2 addresses one dimension of agricultural production that is closely related to the performance of Priority Area 1, being concerned with the quality of agricultural production for human health. Cambodian population requires not only adequate food supply to meet its nourishment needs but also the assurance that agricultural products are safe. Activities envisaged in the NMTPF Programming Framework under this Priority Area regard both agriculture and fisheries production.

Consumer protection starts at production and follows through a series of steps along the distribution chain, from post harvest (or animal slaughtering) to processing, storage, transportation, packaging, and final distribution to consumers or export. The respect of norms and standards for hygiene and health protection required at the national, regional and international level is crucial, as highlighted in Part 5.

Cambodia has so far received some SPS capacity building from donors but in modest amounts, given the complexity of the institutional roles of government agencies involved in this area. They go from the Ministry of Commerce, which has traditionally handled SPS regime in Cambodia through its inspection and fraud prevention division, CamControl, to MIME (for national industrial standard setting), MAFF (for animal health, plant quarantine and agricultural product safety) and Ministry of Health (for domestic consumer protection). Technical weaknesses, duplication and lack of clarity in institutional responsibilities have called for a balanced road map. FAO assistance will focus first on the preparation of a national Action Plan, as part of the WTO initiative of the Standards and Trade Development Facility (STDF) in nine subsectors identified by the Diagnostic Trade Integration Study of 2007, with the aim of formulating a national strategy and provide assistance for its implementation in a number of specific areas (e.g. post-harvest fisheries sector and national food inspector system).

This strategic intervention will be integrated with more operational activities. They include provision of technical assistance and training to food producers for a responsible use of pesticides and chemicals in farming and methods for crop protection. The application of IPM (addressed in the context of Priority Area 1) is even more relevant in the context of consumer protection. Other operational initiatives will enhance capacity of personnel and inspectors, laboratory personnel and institution involved through training in order to provide certification for food safety to Cambodian agricultural and fishery products. To improve monitoring, surveillance, inspection, testing and certification in food safety in Cambodia is crucial, as it is a condition to acquire international accreditation and gain access to key foreign markets. Other interventions will be undertaken in the context of a medium-term strategy for agro-industrial development where there are opportunities for inter-agency collaboration within the UN system. This Priority Area does not absorb huge resources, since FAO does not engage in capital intensive operations of equipment procurement but mostly focus on the provision of highly specialized technical and science-based

advice. However, the strategic value of these activities is of the utmost relevance, if due consideration is given to the benefits for the country from improvement in conformity with international standards and certification requirements, modernization of agro-processing of rural products, improvement of quality of plant and animal production and fisheries production, better animal husbandry and veterinary services, enhanced post-harvesting processing and better storage conditions.

Box 6.4: Priority Area 2: Improved consumer protection and market access to agricultural and related products

Output 2.1 **Conformity with food safety laws, regulations and standards with a basis in international and regional norms and standards improved by developing plans, regulations and mandates, in order to guarantee access to new or more profitable markets for Cambodian agricultural and fisheries products.**

Activities:

2.1.1 Support to the RGC in finalizing SPS national strategy and Action Plan as follow up to the initiative of the Standards and Trade Development Facility (STDF) in nine subsectors identified by the Diagnostic Trade Integration Study (2007)

2.1.2 Facilitate donor coordination and new programme alignment with the RGC SPS National Strategy

Output 2.2 **Technical assistance and backstopping are provided, along with other partners, to enhance conformity with food safety laws , regulations and standards.**

Activities:

2.2.1 Support to the implementation of the National Action Plan in priority areas (such as post-harvest fisheries sector and national food inspector system) in compliance with international norms, including by providing advice to RGC on compliance with emerging ASEAN Good Agricultural Practice initiative.

2.2.2 Provide technical support to design of initiatives taken by RGC with development partner assistance under the SPS Action Plan

Output 2.3 **Compliance with GAP and other standards, including safe pesticide management, is ensured**

Activities:

2.3.1 Provide support (technical assistance and training) to relevant agencies in the responsible use of pesticides and chemicals in farming and methods for crop protection by applying Integrated Pest Management (IPM) and the design of programmes to encourage these practices.

Output 2.4 **Improve the capacity of national competent authorities through training for regulatory personnel and inspectors, laboratory personnel and institution involved in accreditation**

Activities:

2.4.1 Improve the capacity of national competent authorities through training for regulatory personnel and inspectors, laboratory personnel and institution involved in accreditation

Output 2.5 **Support to agro-business, complementing efforts of other partners, to ensure that improved variety, quality, safety and added value is achieved in high potential exports in order to guarantee access to new or better markets for Cambodian agricultural and fisheries products**

Activities:

2.5.1 Creation of a Medium-term Strategy for Agro-Industrial Development (SAID)

2.5.2 Implementation of Programme for Agro-Industrial Development based on SAID

2.5.3 Application of good agricultural practices (GAP) for environmental, economic and social sustainability and food safety

2.5.4 Training of producers, traders and processors on skills to improve quality or add value

2.5.5 Conduct market analyses on existing trade and product routes including domestic and border trade barriers to neighbouring countries for specific high potential products

Priority Area 3: Improved food security

This NMTPF builds on the efforts so far undertaken in supporting the formulation of a national food security strategy and its operationalization (see in particular National Programme 2 of SAW). It provides further support through its implementation by improving information systems required to monitor food security in the country, providing advice for possible policy adjustments and promoting a number of operational interventions at the community level, particularly targeting the most vulnerable population, including in particular women. Many of these interventions will include a food security and nutritional components in activities geared towards strengthening agricultural systems in selected communities. These interventions are summarized in the following box.

Box 6.5: Priority Area 3: Improved food security

Output 3.1 **Capacity building for policy formulation and analysis for Food Security established**

Activities:

- 3.1.1 Sector and sub sector strategies and National Programmes are reviewed, with regard to household food security, and potential policy adjustments are recommended
- 3.1.2 The capacity of national institutions is improved through technical assistance and training related to research and policy formulation and knowledge management of FSN in Cambodia
- 3.1.3 Support the continued improvement of the FSN Information System
- 3.1.4 Ensure gender equity is promoted in the implementation of food security measures

Output 3.2 **Strengthened national and sub-national agricultural systems that promote physical and economics access to sufficient, safe and nutritious food for vulnerable populations in targeted communities through expanded capacity of food production and post harvest handling of smallholder farmers**

Activities:

- 3.2.1 Development and implementation of programmes to address food security issues, including crop diversification, in the most insecure locations and populations through the provision of seeds, fertilizers and tools and extension services.
- 3.2.2 Reduction of post-harvest losses through the provision of equipment and storage facilities to small scale farmers and training to improve post-harvest practices in targeted communities.
- 3.2.3 Improvement of safe nutrition intake of food insecure households through promotion of diversification and enhancement of feeding practices based on local foods in targeted communities.
- 3.2.4 Improvement of domestic and food hygiene practices through awareness raising community education in targeted communities.
- 3.2.5 Initiate research, establish pilot interventions and develop wider programme in industries, including aquaculture and off-farm activities, which can generate alternative sources of income.
- 3.2.6 Undertake (Telefood) micro-projects at the household level for improved food security livelihoods.

Output 3.3 **Improved integrated management of water resources, water control and crop intensification of prevailing farming systems**

Activities:

- 3.3.1 Undertake water user needs assessment.
- 3.3.2 Establish Farmer Water User Groups (FWUGs) and train them on water management and water control and their implications for crop diversification and crop rotation for improved productivity (see also Output 1.5).

Main concern of the more operational activities on food security at the community level will be to facilitate the access (either physical or economic) to sufficient, safe and nutritious food for the most vulnerable population. Therefore, their objective is complementary to those in the first two Priority Areas, as physical availability of production (Priority Area 1) and food safety (Priority Area 2) are conditions to achieve food security. Activities aimed at

the improvement of agricultural productivity also address crop intensification and diversification and post harvest handling, making use of inputs such as provision of seeds, fertilizers and enhanced extension services.

Increased awareness of the need to introduce improvement in food hygiene practices will be pursued. The need to increase income opportunities for food insecure vulnerable groups is part of this group of activities, so that economic access to most vulnerable social groups is ensured through the support to complementary off-farm activities and aquaculture. Projects are of different sizes, some covering a sufficiently large number of households in targeted communities, and will be harmonized with the improvement of integrated management of water resources and crop intensification, with special attention to support to Farmer Water User Groups (FWUGs). Other interventions will be of modest size, such as the Telefood micro-projects, also included in this group.

Priority Area 4: Improved natural resource management

Priority Area 4 covers a broad range of issues, since natural resource management, as defined by the RGC, includes land and water use, forestry and fisheries resource management. For the purpose of this NMTPF, soil use has been considered in the context of Priority Area 1, for its immediate relevance to agriculture productivity. The other components – water, forestry and fisheries – have all been addressed in the RS and RS II as well as the NSDP. In the current portfolio of FAO activities they cover at least a total of 31% of the resources mobilized by FAO, excluding regional projects. The first Output of this group (4.1) regards this Priority Area as a whole, providing support for the improvement of overall natural resource management, with special attention to biodiversity and conservation, and adopting a community-focused approach. The remaining activities programmed under this Priority Area 4 are articulated into three distinct clusters, respectively on (A) fisheries, (B) forestry, and (C) water, which will be illustrated separately.

Box 6.6: Priority Area 4: Improved natural resource management

Output 4.1	National capacities enhanced in sustainable use of natural resources (forestry, fishery, land, and protected areas) for improvement of livelihood while securing biodiversity conservation
Activities:	
4.1.1	Technical assistance and policy advice to prepare gender-sensitive sectoral strategies, plans, policies and programmes regarding sustainable use of natural resources , including on conservation agriculture.
4.1.2	Increased awareness and empowerment of communities and community groups on natural resource management and sustainability leading to the development of Community Plans for natural resource management.

(A) FISHERIES

The RGC and FAO recognize that the fisheries and aquaculture sector plays an important role in human nutrition but also require an effective management and conservation approach to ensure the conservation of fisheries and aquaculture resources, aquatic biodiversity and the health and productivity of the ecosystem that support fish production. The continued implementation of the Regional Code of Conduct for Responsible Fisheries, and other conventions such as the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the Convention on Bio Diversity (CBD) and the agreement of the Mekong River Commission on water utilization of the Mekong River, require special attention. While the RGC is about to produce a longer term strategy in the sector, the NMTPF includes activities that confirm the present policy adopted at the national level that is based on the Law on Fisheries adopted in 2006, which focuses on sustainability of fishery management, fishery protection and conservation, enhancement of fisheries management, fisheries communities, all forms of technical assistance and extension services (especially to the benefits of small producers and members of Community Fisheries organizations).

Box 6.7: Priority Area 4: Improved natural resource management

Cluster (A): FISHERIES

Output 4.2 **Continued implementation of strategy for responsible and sustainable fisheries with special attention to small-scale producers and aquaculture**

Activities:

- 4.2.1 Pilot interventions and wider programmes established for aquaculture development in targeted communities in the framework of responsible and sustainable fisheries and corresponding resource management (see also Output 3.2)
- 4.2.2 Promotion of aquaculture as complementary activity in the context of crop diversification and improvement of water resource management
- 4.2.3 Improved relationship and sustainable co-management of fisheries resources with fishers and government entities.
- 4.2.4 Develop enhanced extension services with fishers in order to improve the quality of fisheries products and the linkages within the market chain.
- 4.2.5 Facilitate access to finance for fishers, processors and vendors to purchase updated technology and business development with special attention to women.
- 4.2.6 Develop extension services to assist fish hatcheries in maintaining quality of inputs to production, especially water quality as well as the promotion of establishing new hatcheries.
- 4.2.7 Support the development and establishment of Community Fisheries Organisations in an effort to improve access to fisheries resources for fishers.

(B) FORESTRY

Forestry represents the smallest area of intervention for FAO in Cambodia but its approach, pursued also in this NMPF, confirms the strategic orientations of the RGC on forestry, based on the 2002 Law on Forestry and the more recent National Forestry Programme (NFP). FAO activities include both country-level initiatives and several regional projects undertaken under the direct responsibility of the FAO Regional Office for Asia and Pacific. FAO supports the implementation of the NFP, and will provide technical assistance for that purpose, including support to the implementation of specific programmes foreseen in NFP, in particular the National Community Forestry Programme. Interventions geared to extend the application of Community Forestry Model and the Community Forestry Associations to new areas across the country are going to be central. Cross-reference here should be made with the interventions on Community Forestry that are included in Priority Area 5 on climate change, for the initiatives aimed at expanding forestry-related carbon market opportunities to generate carbon sequestration (credits) and reduce emissions from deforestation and forest degradation (REDD).

Box 6.8: Priority Area 4: Improved natural resource management

Cluster (B): FORESTRY

Output 4.3 **Continued support to sustainable forest management and its integration with sustainable rural livelihoods and biodiversity conservation ensured**

Activities:

- 4.3.1 Strengthen institutional capacity in strategic planning through dissemination of results from recent analyses undertaken by FAO at the regional level and through an executive education short course on forest policy
- 4.3.2 Support community based and cost-effective assisted natural regeneration (ANR) for restoring forest ecosystem services

- 4.3.3 Support implementation of all sub-programmes under the NFP document
- 4.3.4 Monitor and review the progress on implementation of National Forest Programme and provide appropriate support for future improvement
- 4.3.5 Enhance the development of the Community Forestry Model through strengthening existing Community Forestry Associations and expand the model to new areas
- 4.3.6 Research the potential of NTFPs in targeted communities based on the community forestry model to support sustainable forest management
- 4.3.7 Design a pilot programme to support the development of potential NTFPs with targeted community forestry areas
- 4.3.8 TA on developing a National Forest Management Plan linked to National Forest Inventory System
- 4.3.9 Support implementation of forest management systems which balance production and conservation of forest resources and are linked to livelihood considerations
- 4.3.10 Introduce methodologies for national forest inventory management and analysis system for development of a Forest Information Management System (FIMS)
- 4.3.11 Further develop and strengthen the linkage between the tourist markets in urban areas and forest dependent villagers with small and medium size enterprises (SMEs) in the framework of sustainable management of forest resources
- 4.3.12 Enhance training in defining and promoting effective auditing and monitoring procedures for assessing forest harvesting compliance with national codes of practice
- 4.3.13 Support the contribution of forestry to poverty alleviation.

(C) WATER

Initiatives that are geared towards improved use of water resource management in agriculture are included in this Priority Area, in accordance with the approach adopted by the RGC that considers water under natural resource management. Water for irrigation is one of the most important pillars of SAW, which devotes National Programme No. 4 to water resources, irrigation management and land programme. The focus of that programme, consistently with what pursued by RS and RS II, is on a continued development of a holistic land and water resource strategy for an increasingly efficient and effective use of existing irrigation schemes, promoting sustainable and community-based management of water resources and water management facilities in the context of an integrated river basin approach.

The same approach is adopted by FAO and the RGC in this NMTPF Programming Framework and the specific activities and output therein envisaged confirm this approach. Emphasis is on strengthening national capacities to improve water productivity of the agricultural system at the river-basin level, consistently with FAO Organizational Result F2 (See Annex IV for a full list of Organizational Results), in the context of Strategic Objective F on “Sustainable management of land, water and genetic resources and improved responses to global environmental challenges affecting food and agriculture”. Focus is on rehabilitation of existing reservoir dams, structures and canals, the role of the Farmer Water User Groups (FWUGs), and its implications in terms of expansion of extension services through the FWUGs. The link between these interventions and those geared towards increase of agricultural productivity and improvement of food security is strong.

Box 6.9: Priority Area 4: Improved natural resource management

Cluster (C): WATER

Output 4.4 **Continued development of holistic land and water resource strategy, based on river basin approach through rehabilitation of existing participatory irrigation systems and integrated rural development approaches**

Activities:

- 4.4.1 Rehabilitation of existing reservoir dams and structures, canalization and water distribution in pilot area.
- 4.4.2 Technical assistance and capacity building provided to improve use and management of existing irrigation systems.
- 4.4.3 Establishment and support to Farmer Water User Groups (see Output 3.3).
- 4.4.4 Ensure gender equity is promoted in access to water resources

Priority Area 5: Climate change mitigation and adaptation, and disaster risk management

As anticipated in section 5.4, Priority Area 5 addresses two themes closely related: response to climate change and emergency preparedness and disaster risk reduction. National policies in these two areas are being enhanced while this document is drafted. Plans are required to provide technical and policy advice to assist national authorities in the formulation of these policies and strategies.

This NMTPF foresees the need for a strong involvement of FAO in support of these efforts, especially for the aspects of climate change linked with mitigation and adaptation measures to be adopted in agriculture, forestry, fisheries and water resources. At the same time, this NMTPF envisages the need to mainstream mitigation and adaptation to climate change in agriculture through field-level good practices. Operational activities will be launched on a pilot basis and their results will be tested for their application at a national scale in the context of a strategy for the sustainable intensification of crop production, therefore linked to activities indicated under Priority Area 1. Still in this area of climate change, high potential offset forest initiatives with Community Forestry are included. They focus on the development of forestry-related carbon market opportunities to generate carbon sequestration (credits), in the context of the reduction of emissions from deforestation and forest degradation (REDD), making use of the lessons learned from projects currently under way (see cross reference with Priority Area 4).

On emergency preparedness and disaster risk management, technical assistance activities and policy advice will be provided to enhance national capacity to address climatic risk management and agricultural disaster preparedness, including with better market information system on food availability and food market instability and prices on a national and provincial level. These intervention will also include contingency planning, early warning systems, and other means to prevent the impact of natural disasters, including damages from trans-boundary animal diseases and plant pests.

Output 5.1 **National capacities to respond to climate change with mitigation and adaptation measures in agriculture, forestry, fisheries, water resources and coastal zones**

Activities:

5.1.1 Provision of technical and policy advice to assist national authorities in formulation and implementation monitoring of national and sector policies, strategies and plans to mitigate effects of climate change.

5.1.2 Development of a national adaptation and mitigation strategy for agriculture through implementation and replication of field-level good practices, including testing and up scaling of agro-ecological suitability, in the context of sustainable intensification of crop production, reduced climate hazard risk exposure and reduced GHG emissions.

5.1.3 Development of strategies of local adaptation to, and mitigation of, climate change in agriculture and fisheries sectors.

5.1.4 Development of strategies and action plans for the increasing frequency of drought, flood control and insect infestation mitigation.

5.1.5 Assess the country status on the integration between climate change issues and national forest policies

5.1.6 Develop practical guidelines that support policymakers and other stakeholders in integrating climate change issues (mitigation and adaptation) into national forest policies through national forest programme processes, including good practice examples.

Output 5.2 **National capacity established to develop forestry-related carbon market opportunities to generate carbon sequestration (credits) and reduce emissions from deforestation and forest degradation (REDD)**

Activities:

5.2.1 Pilot implementation of high potential carbon offset forest initiatives with community participation, development of field-level guidelines and information tools, and other related capacity building initiatives

Output 5.3 **Capacity for emergency preparedness and disaster risk reduction management for impending food, agricultural crises, and climate related natural hazards is enhanced**

Activities:

5.3.1 Technical assistance and policy advice to enhance government structures and policy framework for addressing climate risk management and agricultural disaster preparedness.

5.3.2 Enhance market information systems on food availability and food market instability and prices on a national and provincial level.

7 NMTPF MANAGEMENT, MONITORING AND EVALUATION

The NMTPF for the years 2011-2015 sets a strategic framework of priority actions that FAO intends to carry out in order to respond to the policies pursued by the RGC through its strategies and plans. It outlines agreed areas of work, where detailed operational work plans are required. This section defines a few basic principles for the NMTPF implementation management, and monitoring and evaluation mechanisms.

NMTPF Implementation Management

NMTPF is not a country programme, in the sense used by the UN funds and programmes. It does not entail any contractual commitments of FAO to employ specific financial resources in Cambodia to the implementation of those priority actions. The implementation of NMTPF requires a number of operations that, by establishing links between the RGC and FAO functional (technical) departments and RAP technical staff, will promote specific initiatives (projects, support actions, partnerships) that – when funded through FAO regular budget resources or with the support of *ad hoc* extra-budgetary contributions – materialize the response of the Organization to the demands for specialized advice from RGC to FAO in its mandated areas.

If all the activities identified Par 6 of this document and Annex III are estimated in terms of resources required for their implementation, NMTPF provides a platform for resource mobilization, at the country, regional or global level. In order to undertake this step, it is here proposed that, following the adoption of the NMTPF for 2011-2015 and its Results Matrix, an **Annual Work Plan** for its implementation is prepared during the course of 2010, detailing the activities envisaged in the Outputs and Activities suggested in Part 6 of this document and Annex III that will be proposed for the first years for operations (2011). The Annual Work Plan will identify resource requirements for each concrete group of activities, estimating the total cost of each activity planned, funds already committed or presumably available through concrete projects already approved or being approved, identifying the financial gap to be brought to the attention of potential donors for additional funding.

The annual work plan will therefore translate the NMTPF into operations, along the proposed lines of actions, in the selected priority areas. It will be the responsibility of the FAO country office, in consultation and coordination with MAFF, to ensure the implementation of the annual work plan, so that operational programmes or projects are aligned with the orientations of the Programming Framework indicated in Part 6 of this document, its priorities, overall goals and criteria and their interaction as a coherent framework is pursued, making certain that they are consistent with the overall criteria pursued by the RGC for the improvement of agriculture, fisheries, forestry and environmental protection, pursuing food security and food safety, as stated in its policies, strategies and plans.

The preparation of the Annual Work Plan requires closer coordination and collaboration between FAO technical units, both at the headquarters and in the regional office (RAP), on the one hand, and FAO Cambodia, on the other. It is here suggested that an *ad hoc* **NMTPF Implementation Task Force** be established, co-chaired by MAFF and the FAOR, in order to ensure Government participation and ownership, and good coordination with, and participation by, relevant FAO units. Terms of reference of the NMTPF Implementation Task Force will be defined to identify the sequence of operations required to formulate the Annual Work Plan and the modalities through which RAP and FAO headquarters will participate in this phase of the NMTPF implementation process.

Each year, it will be the task of the FAO country office, with the assistance of the NMTPF Implementation Task Force, to prepare a draft NMTPF Annual Work Plan for the next year, in consultation and with the collaboration of the relevant technical units from FAO Headquarters and RAP. The draft Annual Work Plan will be submitted to the attention of MAFF for approval and for consideration to potential donors for possible additional funding.

Once the Annual Work Plan is adopted, its operationalization requires project ideas formulations, project document preparations, and additional resource mobilization efforts, moving from the strategic level of the NMTPF (programme approach) to the more specific project-level operations of the implementation.

Monitoring and evaluation

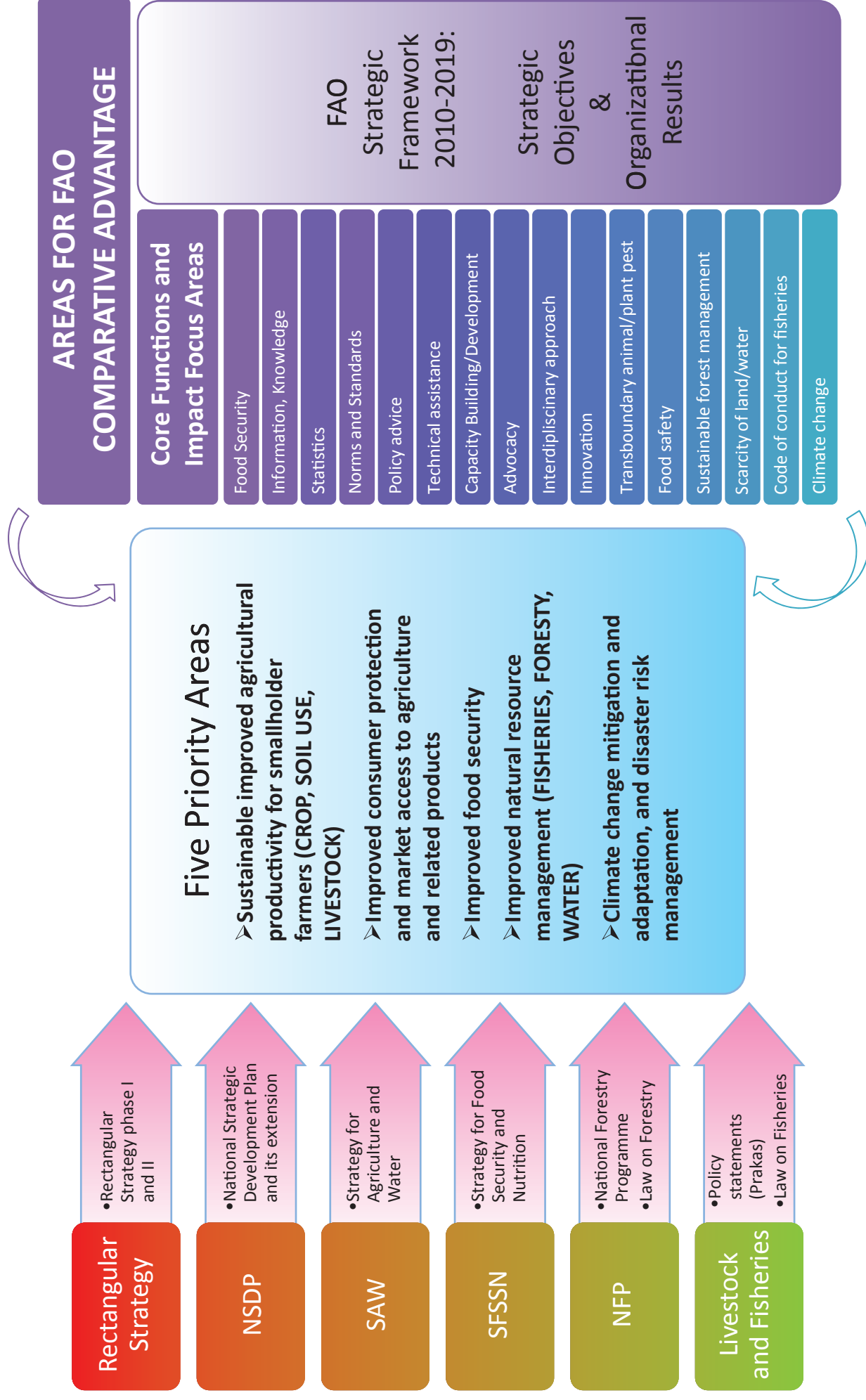
The way in which the implementation of the NMTPF Annual Work Plan is conducted is crucial for the effectiveness of the process and will be subject to systematic monitoring. It is here suggested that a core group of people be associated to this monitoring function, through the establishment an **NMTPF Monitoring Group (NMG)**, comprising representatives of RGC, in particular of MAFF, and the possible participation of representatives of MOWRAM and CARD, a selected number of FAO staff chosen among members of the FAO Technical Focal Points, RAP and FAO country office, with the possible addition of a selected number of representatives of external Development Partners active in the agriculture sector (e.g. ADB, selected bilateral donors).

The tasks of the NMG will be:

- To ensure that the implementation of the NMTPF is done in conformity with the priorities and orientations illustrated in this document.
- To ensure that periodic reviews of this implementation take place, on an annual basis, under the leadership of the MAFF and the FAO country representative, evaluating the implementation of the Annual Work Plan, the use of funds entrusted to FAO Cambodia, and possible discrepancies between planned activities and accomplishments. A review report will be prepared and submitted for discussion prior to the each annual consultation meeting. Participation in these meetings can be extended beyond the NMG members to include other stakeholders and development partners.
- To verify that adjustments through appropriate revisions of the NMTPF are introduced, on the basis of the results of the annual reviews, and recorded in the Annual Work Plan for the next year, in order to ensure full alignment of FAO strategy to the policies and strategies introduced by the RGC in its efforts of addressing the evolving development challenges.
- To ensure that a mid-term evaluation of the NMTPF is undertaken by the end of 2012, and a final evaluation during the course of 2015.

The Results Matrix reported in Annex III provides indicators and other elements (assumptions and risks) that are the initial basis for the systematic evaluation of the NMTPF implementation. While the annual review of the Annual Work Plans provides an opportunity to undertake a continuing ongoing evaluation of the process, the incremental adjustments that it allows need to be complemented with two major evaluation exercises, one at mid-cycle (by the end of 2012) and the other at the end of 2015. It will be on the occasion of those evaluations that the indicators suggested in Annex III will be assessed in order to undertake a full evaluation of the NMTPF process. Findings of the reviews and the two evaluations will be used as a basis for the formulation of the next NMTPF.

ANNEX I: NMTPF 2011-2015: STRATEGIC APPROACH



ANNEX II: UNDAF AND NMTPF PRIORITY AREAS

UNDAF process		NMTPF process	
UNDAF Outcome 1	Economic Growth and Sustainable Development		
UNDAF Outcome 1 Statement:	By 2015, more Cambodians benefit from, and participate in, increasingly equitable, green, diversified economic growth through enhancing national capacities.	NMTPF vision	<i>A society free from hunger and malnutrition where food and agriculture, fisheries and forestry, and related activities, contribute to improving the living standards of all Cambodians, especially the poorest, most food insecure, most vulnerable, in an economically, socially and environmentally sustainable manner.</i>
UNDAF Country Programme Outcome 1.1: Agriculture Development	UNDAF Country Programme Outcome 1.1 Statement Enhanced national capacity for improved public service delivery of sustainable development and management of agriculture, food security and nutrition that ensures equitable outcomes	NMTPF Goal	<i>To promote the development of sustainable agriculture, fisheries and forestry as a contribution to the eradication of extreme poverty and hunger in Cambodia, in accordance with GMDG 1 that pursues halving, between 1993 and 2015, the proportion of people whose consumption is less than the national poverty line and the proportion of people who suffer from hunger.</i>
Output 1.1.1 Proved agricultural productivity for smallholder farmers and local communities	Output 1.1.1 statement: Improved productivity and sustainable management of more equitable agriculture (including land and soil), water, crops, livestock, forestry and fisheries (captured and cultured) for smallholder farmers and local communities	Priority Area 1	<i>Sustainably improved agricultural productivity for smallholder farmers</i>
Output 1.1.2 Improved agricultural competitiveness	Output 1.1.2 statement: Enabling environment to make Cambodia agriculture more competitive in domestic, regional and global markets established by improving food safety and trade compliances with international and regional norms and standards, including sanitary and phytosanitary (SPS) measures, and better control of trans-boundary animal diseases	Priority Area 2	<i>Improved consumer protection and market access to agriculture and related products</i>
Output 1.1.3 Food Security	Output 1.1.3 statement: Strengthened National and sub-National systems that promote physical and economic access to sufficient, safe and nutritious food for vulnerable populations in targeted communities	Priority Area 3	<i>Improve Food Security</i>

Links with UNDAF Country Programme 1.3 (Trade and Private Sector Development)			
Output 1.3.1	Strengthen the productive and export capacities and sustainability of Cambodian manufacturing companies through building agro-industrial and industrial competitiveness (labour standard, product standards, and certification, SPS / TBT) for export and job creation.	Priority Area 2	<i>Improved consumer protection and market access to agriculture and related products</i>
Links with UNDAF Country Programme 1.2 (Environment and Sustainable Development)			
Output 1.2.1	Biodiversity conservation and community based natural resource management for the enhancement of livelihoods mainstreamed into national and local development plans to promote poverty -environment linkages	Priority Area 4	<i>Improve Natural Resource Management</i>
Output 1.2.2	National and local capacities strengthened to plan and implement climate change adaptation measures to reduce vulnerability in agriculture, forestry, fisheries, water resources, coastal zone and health sectors	Priority Area 5	<i>Climate change mitigation and adaptation and disaster risk management</i>
Output 1.2.3	Capacity of public and private sectors strengthened to promote clean and environmentally friendly technologies and interventions for the reduction of GHG emissions, and improvement of resource productivity	Priority Area 5	<i>Climate change mitigation and adaptation and disaster risk management</i>
Output 1.2.4	National and local capacity strengthened for emergency preparedness and disaster risk reduction management	Priority Area 5	<i>Climate change mitigation and adaptation and disaster risk management</i>

ANNEX III: NMTPF RESULTS MATRIX FRAMEWORK

NMTPF process									
NMTPF Priority Areas:	National priorities & policies	NMTPF Outputs:	NMTPF Activities	SO*	OR*	CF*	IFAs***	Indicators	Assumptions and risks
1. Improved agricultural productivity for smallholder farmers									
1.Sustainably improved agricultural productivity for smallholder farmers	RS-RSII NSDP SAW	1.1 Continued support to formulation and implementation of national policies/ plans/ strategies/ programmes that target sustainable crop production and other agricultural advancements	<p>A. CROP PRODUCTION</p> <ul style="list-style-type: none"> Support MAFF in the development of strategies and programmes on sustainable crop production intensification and diversification Provision of TA to MAFF for capacity building in planning and formulation of sound 'bankable' agriculture development projects Ensure gender equity is promoted in crop sustainable intensification strategies 	A K	A1 K3	ALL ALL	1,7	<ul style="list-style-type: none"> Number of strategies formulated and programmes developed by 2015 Number of 'bankable' projects formulated each year. 	<ul style="list-style-type: none"> Ability for key participating agencies to contribute is constrained Buy-in of smallholder farmers Plans that actually get implemented on the ground, contain no perverse disincentives Involvement of the private sector to support sustainability
		1.2 Provide policy-makers and public officials with enhanced statistical information on agriculture to stimulate crop productivity	<ul style="list-style-type: none"> Design and implement an Agricultural Census Support the establishment of data baselines for an increasing number of statistical indicators related to improvement of agriculture productivity, as part of the national system of agriculture statistics 	A K	A1 K3	ALL ALL	6	<ul style="list-style-type: none"> Census implemented and data published by end 2011 Improved statistical information, including gender-disaggregated statistics, are produced annually 	<ul style="list-style-type: none"> Limited support in the design and implementation of the Census Lack of resources to conduct regular data collection once the intervention has finished

					<ul style="list-style-type: none"> Continue to support the adoption of the Farmer Field School approach in the extension services of MAFF for men and women farmers and wider application at district level Technical assistance and policy advice for the intensification of innovative research in agriculture and related areas, with emphasis on adaptive research and technology transfer for bridging productivity gaps Technical assistance and advice to enhance research component of activities of agricultural universities, improve technical content of curricula in vocational training, and promote technical support to farmer organizations Increasing capacity and reach of extension worker through conversion of village animal health worker into extension worker 	A K	A1 K3	ALL ALL	1,7	<ul style="list-style-type: none"> Number of Districts where the Farmer Field School approach to rural extension, inclusive of men and women farmers, has been adopted or intensified by 2015 Number of innovative initiatives of integrated soil-water-plant-nutrient research, including development in biotechnology, biosecurity and genetic alchemy to cope with climate change, undertaken each year Innovations in curricula and new initiatives of technical support to agricultural vocational training institutions and farmer organizations undertaken by the year 2015 Percentage increase in the number of extension worker operating in each district 	<ul style="list-style-type: none"> Financial sustainability of research and extension services supported with adequate fiscal resources on a broad scale Government support services for research and extension aimed at increase of agricultural productivity are intensified, including through provision of microcredit and support to farmer-market linkage and value addition, Government policy and its implementation on biosecurity, intellectual property rights and other regulatory mechanisms are in place to access new technologies Improved links of farmers with markets encourage small and marginal farmers to adopt new technologies
1.3 Continued support to the improvement of agricultural productivity through technical advice, extension services (including animal health workers) and enhanced research						A	A1	ALL	1,7	<ul style="list-style-type: none"> Number of new cooperatives established (baseline: 150) and existing cooperatives strengthen their capacity of managing their resources (financial and non financial) 	<ul style="list-style-type: none"> Adequate legal framework that supports the establishment of cooperatives
1.4 Creation and empowerment of farmers cooperatives						A	A1	ALL	1,7	<ul style="list-style-type: none"> Establishment of new or strengthen of already existing agricultural cooperatives 	<ul style="list-style-type: none"> Adequate legal framework that supports the establishment of cooperatives

						<ul style="list-style-type: none"> Establishment of a national information sharing mechanism established for monitoring the implementation of the Global Plan of Action for the Conservation and Sustainable Utilization of Plant Genetic Resources for Food and Agriculture (GPA-PDRFA) and corresponding capacity-building activities Train the trainers on plant genetic resource management Dissemination activities with stakeholders Provision of technical and policy advice 	A	A4	ALL	7	<ul style="list-style-type: none"> By 2012, NISM-GPA network established; By 2012, database and website designed, established and tested Number of staff trained each year that have acquired proven technical and analytical skills Improvements in the conservation and utilization of plant genetic resources use generated by planned technical and policy advice missions, workshops and consultants undertaken by 2015 	<ul style="list-style-type: none"> Failure of relevant institutions to collaborate effectively Identification of suitable support to design and establish the database and website is constrained
1.5 Enhanced support to management of plant genetic resources ensured							A	A1 A3 F1 F6	ALL ALL ALL - C	1,5,7	<ul style="list-style-type: none"> Evidence of increase by 2015 in soil productivity and unitary yields resulting from planned technical and policy advice missions, workshops and consultancies Number of farmers trained in soil use techniques through the Farmer Field Schools that have benefitted of training 	<ul style="list-style-type: none"> Failure of sector institutions to collaborate effectively Limited participation of local community Trained farmers practice and incorporate techniques learned into their work
1.6 Enhancing soil productivity, in the context of sustainable intensification (integrated with management of other inputs, such as water, and consideration of environmental factors)					<p>B. SOIL USE</p> <ul style="list-style-type: none"> Policy advice and TA provided on enhancing national land use and soil productivity, including use of land suitability/ degradation, conservation agriculture, environmental factors (such as pollination) and soil management best practices, also with regard to interaction between land use and climate change Training and technical support provided to men and women farmers through the Farmer Field Schools for soil use improvements Enhanced capacity in sustainably management the soil and related resources 	A F						

			1.7 Sustainable pest and disease management practices adopted	<ul style="list-style-type: none"> Review IPM work undertaken in Cambodia with policy makers in the light of continuing need for sustainable intensification of crop production, and produce a strategy for sustainable pest management. Advise on further development of IPM programmes nationally, and assist RGC in identifying further sources of funds. 	A	A2 A3	ALL ALL	2,5,7	<ul style="list-style-type: none"> Endorsed strategy issued. Further IPM programmes funded. Improved crop productivity reported annually by farmers in targeted communities that utilize safer crop protection practices. 	<ul style="list-style-type: none"> Ability to demonstrate IPM has benefits for productivity
			1.8 National holistic strategy for livestock adopted and integrated animal production and health management enhanced	<p>C. LIVESTOCK PRODUCTION</p> <ul style="list-style-type: none"> Development of holistic strategies to livestock, including special attention to animal husbandry protection Launch of national capacity building initiatives to analyze data and enhance management through networks, activities and veterinary services 	B	B1 B2 B3 B4	- C ALL ALL ALL	1,2,7	<ul style="list-style-type: none"> By 2015, planned strategies fully developed and their implementation supported By 2015, networks established, training activities held, planned veterinary services established 	<ul style="list-style-type: none"> Ability for key participating agencies to contribute is constrained Failure of sector institutions to collaborate effectively
			1.9 Support to smallholder livestock production	<ul style="list-style-type: none"> Improve the capacity of livestock smallholders, with special attention to women, to acquire and/or utilize better animal husbandry , including better practices, appropriate technology for production efficiency and improved marketing approaches 	B	B1 B2 B3	- C ALL ALL	1,2,7	<ul style="list-style-type: none"> Reduction of animal mortality by at least 20% in targeted communities by 2012 and by 30% by 2015 Adoption of improved animal husbandry measures by livestock smallholders by at least 50% of targeted communities by 2015 Adoption of good practice by livestock smallholders in targeted communities by 2015 Improved Livestock market linkages across villages, districts and provinces in targeted communities 	<ul style="list-style-type: none"> Limited participation of local community Continued acceptance and promotion of the improved measures over the longer term Opportunities to link livestock markets exist across districts and provinces

		1.10 Continued implementation of strategy for responsible and sustainable fisheries with special attention to small-scale producers and aquaculture and improving productivity	<ul style="list-style-type: none"> See 4.2 				<ul style="list-style-type: none"> See 4.2 	<ul style="list-style-type: none"> See 4.2 	
2. Improved consumer protection and market access to agriculture and related products									
2. . Improved consumer protection and market access to agriculture and related products	RS-RSII NSDP SAW FSSFN Trade Swap	2.1 Conformity with food safety laws, regulations and standards with a basis in international and regional norms and standards improved by developing plans, regulations and mandates, in order to guarantee access to new or more profitable markets for Cambodian agricultural and fisheries products.	<ul style="list-style-type: none"> Support to the RGC in finalizing SPS national strategy and Action Plan as follow up to the initiative of the Standards and Trade Development Facility (STDF) in nine subsectors identified by the Diagnostic Trade Integration Study (2007) Facilitate donor coordination and new programme alignment with the RGC SPS National Strategy 	D	D1 D2 D3 D4	-A, -D -C -C -D -C -D	2,7	<ul style="list-style-type: none"> RGC endorses SPS Action Plan Codes of practices/ standards for fish and fisheries products drafted by 2011 National SPS-related legislation and implementing regulations reviewed and required addition introduced by end 2011. SPS National strategy adopted by 2011 National Action Plan for post-harvest fisheries sector drafted by 2011 	<ul style="list-style-type: none"> Failure of relevant institutions to coordinate effectively

						<ul style="list-style-type: none"> Support to the implementation of the National Action Plan in priority areas (such as post-harvest fisheries sector and national food inspector system) in compliance with international norms, including by providing advice to RGC on compliance with emerging ASEAN Good Agricultural Practice initiative. Provide technical support to design of initiatives taken by RGC with development partner assistance under the SPS Action Plan 	D	D1 D2 D3 D4	-A, -D -C -C -D -C -D	2,7	<ul style="list-style-type: none"> Cambodian export certification is accepted in at least one international market for one sub-sector's products by 2015 Use of conformity requirements in post-harvest fisheries sector assessed annually Number of new food safety related projects of other development partners that make use of the SPS National Strategy by 2015 	<ul style="list-style-type: none"> Slow progress in the implementation
2.2 Technical assistance and backstopping are provided, along with other partners, to enhance conformity with food safety laws, regulations and standards.					<ul style="list-style-type: none"> Provide support (TA, training) to relevant agencies in the responsible use of pesticides and chemicals in farming and methods for crop protection by applying Integrated Pest Management (IPM) and the design of programmes to encourage these practices 	A D	A3 D1 D2 D3 D4	ALL -A, -D -C -C -D -C -D	2,7	<ul style="list-style-type: none"> Practices for safe and responsible use of pesticides adopted in targeted communities by 2015 	<ul style="list-style-type: none"> Limited participation of local community Pesticide dealers need to be considered as an important stakeholder Continued acceptance and promotion of the improved measures Ability to demonstrate IPM has benefits for productivity 	
2.4 Inspection system and certification on food safety are enhanced					<ul style="list-style-type: none"> Improve the capacity of national competent authorities through training for regulatory personnel and inspectors, laboratory personnel and institution involved in accreditation 	D	D1 D2 D3 D4	-A, -D -C -C -D -C -D	2,7	<ul style="list-style-type: none"> National food inspector system in compliance with international norms designed and adopted Procedures manuals on import inspection, pest or disease diagnosis, export certification, risk analysis and surveillance operations drafted by 2011 		

			2.5 Support to agro-business, complementing efforts of other partners, to ensure that improved variety, quality, safety and added value is achieved in high potential exports in order to guarantee access to new or better markets for Cambodian agricultural and fisheries products	<ul style="list-style-type: none"> • Creation of a Medium-term Strategy for Agro-Industrial Development (SAID) • Implementation of Programme for Agro-Industrial Development based on SAID • Application of good agricultural practices (GAP) for environmental, economic and social sustainability and food safety • Training of producers, traders and processors on skills to improve quality or add value • Conduct market analyses on existing trade and product routes including domestic and border trade barriers to neighbouring countries for specific high potential products 	A D G	A1 D1 D2 D3 D4 G1 G2 G3 G4	ALL -A, -D -C -C -D -C -D -C ALL -C -G	1,2,7	<ul style="list-style-type: none"> • Medium-term Strategy for Agro-Industrial Development (SAID) formulated and adopted by 2012 • Programme for Agro-Industrial Development based on SAID endorsed and funded • Number of interventions in targeted communities including both men and women farmers where GPA approach has been introduced or enhanced. • Trainings delivered in targeted communities • Number of studies conducted on selected commodities by 2012 		
3. Improve Food Security											
3. Improve Food Security	RS-RSII NSDP SAW FSSFN	3.1 Capacity building for policy formulation and analysis for Food Security established	<ul style="list-style-type: none"> • Sector and sub sector strategies and National Programs are reviewed, with regard to household food security, and potential policy adjustments are recommended • The capacity of national institutions is improved through TA and training related to research and policy formulation and knowledge management of FSN in Cambodia • Support the continued improvement of the FSN Information System • Ensure gender equity is promoted in the implementation of food security measures 	H K	H1 H2 H3 H4 H5 K1 K2 K3	-B -C -B -A -B -C -C -D ALL -A -G -A -H ALL	1,7	<ul style="list-style-type: none"> • Measures to address FSN are articulated in relevant strategies and National Programs by 2011 • At least 2 provinces have undertaken implementation of these strategies and produced plans that FSN incorporate FSN issues by 2011 • Expansion to other provinces by 2015 	<ul style="list-style-type: none"> • Failure of sector institutions to collaborate effectively • Limited capacity of provincial governments in implementing these strategies in the longer term 		

		<p>3.2 Strengthened national and sub-national agricultural systems that promote physical and economic access to sufficient, safe and nutritious food for vulnerable populations in targeted communities through expanded capacity of food production and post harvest handling of smallholder farmers and farmer cooperatives.</p>	<ul style="list-style-type: none"> Development and implementation of programmes to address food security issues, including crop diversification, in the most insecure locations and populations through the provision of seeds, fertilizers and tools and extension services. Reduction of post-harvest losses through the provision of equipment and storage facilities to small scale farmers and training to improve post-harvest practices in targeted communities Improvement of safe nutrition intake of food insecure households through promotion of diversification and enhancement of feeding practices based on local foods in targeted communities. Improvement of domestic and food hygiene practices through awareness raising community education in targeted communities Initiate research, establish pilot interventions and develop wider programme in industries, including aquaculture and off-farm activities, which can generate alternative sources of income. Undertake (Telefood) micro-projects at the household level for improved food security livelihoods 	H	H1 H2 H3 H4 H5 K1 K2 K3	-B -C -B -A -B -C -C -D ALL -A -G -A -H ALL	1,7	<ul style="list-style-type: none"> The development and implementation of national programmes on food security to address the most food insecure populations and areas are monitored annually Number of households who have increased access to equipment and storage facilities for post-harvest loss reduction Household food consumption score in targeted communities is improved Number of communities that receive information (brochures, pamphlets, information sessions) on hygiene Value chain analysis of a number of products related to off-farm income or alternative opportunities conducted by 2012 Number of pilot projects and/or demonstrations on alternative sources of income established and operational, in collaboration with locally based partners Wider programme on alternative sources of income generated and initiated in selected Provinces by end of 2014 	<ul style="list-style-type: none"> Failure of sector institutions to collaborate effectively Inappropriate selection of commodities/products for value chain analysis and support for pilot interventions Inappropriate selection of pilot sites Appropriate micro projects can be identified for funding and support
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								<ul style="list-style-type: none"> A approach for the development of off-farm income generation is developed, documented and disseminated Pilot programme for aquaculture development for enhanced food security designed and initiated At least 15 (Telefood) micro- projects implemented over the next 5 years 							<ul style="list-style-type: none"> Limited participation of local community Inappropriate selection of pilot sites
								<ul style="list-style-type: none"> Water user needs assessment carried out in selected project areas Number of FWUGs established Number of men and women farmers trained under the Field School 							<ul style="list-style-type: none"> Limited participation of local community Limited participation and support by local government officials
4. Improve Natural Resource Management															
4. Improve Natural Resource Management	RS-RSII NSDP NFP Law on Forestry Law on Fisheries [others to verify]	4.1National capacities enhanced in sustainable use of natural resources (forestry, fishery, soil, and protected areas) for improvement of livelihood while securing biodiversity conservation (see also 1.6)	3.3 Improved management of water resources, water control and crop intensification of prevailing farming systems	<ul style="list-style-type: none"> Undertake water user needs assessment Establish Farmer Water User Groups (FWUGs) and train them on water management and water control and their implications for crop diversification and crop rotation for improved productivity (see also output 1.5) 	F K	F2 K1	ALL -A -G	1,5,7						<ul style="list-style-type: none"> Number of planned technical and policy advice missions, workshops and consultants undertaken by 2015 Community plans developed on natural resource management in selected areas 	

	10 – year Strategic Plan for Fisheries	4.2 Continued implementation of strategy for responsible and sustainable fisheries with special attention to small-scale producers and aquaculture and improving productivity	<p>A. FISHERIES</p> <ul style="list-style-type: none"> • Pilot interventions and wider programmes established for aquaculture development in targeted communities in the framework of responsible and sustainable fisheries and corresponding resource management (see also Output 3.2) • Promotion of aquaculture as complementary activity in the context of crop diversification and improvement of water resource management • Improved relationship and sustainable co-management of fisheries resources with fishers and government entities • Develop enhanced extension services with fishers in order to improve the quality of fisheries products and the linkages within the market chain • Facilitate access to finance for fishers, processors and vendors to purchase updated technology and business development with special attention to women 	F	E5	-D A B D -A -B ALL ALL ALL -C -A -H ALL	1,4,7	<ul style="list-style-type: none"> • Pilot interventions and programmes for aquaculture development designed and initiated in targeted communities • Increase in aquaculture production in targeted communities • Number of meetings held between fishers and government entities by 2012 • Number of men and women fishers trained on improved handling and processing techniques to end of 2012 • Improvements in the fish value chain in selected areas are identified and intervention activities are carried out by 2014 	<ul style="list-style-type: none"> • Limited participation of local community • Limited participation and support by local government officials • Value chain interventions identified are viable and promote efficiency gains • Ability to identify suitable sources of finance • Lack of motivation for local people to join or establish Community Fishery Organisations
				C	C1 C2 C3 C4 C5 C6	ALL C D E ALL ALL -A -A -G			

			<ul style="list-style-type: none"> Develop extension services to assist fish hatcheries in maintaining quality of inputs to production, especially water quality as well as the promotion of establishing new hatcheries Support the development and establishment of Community Fisheries Organisations in an effort to improve access to fisheries resources for fishers 	E	E1 E2 E3 E4 E5 E6	-C -D C F G H -A -B -A -B -D A B D -A -B		<ul style="list-style-type: none"> Number of fishers, traders and processors (by gender) accessing finance (new entrants) in targeted communities Number of men and women trained on improved hatchery practices and techniques Number of Community Fisheries Organisations established 	
	4.3 Continued support to sustainable forest management and its integration with sustainable rural livelihoods and biodiversity conservation ensured	<p>B. FORESTRY</p> <ul style="list-style-type: none"> Strengthen institutional capacity in strategic planning through dissemination of results from recent analyses undertaken by FAO at the regional level and through an executive education short course on forest policy Support community based and cost-effective assisted natural regeneration (ANR) for restoring forest ecosystem services Support implementation of all sub-programmes under the NFP document Monitor and review the progress on implementation of National Forest Programme and provide appropriate support for future improvement Enhance the development of the Community Forestry Model through strengthening existing Community Forestry Associations and expand the model to new areas 	<ul style="list-style-type: none"> Forestry officials trained in strategic planning and forest policy formulation. A national workshop and a regional workshop on strategic planning in forestry organized and policy briefs focussing on strategic and regional issues in forestry prepared 2 best practice models for restoring degraded forests are documented, including examples of innovative payment mechanisms and community incentives Enhanced multi-stakeholders' participation in forest policy formulation and implementation in the process of national forest programmes 	<ul style="list-style-type: none"> Failure of sector institutions to collaborate effectively ad provide support Limited interest from forestry officials due to lack of understanding of ANR principles Private sector interested in supporting forest restoration as part of their Corporate Social Responsibility (CSR) Pilot sites for demonstrating ANR properly selected. Lacking of local capacity and political committed collaboration from counterpart institutions and agencies 					

		<ul style="list-style-type: none"> • Research the potential of NTFPs in targeted communities based on the community forestry model to support sustainable forest management • Design a pilot programme to support the development of potential NTFPs with targeted community forestry areas • TA on developing a National Forest Management Plan linked to National Forest Inventory System • Support implementation of forest management systems which balance production and conservation of forest resources and are linked to livelihood considerations • Introduce methodologies for national forest inventory management and analysis system for development of a Forest Information Management System (FIMS) • Further develop and strengthen the linkage between the tourist markets in urban areas and forest dependent villagers with small and medium size enterprises (SMEs) in the framework of sustainable management of forest resources • Enhance training in defining and promoting effective auditing and monitoring procedures for assessing forest harvesting compliance with national codes of practice • Support the contribution of forestry to poverty alleviation 		<ul style="list-style-type: none"> • NFP is regularly reviewed for improvement (every 5 years) • Number of new Community Forestry Associations established by 2015 • Number of Value Chain studies conducted in NTFPs outlining steps for future development by 2012 • At least 2 pilot programmes designed and initiated by 2013 • The mechanisms for national forest management plan and monitoring are developed and implemented in line with NFP objectives • National forest resource inventory (NFI) created and updated regularly to form the database (FIMS) • Products and markets that would bring promising benefits for the livelihood of local people are identified and explored • National codes of practice on harvesting are implemented and respected • A report documenting ways in which poverty has been reduced through forestry and policy briefs aimed at supporting forest policy adaptation to reduce poverty in target countries. 	<ul style="list-style-type: none"> • Integration of national legislation and policies relevant to forestry and natural resources • Inadequate information sharing, communication, and dialogue among stakeholders • Lack of capacity for undertaking the tasks • Lack of cross-sector collaboration • Lack of local people's participation due to doubts about benefit sharing • Inaccessibility to markets • Lack of will in other sectors to create an enabling environment for local harvesting compliance • Availability of methods and means that could effectively reduce poverty • Activities formulated for the sub-programmes are not fully implemented due to inadequate investment from donors • Lack of motivation for local people to join or establish Community Forestry Associations • Value Chain studies reveal feasible NTFPs for support • At least 2 have potential for piloting
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	SAW	4.4 Continued development of holistic land and water resource strategy, based on river basin approach through rehabilitation of existing participatory irrigation systems and integrated rural development approaches	<p>C. WATER</p> <ul style="list-style-type: none"> Rehabilitation of existing reservoir dams and structures, canalization and water distribution in pilot area TA and Capacity Building provided to improve use and management of existing irrigation systems Establishment and support to Farmer Water User Groups (see Output 3.3) Ensure gender equity is promoted in access to water resources 	F K	F2 K1	ALL -A -G	1,5,7	<ul style="list-style-type: none"> Holistic water resource strategy drafted and implementation monitored in targeted communities By 2015, dams and irrigation structures rehabilitated and enhanced Integrated water resources management established in pilot area 	<ul style="list-style-type: none"> Failure of sector institutions to collaborate effectively Limited participation of local community Inappropriate selection of pilot sites 	
5. Climate change mitigation and adaptation and disaster risk management										
5. Climate change mitigation and adaptation and disaster risk management	RS-RSII NSDP NFP	5.1 National capacities to respond to climate change and adaptation measures in agriculture, forestry, fisheries and water resources	<ul style="list-style-type: none"> Provision of technical and policy advice to assist the National authorities in formulation and implementation monitoring of national and sector policies, strategies and plans to mitigate effects of climate change (including advice on possible participation of Cambodia to the Rotterdam convention) Development of a national adaptation and mitigation strategy for agriculture through implementation and replication of field-level good practices, including testing and up scaling of agro-ecological suitability, in the context of sustainable intensification of crop production, reduced climate hazard risk exposure and reduced GHG emissions 	A C E F	A1 C3 E4 E6 F5	ALL ALL -A -B -D -A -B ALL	1,3,4,5,7	<ul style="list-style-type: none"> Number of planned technical and policy advice missions, workshops and consultants undertaken by 2015 Climate Change Strategy and Action Plan drafted by 2011 and its implementation monitored by 2013. Number of pilot initiatives to implement and replicate good practices of adaptation and mitigation in agriculture undertaken each year. 	<ul style="list-style-type: none"> Failure of sector institutions to collaborate effectively Local communities are willing, have the resources and the capacity to undertake the necessary steps outlined in the strategies and plans Inappropriate selection of pilot sites Insufficient integration of conservation and management systems Lack of cross-sector cooperation and collaboration 	

			<ul style="list-style-type: none"> Development of strategies of local adaptation to, and mitigation of, climate change in agriculture, fisheries and forestry sectors Development of strategies and action plans for the increasing frequency of drought, flood control and insect infestation mitigation Assess the country status on the integration between climate change issues and national forest policies Develop practical guidelines that support policymakers and other stakeholders in integrating climate change issues (mitigation and adaptation) into national forest policies through national forest programme processes, including good practice examples. Mitigation measures related to the livestock sector 	E	E2 E4 E6	C F G H -A -B -D -A -B	1.3.7	<ul style="list-style-type: none"> Number of gender balanced local strategies designed and implemented in targeted communities Number of mitigation strategies and action plans designed and implemented in targeted communities by 2015 Increased awareness on climate change issues and on the national forest programme concept and principles. Guidelines on incorporation of climate change issues in national forest programmes including linking to other sectors are developed and tested. 	<ul style="list-style-type: none"> Local communities are willing, have the resources and the capacity to undertake the necessary steps outlined in the strategies and plans
5.2 National capacity established to develop forestry-related carbon market opportunities to generate carbon sequestration (credits) and reduce emissions from deforestation and forest degradation (REDD)			<ul style="list-style-type: none"> Pilot implementation of high potential carbon offset forest initiatives with community participation, development of field-level guidelines and information tools, and other related capacity building initiatives 	E	E2 E4 E6	C F G H -A -B -D -A -B	1.3.7	<ul style="list-style-type: none"> Number of forest communities in carbon offset initiatives involved in new activities by end-2011, end-2013 and 2015. Guidance and information tools designed by 2011 and their use monitored 	<ul style="list-style-type: none"> Local communities are willing, have the resources and the capacity to undertake the necessary steps outlined in the strategies and plans

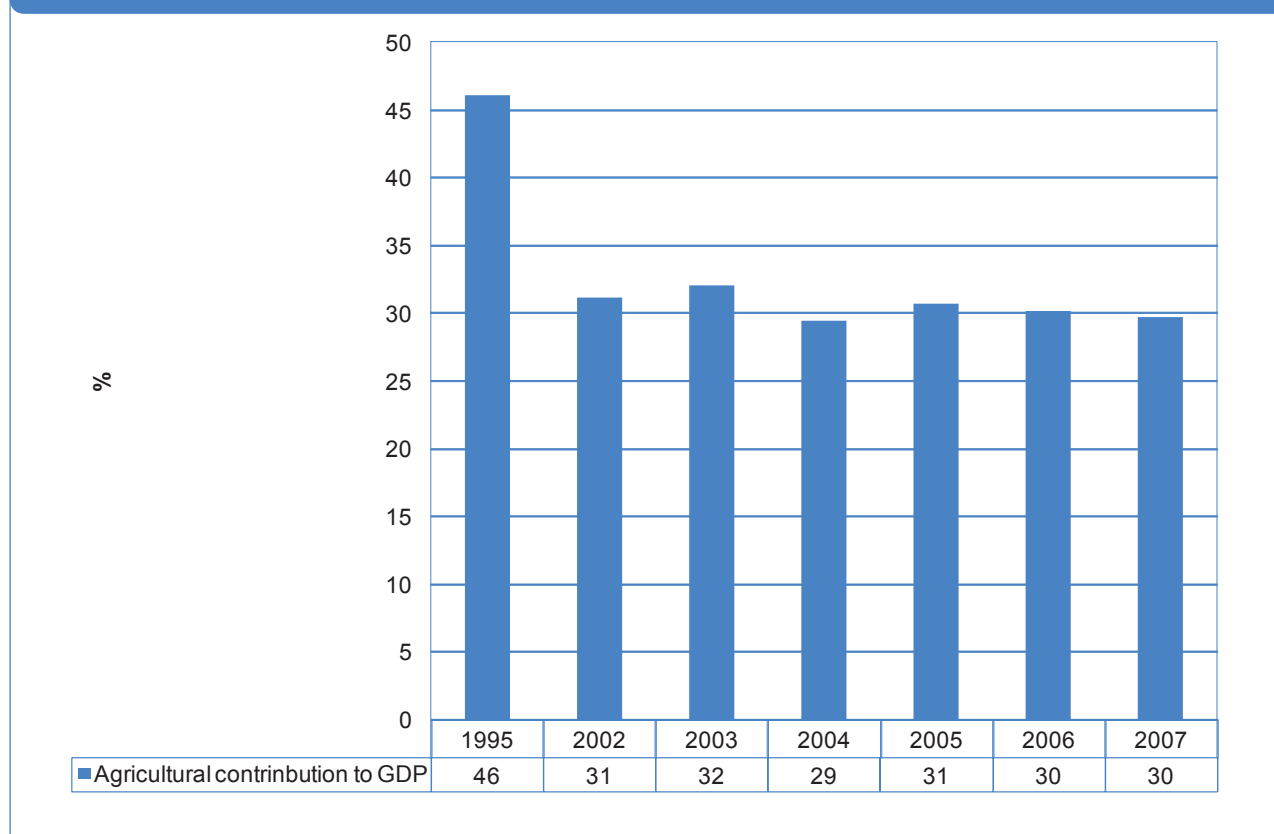
		<p>5.3 Capacity for emergency preparedness and disaster risk management for impending food, agricultural crises, and climate-related natural hazards is enhanced</p>	<ul style="list-style-type: none"> • TA and policy advice to enhance government structures and policy framework for addressing national and local emergency preparedness and disaster risk management in the agricultural sector, including impact of climate-related hazards. • Enhance market information systems on food availability and food market instability and prices on a national and provincial level 	I	I1 I2 I3	ALL ALL ALL	1,2,6,7	<ul style="list-style-type: none"> • Situation analysis on government capacity prepared and disseminated amongst relevant stakeholders • Training programmes on preparedness, contingency planning, early warning, disaster prevention and mitigation, designed and delivered to an identified number of key stakeholders • Vulnerability situation maps and vulnerable groups profiles (which are gender disaggregated) are updated on national and provincial level and selected districts • Period reports on food availability and food market situations 	<ul style="list-style-type: none"> • Inadequate identification of institutional responsibilities • Inter-ministerial coordination is required
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ANNEX IV: AGRICULTURE: A SECTOR SITUATION ANALYSIS

1. CONTRIBUTION OF AGRICULTURE TO THE ECONOMY

Although agriculture is one of the main drivers of Cambodian economy, its contribution to GDP has historically decreased from 55.6% in 1990 to about 30% in 2007.³⁰ The endowment of natural resources (land, water, climatic conditions and geographic position) undoubtedly provides Cambodia with a privileged position in terms of potential comparative advantages in agricultural production. In spite of its dependence on weather conditions and the sensitiveness of its performance to unstable price levels, agriculture is expected to be a main source of growth in the short and medium term.

Figure A4.1: Agricultural contribution to GDP



Source: IMF

In a country where 85% of the population lives in rural areas, and over 60% of the population directly or indirectly depends on income generated in agriculture, forestry or fisheries, agriculture is crucial to address poverty and influence future directions of economic growth. Crops, especially paddy, are the main source of income for farmers. The prevailing farming systems are of the subsistence type, where farmers fully rely on rain fed agriculture, in spite of the significant water resources available in the country.

The livelihoods of the most vulnerable social groups in the rural environment, which include women, elderly and

³⁰ According to ADB (it was 32% according to IMF).

children, rely on agriculture for their future prospects. Most poor belong to farmer-headed households, where agriculture is the main source of income. Women provide a major contribution to the productivity of this sector. The centrality of agriculture for the economy cannot just be ignored.

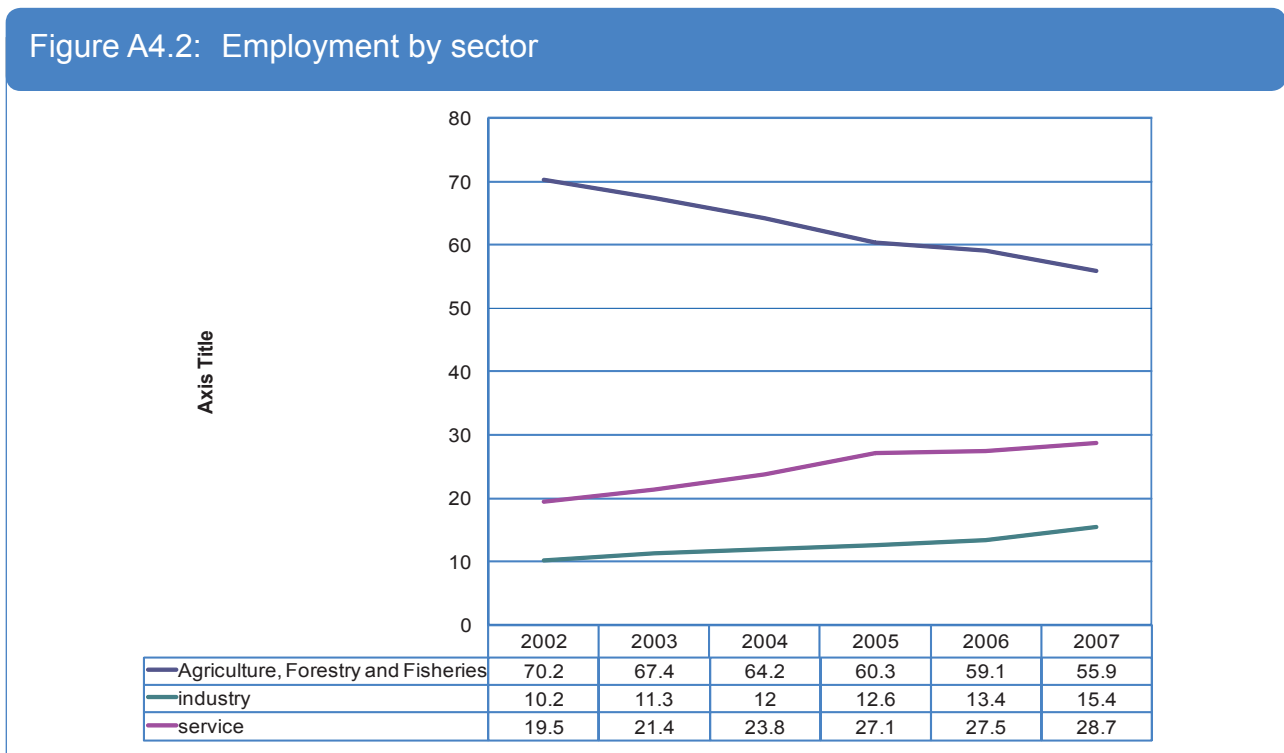
The contribution of agriculture to external trade is significant, although it cannot be compared with that of the garment exports. In 2007, for instance, rice exports amounted to \$411 million, compared with \$105 million for fish, \$157 million for rubber, over a total of \$3,874 million for domestic exports. Therefore, rice represented a bit more than 10% of total exports, but garments amounted in the same year to more than 73.3% of domestic exports. The dynamics of foreign trade is illustrated by the following table. However, the drastic drop of exports of garment by 25% in 2008 as compared with the previous year shows that agricultural exports may be less vulnerable to economic fluctuations. Moreover, there is a huge potential for agricultural that is still unexplored.

By improving food safety and the quality of agricultural products, potentials for exports and import substitution in the agricultural sector can be significant, to the extent that Cambodia manages to meet stringent international trade standards, while improving the food based health and nutrition of its population.

However, most rice exports are in the form of paddy, and not milled rice, confirming that middlemen manage to absorb high profit margins from collecting unprocessed agricultural produce in the villages and selling it either to the urban markets or the informal export markets in China, Thailand and Viet Nam. These profits are not distributed to the farmers. At the same time, Cambodia still imports about 70% of its fruits and vegetable that it consumes. Diversification of agricultural products becomes therefore an obvious response to this imbalance through import substitution, whereas there is an immense scope for the expansion of high-value crops for exports, moving from paddy to fine rice, and exploiting existing market spaces for fine herbs and spices.

2. EMPLOYMENT IN AGRICULTURE

The agriculture sector (including forestry and fisheries) is the major employer of the country, with a total of 4.75 million workers. Its share of total employment has been declining in the last six years, down from 70.2% in 2002 to 55.9% in 2007, as expected, given the dominance of low productivity subsistence agriculture, as the rural world as served as major supplier of cheap labour to the fast growing sectors in the manufacturing and service industries.

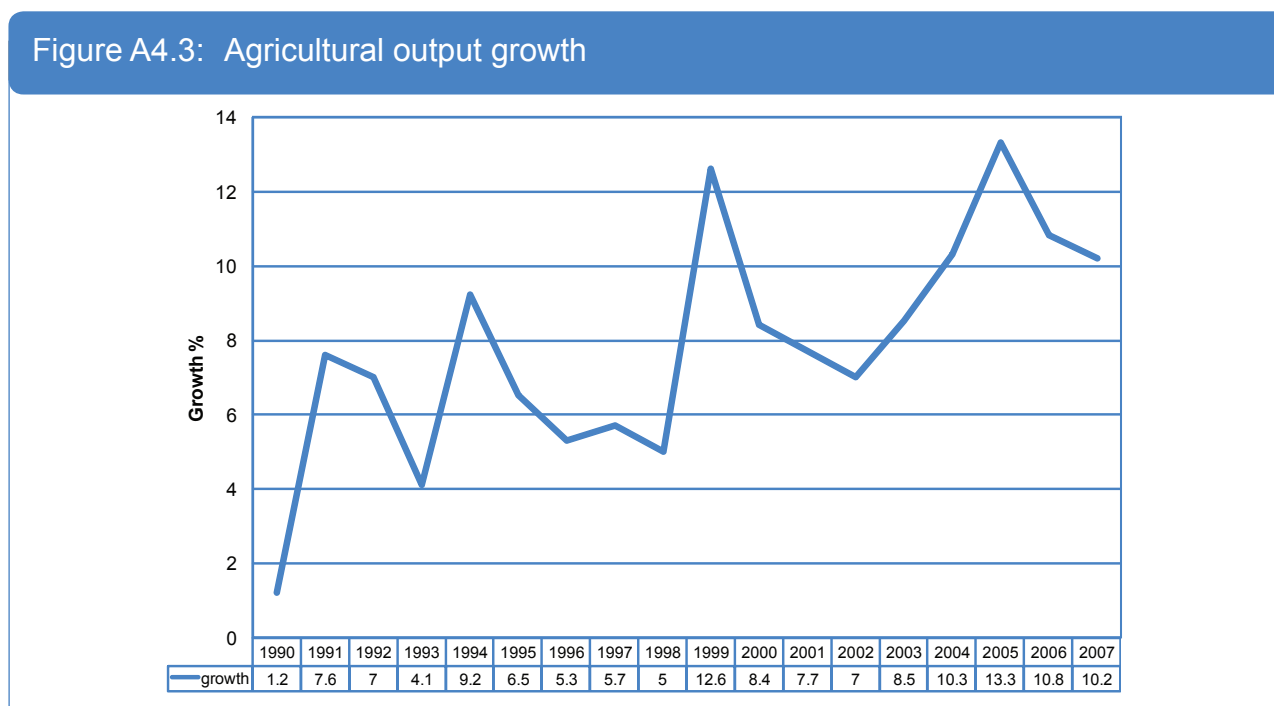


Source: ADB, UNDP Human Development Report

The global economic crisis has however slowed down this trend, generating even a reverse influx in the agricultural sector in some communities, as cropping has often turned out to be the only feasible alternative to unemployment.

3. GROWTH OF THE AGRICULTURE SECTOR

Growth rates for agricultural production have seldom reached the high peaks of the manufacturing industry and fluctuated over the time due to unpredictable weather conditions and other contingencies. The unpredictability of these events and the dependence of agriculture performance on the frequency, intensity and distribution of droughts and floods, are serious constraints. On the whole, the average annual growth of agricultural GDP was 4.07% in the period 1990-2007 and most recently (considering the period 2002-2007) has reached an average of 5.38% per year. Peak growth was reached in 2005, when agriculture contributed to GDP was 31% of the total, with a growth rate of 15.7%, while the rest of the economy grew at a slightly lower rate. In recent years, while all the sectors of the economy have been suffering from a harsh decline, projections for the 2009 performance of the agricultural sector are still positive, ranging from 1.5 to 6% according to different sources. All past years, agricul-

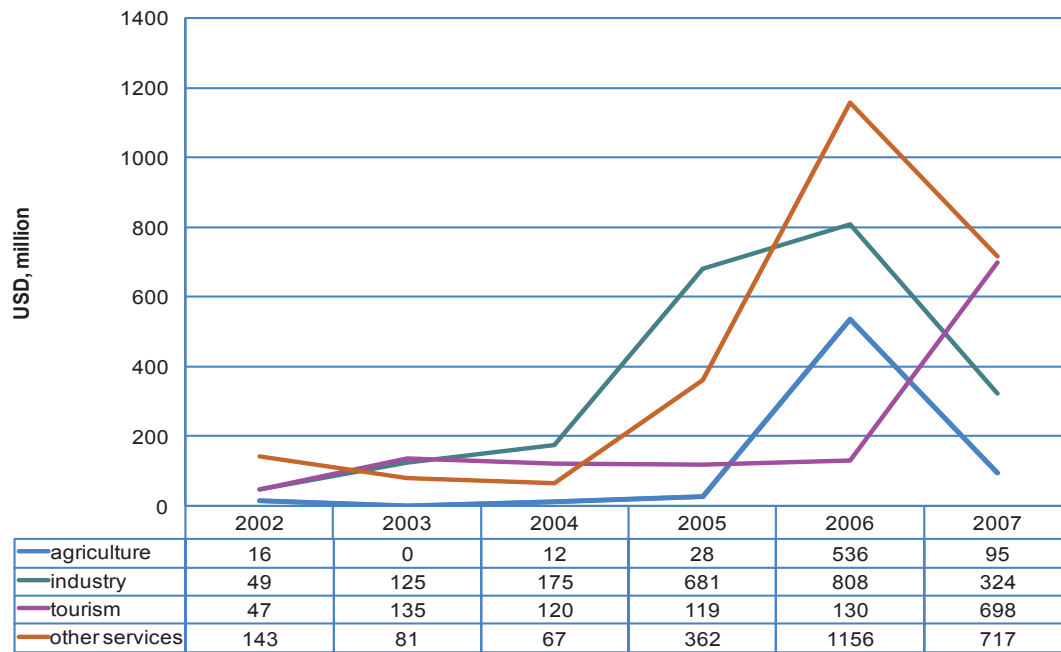


Source: ADB

ture has managed to recover from the standstill of the 1970s, partly reacquiring the role that it used to have as major supplier of rice to the world economy. Agricultural production has continued to be a key source of income and welfare to large strata of the population.

In spite of these positive growth records and although it is a top priority area in the national development strategy, agriculture has benefitted from a very modest flow of investment in the period 2002-2007, as illustrated in the following diagram:

Figure A4.4: Approved investments by sector

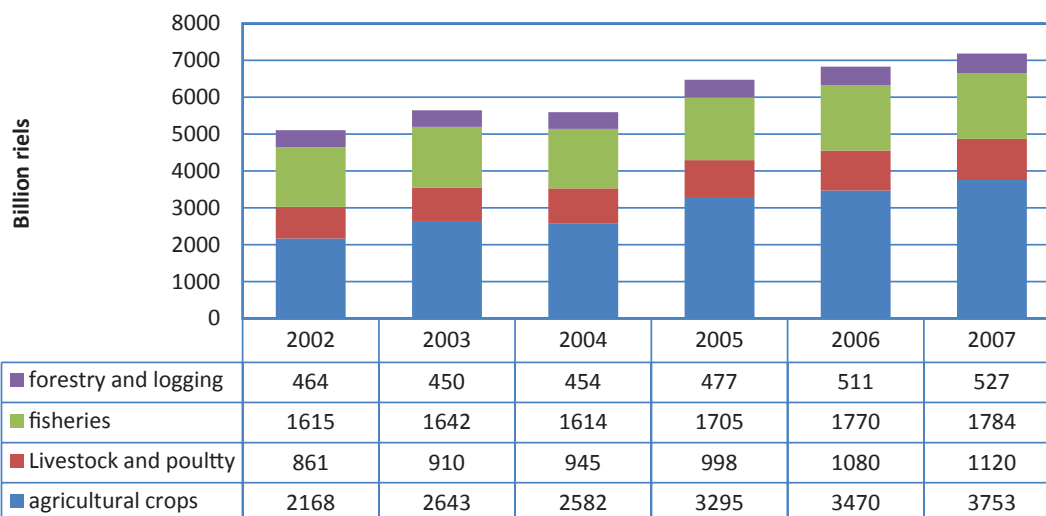


Source: RGC

4. STRUCTURE OF AGRICULTURE PRODUCTION

Crops represent the biggest and increasing share of the production in the sector (52 % of sector production in 2007, corresponding to 15.5% of GDP) ³¹, and the major source of income, followed by fisheries (24 % of the sector and 6.9% of GDP) and livestock/poultry (16 % of the sector and 4.4% of GDP). Forestry and logging share has been declining over the years and in 2007 was less than 10 %, contributing to only 2.9% of GDP (it used to be 16.1 % of GDP in 1994 and declined to 5.6% in 2003).

Figure A4.5: SUB sectors (billion riels and constant 2000 prices)



Source: IMF

31 IMF data

The following table illustrates the contribution of individual agricultural products or sub-sector activities to the overall GDP, Forestry and logging share of this sector production has been declining over the years and in 2007.

5. CROPS

With 46 percent of total agricultural GDP, crops are the most important sub-sector of Agriculture.³² The contribution of individual crops to the overall production of the country shows the dominance of rice, which represents about 29% of total sector production and contributed to 8.6% of GDP. Raw rice (paddy) represents by large the most important crop in Cambodia. This crop production has grown considerably during the years with an average annual growth of 5.95% over the period 1993-2005,³³ with the main boost in 2005, when paddy production soared to 44% in a single year (also thanks to high rice prices).

Other relevant crop includes: corn, soybean, mungbean, cassava, sugarcane, peanut, sesame, sweet potatoes, Chinese cabbage, cauliflower, lettuce, water melon and tobacco. Moreover, there are plantations dedicated to industrial crops, such as rubber, cashew nut, pepper, palm sugar, palm oil and fruit trees (mango, pineapple, jack-fruit, durian, rambutan and banana).

**Table A4.1: Agricultural sector: Sub-sectors contributions to overall GDP
in billion riels at constant 2000 prices**

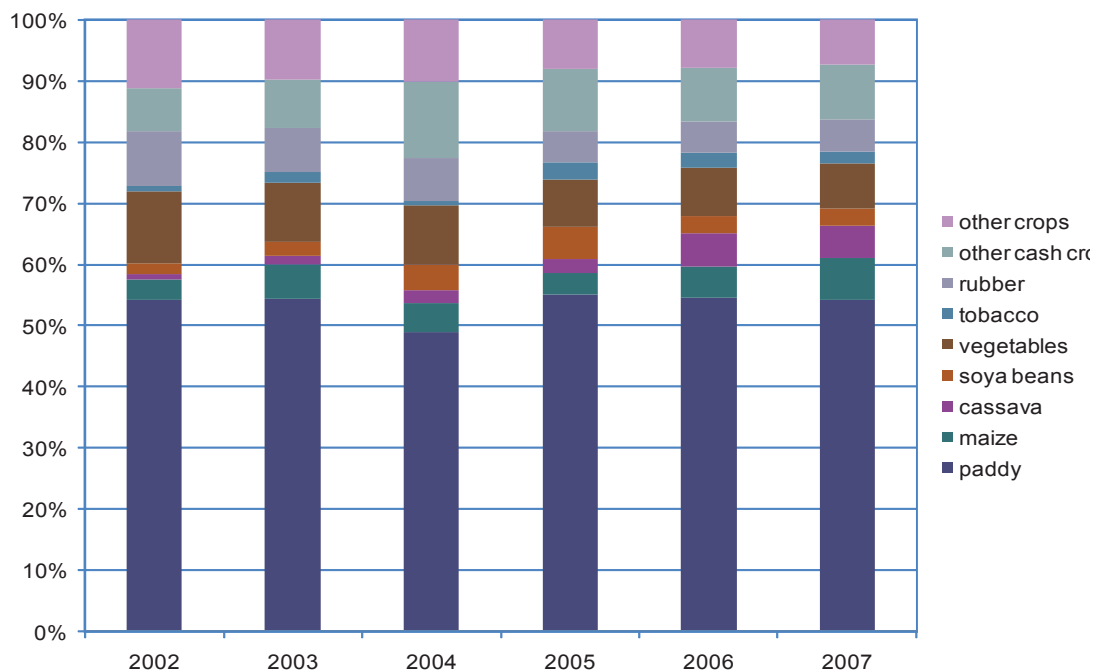
Total	5,108	5,645	5,596	6,476	6,830	7,184
agricultural crops	2168	2643	2582	3295	3470	3753
contribution	42.44%	46.82%	46.14%	50.88%	50.81%	52.24%
paddy	1176	1437	1262	1813	1891	2033
maize	72	151	123	119	181	259
cassava	20	35	56	74	187	198
soya beans	38	62	108	175	96	104
vegetables	256	253	250	255	273	277
tobacco	16	48	17	89	89	75
rubber	197	187	183	167	176	195
other cash crops	151	211	320	336	304	337
other crops	243	259	263	268	272	275
Livestock and poultry	861	910	945	998	1080	1120
contribution	16.86%	16.12%	16.89%	15.41%	15.81%	15.59%
fisheries	1615	1642	1614	1705	1770	1784
contribution	31.62%	29.09%	28.84%	26.33%	25.92%	24.83%
forestry and logging	464	450	454	477	511	527
contribution	9.08%	7.97%	8.11%	7.37%	7.48%	7.34%
	100.00%	100.00%	99.98%	99.98%	100.01%	100.00%

³² Cambodia agriculture sector diagnostic study, AudAid 2006

³³ ibidem

Out of the total crop production, cassava and corn represent respectively 2.9% and 2.6% of the total crop production. Cassava production grew by 39% over the period 1995-2004, while corn increased by 28% over the same period. Within crop production, one should mention yellow corn, which increased by 45.5% in the period 1995-200 as an innovative form of animal feeding.

Figure A4.6: Main crops production



Source: IMF

Potentials for crop diversification are significant in the production of vegetables, which comprises 9.4% of total crop production. There is indeed a high internal demand for consumption of those products, so far partly met with imports from neighbouring countries. There is therefore broad room for import substitution in the market for vegetables.

6. LIVESTOCK AND POULTRY

The potential importance of livestock (cattle, buffalo and pigs) for Cambodia cannot be underestimated, both for its immediate positive nutritional impact on the population and its multiple use (in the case of cattle and buffalo) for draught purposes. Nevertheless, the level of production has been significantly stagnant, in the case of cattle and buffalo, while it has decreased for pigs, thanks to the competition of imports. The Cambodian livestock sector is one of the least developed in the region, with animals being kept priority for home consumption, provision of draught power and manure or as a source of cash income.

The sector is dominated by smallholders. Poor families commonly keep chickens and may raise one or two pigs, while richer farmers usually have a pair of draught carabao (water buffalo) or oxen and cattle for breeding and fattening. Although few in number, and representing less than 1% of livestock owners, there are emerging large scale commercial businesses entering the livestock industry.

According to estimates for 2007, the livestock resources of Cambodia consist of the following: (number of heads):

Buffalos	775,000
Cattle	3,500,000
Poultry	16,000,000
Pigs	2,790,000

Scarce investment in livestock production and limited access to credit and other financial constraints have hindered growth in livestock, together with inadequate animal health protection and quality control. Cambodia continues to be highly dependent on imports of large quantity of livestock and livestock products from abroad. With the majority of the population living in rural areas, urban demand for meat is not very high, although it is rapidly increasing, and large scale foreign commercial livestock companies have established satellite farms for exports in neighbouring countries to satisfy the demand for Cambodian urban market. Officially 800 pigs a day are slaughtered in Phnom Penh. Poultry has however grown significantly, in spite the effects of Newcastle Disease, Fowl Cholera and the Avian Influenza. The vulnerability of the livestock production to transboundary diseases has however been a reason for major concern.

7. FISHERIES

Freshwater and marine fisheries and aquatic resource sector provide employment for over three million people in Cambodia, involving up to 45% of the households living in riparian provinces, many of whom are among the poorest in the country. The vast majorities of them are small-scale rurally based fishers, processors and traders. Fishing represents a major source of income for large sector of the population. Several community fisheries make their own living out small-scale fishing. Women, and particularly single household heads, find employment in processing and trading fish.

Fish represents the main source of protein and calcium intake for Cambodians (75% of the total national intake), since the basic diet of the Cambodians comprises fish and rice.

Fish production represents a major resource for the future of the economy, with a coastal line of 435 km in the southern part of the country and 55,600 sq km Exclusive Economic Zone, which provides an enormous potential for marine fisheries. Fish catch has significantly increased in the long run, from 108,900 tons in 1993 to 374,000 tons in 2005 (estimates for 2006: 450,000 tons). Recently, the large potential of inland fisheries has been emphasized, given the abundance of water resources in the country, along the Mekong River, the Tonle Sap Land and the Tonle Sap River and many other rivers. Nearly 90% of fish produced in Cambodia comes from freshwater basins.

Aquaculture has recently become the most dynamic and promising subsector of fisheries in the country both from the food security and economic points of view, and a major alternative income opportunity for farmers and a way out of poverty.

The fishing, processing, and marketing system are complex and highly fragmented in Cambodia, being dependent upon a large number of small-scale operators, even though there is also a modern export-oriented industry that makes use of better facilities and more capital intensive units. Inadequate access to services in fishing communities and locations where fish and fish products accumulate, e.g. in landing centres and fish markets, has inevitable consequence on hygiene, with implications on fish safety and quality issues. Part of this production is traded in live or iced form, whereas a major portion is processed into a variety of products such as "prahok" (a most widely consumed fish paste), fish sauce, fermented fish, dry fish, and so on.

Limited resources, lack of trained staff in food science, inadequacy of post harvest technology and insufficient endowment of adequate equipment in food safety laboratories, and inadequate application of proper standards for food safety, additives and fish feed, hinder action against adulterated or contaminated fish products and the

use of this important sector as a main source for food security and export expansion and diversification. Improving livelihood for poor people in Cambodia also requires a more effective use of fish after capture, through better fish processing, handling, storage, transportation and trade. Inadequate controls on the quality of the processed fish products are a source of major health concerns too. The threat to rural economy and human health due to fish-borne diseases has been recognized as a priority area for action.

8. FORESTRY

In a country where forests cover more than 58% of the total land area, one would expect that forestry represents a major contribution to the economy. The excesses of uncontrolled deforestation of past decades, coupled with illegal logging and encroachment upon forest land still frequent, have been causing a major damage to the natural environment, with erosion effects that threaten agriculture and living conditions of rural population.

Forestry has seen its contribution to GDP declining in the long run, while the implementation of the Forestry Reform in the past few years has seen the cancellation of several forest concessions granted to private companies, for a total of 3.5 million hectares in 24 locations.³⁴

At the time of launching the NSDP, only 12 concessions were still operating, covering an area of 3.4 million hectares, and no forestry new concessions were planned. Teak wood and acacia are two of the main commercial forest timber species. Firewood is also collected.

New initiatives are being introduced to develop “community forestry”, which focuses on the use of forests to improve the livelihoods of people living in rural areas and contribute to sustainable economic growth, including mitigation of climate change. New measures have been introduced to ban logging beyond the granted concession, protect biodiversity conservation areas, undertake reforestation. The private sector has been encouraged to establish commercial forest plantations in degraded forest, which represent 34% of total forest land, and develop forestry-related voluntary carbon market opportunities in selected areas, with the aim of contribution to the mitigation to the effects of climate change through carbon credit investments in small-scale forestry initiatives.

9. CHALLENGES TO AGRICULTURE PERFORMANCE: AN OVERVIEW

In spite of its positive results, agriculture growth has so far been less than optimal. Significant potentials are still unexploited. Its performance has however been less vulnerable to global economic turmoil than other industries. Agriculture can play a fundamental role as the only non-stagnant source of productive employment, income generation and food security also in a phase of the economic cycle when non-farming activities have been rapidly declining, and so many people have no realistic job alternatives other than turning back to agriculture. For many and for the economy as a whole, agriculture has become the last safeguard to pursue development.

Even though it has benefitted from major comparative advantages linked to favourable endowment of natural resources, land and water resources and the productivity of its human resources have achieved sizeable yield improvements, Cambodia’s agriculture is however still anchored to a fragile system of subsistence rain fed agriculture, centred on paddy rice production, where access to irrigation facilities is often inadequate. Agriculture performance is still dependent on unpredictable factors linked to nature, and is therefore affected by events like drought, flood and pest affectation. Low productivity in subsistence agriculture is in general linked to inadequate management of natural resources; low level of technology employed; poor farming skills; lack or limited state of infrastructures (such as backward roads, which hinder commercialization of products); inadequacy of irrigation structures or difficult access to them (especially by small-scale farmers); poor social conditions prevailing in rural areas (education, health services, water quality, sanitation); limited access to extension services, rural credit (especially for small-scale farmers), and commercialization mechanisms; insufficient use of modern seed varieties and fertilizer; poor soil management; inadequate post-harvest management and post-harvest processing; inefficient institutions in charge of enhancing and coordinating the supply of inputs and commercialization of outputs from small-scale farming. This model of production makes the country less competitive than that of regional

³⁴ See NSDP- 2006-2010, paragraph 2.30, page 21.

neighbours when faced with regional and international markets.

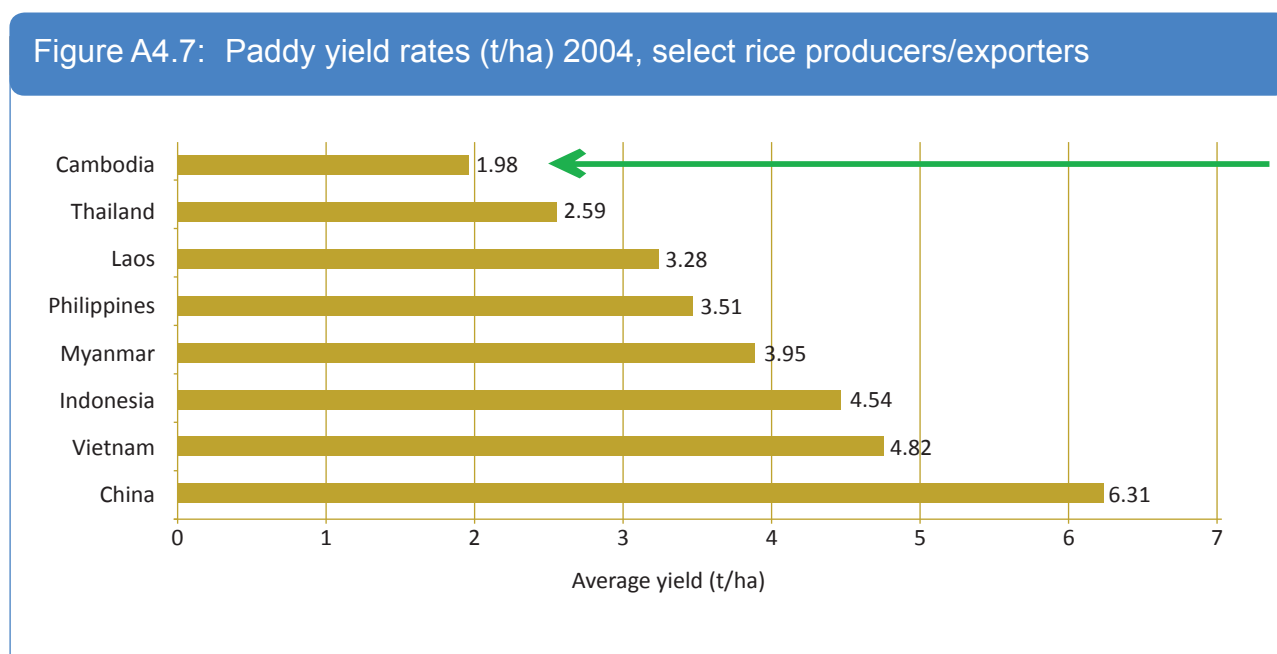
Moreover, agriculture recently suffered the consequence of the steep decline of prices of a few agricultural commodities (namely cassava, maize, rice and cashew nuts), hindering the capacity of small producers of gaining a living by selling their modest surplus to the export markets.

10. PRODUCTIVITY IN AGRICULTURE

The low level of overall productivity prevailing in agriculture, both in labour and land terms,³⁵ is a basic feature of this sector in Cambodia, even though significant improvements have been achieved in most recent years, especially in rice production.

Total production of rice has benefitted from the expansion of land used for it in the course of the last 15 years. That coverage grew from 1.8 million hectares in 1993 to over 2.3 million in 2004-2005. Rice production comprises 84% of total cultivated land and provides 75% of the population's food requirements.

Improvements have been achieved also in terms of unitary productivity for rice, i.e. yields per hectare, which has increased from 1.31 tons per ha (in 1993) to 1.97 tons (in 2004).



Source: UNDP Human Development Report 2007

According to more recent estimates (for 2008), progress has reached the unprecedented level of 2.489 tons per ha. This increase in total production and per hectare productivity explains the rice surplus, which goes well above the needs for seeds and domestic consumption, making Cambodia a natural exporter of rice. In 2004-2005, this surplus reached the level of 416,118 tons of milled rice. As data for 2004 shows, these positive results in productivity are however inferior to the yields reached in several surrounding countries with similar geo-climatic conditions, where productivity yields of 3 to 5 tons per ha are not rare, also thanks to the frequency of multi-cropping per year.

There are four rice-based farming systems adopted in Cambodia, in addition two “chamcar” crops, where rice is included (often of “dry” type) as part of a diversified cropping system, and a more limited industrial rice production system, more capital intensive, adopted only in restricted areas near the cities. The four major rice-cropping systems include: (i) the one found in non-irrigated terrace zones, fully dependent on rainfall, with low productivity; (ii) the flood recessions zones, where water control allows intensive rice cropping, with good water and soil fertility control, which has significant potentials for intensive rice farming; (iii) floating rice cropping, applied in large flooded

³⁵ According to the AusAid, Cambodia Sector Report, Diagnostic Study, 2006, labour productivity in agriculture was \$170 per worker and productivity of land was \$518 per hectare.

Table A4.3: Yields of main crops grown in Cambodia compared with neighbouring countries

Crop/Yields (kg/ha)	Cambodia	Laos	Thailand	Viet Nam
Rice	2,489	3,500	2,906	4,891
Cassava	22,653	7,583	21,091	16,247
Rubber	1,039	n/a	1,811	1,067
Maize	3,580	4,332	4,116	3,702
Soybean	1,527	1,164	1,561	1,390

Source: CAASP Preparation Report, 2008

fields, with extensive farming practices, good productivity, but high hydraulic risks; and finally (iv) upland rice-based systems, located in less densely populated areas.

Although paddy is the primary crop of most farmers, rice production is restricted to the wet reason due to lack of controlled irrigation and limited application of non-traditional farming techniques. The biggest majorities of rural districts (45 districts) are found in lowland rain fed areas, where a single non-irrigated wet season rice crop prevails, obtained in small independent land holding, where income is supplemented by other seasonal activities. A smaller number of districts (28 districts) are found next to major rivers or in communities adjoining the Tonle Sap, where floating rice cropping or flood recession zones are met. The remaining rice production is obtained in much less productive areas, often mixed with other productive activities.

The increases in rice production over the period 1992-2004 have mostly been the result of yield increases in rice production in the dry season (these yields grew by 6.73% per year), while yields obtained in the wet season increased by 4.36 % per year. Access to better variety of seeds suitable to wet reason rice production has however been limited. Most gains have been a consequence to better access to fertilizers or other inputs.

Studies on productivity of Cambodian farmers in rice production have shown that productivity per day worked is quite high (often \$10 per day)³⁶ but overall productivity estimated on a yearly basis is very low, since Cambodian farmers use their land only few days per year, as compared with farmers from neighbouring countries, where multi-year cropping is extensively applied. In Cambodia, double cropping area represents only 1% of total cultivated area. For this reason, in spite of the high productivity per day, economic returns to labour from rice production are as low as \$ 0.64 per day on a yearly basis, one of the lowest in the region, which corresponds to half of the average returns obtainable from other crops such as vegetables, soybeans, mung beans, sweet potatoes, cassava, tobacco and cotton.

11. ACCESS TO LAND AND SOIL PRODUCTIVITY

Labour productivity is affected by access to land and its use. Cambodia is endowed with 18.1 million hectares of land, although only 22% is agricultural land, whereas 58% is covered by forests, 15% is grassland, shrubs and inundated land and only 5% is urban area.

Land distribution in Cambodia is inequitable, and the large majority of the poor own small parcels of land. The average size of the farm land is about 1.53 ha per farm household, according to the 1999 Census,³⁷ which was done ten years after the large reform of land distribution took place in 1989, which introduced the notion of distributing farming land according to the number of working age household members. If one focuses on poor farm

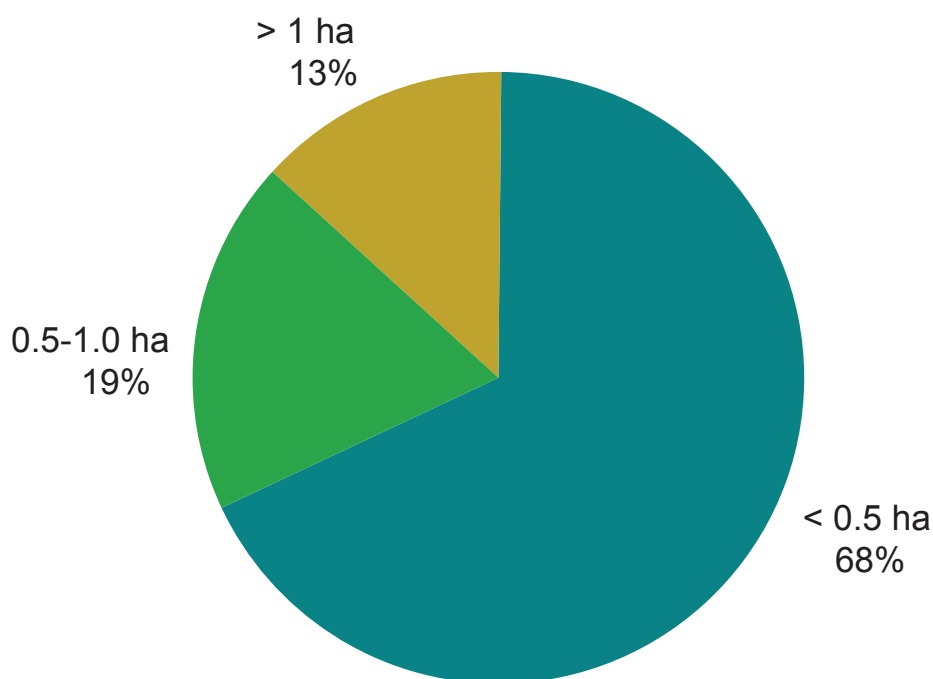
³⁶ Cambodia country competitiveness: driving economic growth and Poverty Reduction. UNDP, Discussion paper no.7, 2009

³⁷ See AusAid, Cambodia Sector Report, Diagnostic Study cit., Phase 1 of Design, Agricultural Programme, Cambodia, 2007-12 – Programme Concept Document Final Report, Table 295.

households, the average size of the land operated by each household is smaller, equal to 1.33 ha. Male-headed household average 4.4 plots per household and 0.39 ha per plot, while for female-headed households, land holding is reduced to 3.8 plots per household and 0.30 ha per plot. ³⁸

Land under small-scale farming is about 2.46 million hectares and it is divided in 3.59 million land parcels. Fragmentation of farming land is therefore an important factor that affects economic efficiency of agriculture and viability of farms. The average parcel size is 0.69 hectares. Moreover, 68% of agricultural plots are 0, 5 hectares or less, 19% between 0, 5 and 1, 0 hectares and only 13% larger than 1 hectare.

Figure A4.8: Agricultural land parcel distribution (%) 2003-04



Source: SES 2003-04

Access to land is a fundamental premise for any significant progress in agriculture. Land tenure is often at the core of many debates and key policy measures in Cambodia: land titling, insecure tenure or undocumented titles or slow title registration, unequal land holdings, increasing landlessness or near landlessness, have been the themes of several analyses, which have provided a better understanding of the link between land distribution and demographic pressure, on the one hand, and land productivity on the other. Many farmers still do not have legal title to their land, which makes them vulnerable and undermines any incentives to invest in efforts to increase productivity.

The RGC's land reform programme is part of the Government strategy for development, as indicated in the Rectangular Strategy. Measures are included to strengthen land distribution and land use, and to ensure the security of land ownership, eradicate illegal land holding and prevent concentration of unused land in few hands. Efforts to enhance access of farmers to productive land are made by granting social land concessions (SLC) to farmers.

In addition to the social land concessions, the State, which still owns the vast majority of the land (14.5 million hectares, representing about 80% percent of the total land surface) is also awarding economic land concessions (ELCs) to private companies for modernized agriculture. Currently about 900,000 hectares are given as long term concessions to private companies for an average time of 70 years, for production of agricultural crops such as cashew nuts, cassava, sugar cane, acacia, corn and mung bean. Moreover, there is an increasing production of industrial products, such as palm oil and rubber.

³⁸ See CDRI, Cambodia Land Titling Rural Baseline Survey Report, December 2007, page 2.

Land tenure issues and land distribution go beyond the scope of FAO operations in Cambodia. The present document focuses on land use that more directly affects its productivity. Land productivity depends on soil quality, which differs across the country from one province to another. Its deterioration can occur alongside its improvement. The RGC is involved in the preparation of a Land Use Map, which is expected to ensure better land use efficiency.

Given the importance of rice production in Cambodia, most soil research has focused on rice soils,³⁹ which have a shallow rooting depth, and does not provide sufficient information for field crops other than rice. This is an impediment, if one focuses, as the Rectangular Strategy suggests, in diversification from traditional wet season lowland rice. Given the relatively low productivity per hectare, as compared with countries in the Southern-east Asian region, in rice production, which is mainly grown in the central plain around the Great Lake (Tonle Sap) and in the Mekong River delta, more efforts should be undertaken to better understand the constraints of the rice soils for higher productivity, in terms of phases, scale, volume and significance of use of soil for rice production, as well as the impact on soil fertility if rice soils are used for non-rice crops during the dry season.

The potential for intensification of rice production through double-cropping or even triple-cropping also depends on the land capability for other crops in the lowlands, combined with dry season cropping with rice, vegetable or other short duration crops if adequate irrigation or stored water is made available to farmers in lowlands, and expansion of upland cropping is facilitated by increasing production both in rice and non-rice crops.⁴⁰ There are vast areas of land in the upland region, where soil quality may have some advantages in terms of quality as compared with low land rice soils, although information available may still be limited. Soil education still represents a major constraint in improving land use productivity and requires additional efforts.

12. ACCESS TO WATER IRRIGATION SCHEMES

Water resources are abundant in Cambodia, with generous rainfall in six months of the year. Cambodia has more water surfaces than almost anywhere else in the world where agriculture is the mainstay of people's livelihoods. About 90 percent of its land lies in the catchment area of a perennial river, with an estimated annual runoff of 475 billion cubic meters of water from the Mekong system. This is consistent with a cropping system dependent on rainfall, although in the dry season water resources become a rare commodity except for the areas that cannot directly benefit from the Mekong River and Tonle Sap and related irrigation systems. During the wet system, floods are frequent and represent a phenomenon practically unmanaged, except for a dike that protects the capital. Floods have some positive effects by replenishing soil nutrients and moisture, but they also damage infrastructures, crops and personal property.

Unfortunately, only 23% of the area dedicated to rice (473,000 ha.) is included in some kind of irrigation schemes, and effective irrigation coverage is even lower than that: 11% of the rice area is supplemented only by wet season irrigation, 11% benefits from partial dry season irrigation, and only about 1% is fully irrigated in all seasons. In general, crop land that benefits from controlled irrigation represents less 10% of the total, as compared with 33.4% in Viet Nam and 28.4% in Thailand. Access to irrigation systems varies geographically. In some north-eastern provinces there are virtually no irrigated areas.

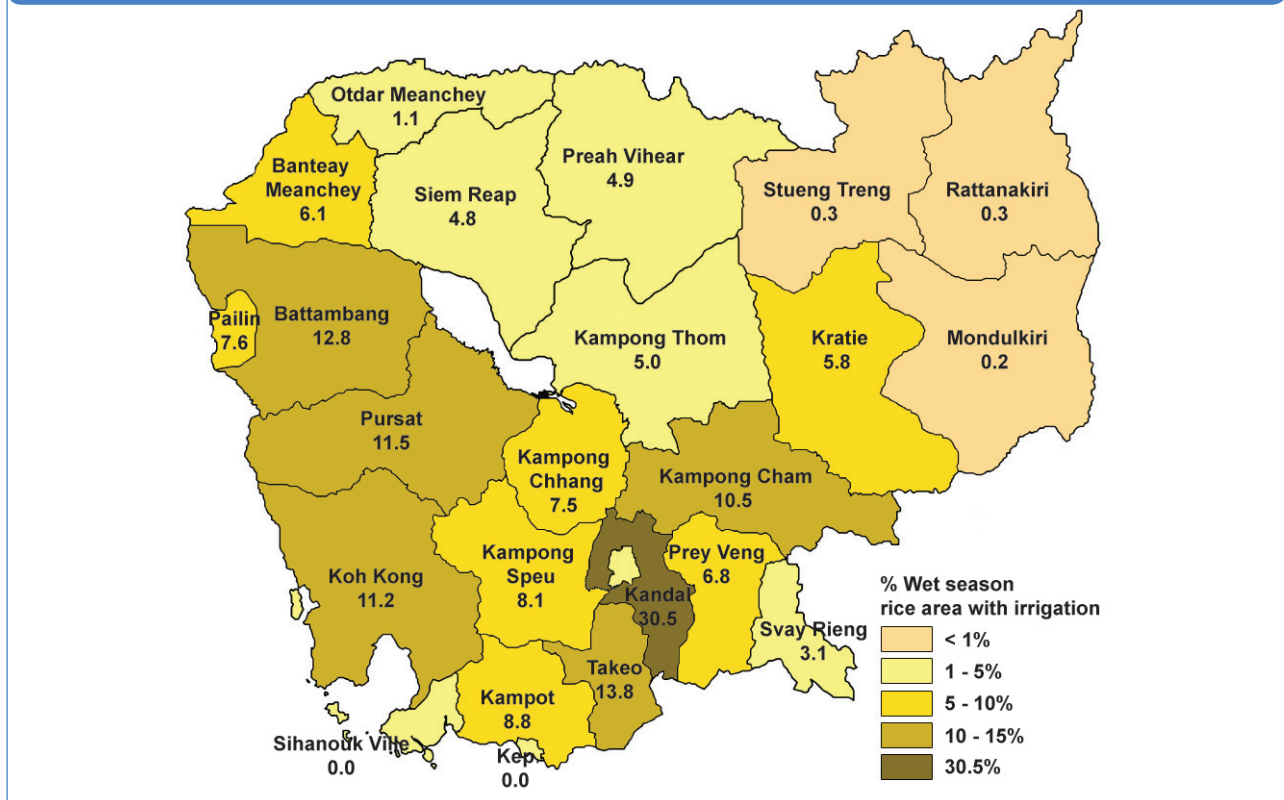
A large scale expansion of the irrigation systems for rice production is not an economically viable option in Cambodia, while less expensive rehabilitation efforts of the existing irrigation systems appear to be more cost-effective and feasible. Moreover, improvements in rice production can be achieved also without major investment in large-scale irrigation.

Most irrigation interventions regard small or medium-scale systems schemes, which can be managed more easily than larger ones, at the level of the Government authority (MOWRAM), at the level of inter-district interventions within each province, and at the level of the farmer water user communities (FWUCs). Larger-scale schemes would be more convenient if farming were not mostly in the hands of small-scale farmers, but this is not the case

39 See e.g. the Cambodian Agronomic Soil Classification System, CASC, undertaken by MAFF in 1995, quoted in "Proceedings – Land Resource Assessment Forum for Cambodia", September 14-17, 2004, CARDI, Phnom Penh (in particular, "History of Land Resource Assessment in Cambodia – Lessons Learned" by Vang Seng and P.F. White.

40 See "Assessing Land Suitability for Crop Diversification in Cambodia" by R.W. Bell, N.Schoknecht, W. Vance, and S. Hin, in CARDI, "Proceedings etc." cit.

Figure A4.9: percent wet-season rice land that has supplemental irrigation, 2005



Source: Ministry of Planning

in Cambodia. Even after the establishment of a new Ministry (MOWRAM) to manage water resources, most efforts have been focusing on repairing old reservoirs rather than planning for large-scale, multiple-system irrigation schemes. Budgetary support to irrigation was only US\$13 million in 2005, despite the emphasis on irrigation in the infrastructure section of the Rectangular Strategy. This represents a major constraint to the use of irrigation as a source of productivity improvement.

Emphasis is put on river-basin plans (also at the sub-basin and community levels), ensuring consistency between agricultural needs and broader economic development goal, preparing and implementing irrigation and flood management schemes, emphasizing the requirements of the poorest farmers, complementing the use of irrigation for farming with inland fisheries activities and ensuring compatibility between natural flooding and flood recession regime and the involvement of Farmer Water User Committees (FWUCs).

There is a serious shortage of trained irrigation engineers in Cambodia, particularly in the provincial irrigation departments. There is no university-level major in irrigation engineering and hydrology and the scarce trained personnel available will be retiring in the next decade.

13. TECHNOLOGY IN AGRICULTURE

In order to obtain improvements in productivity when the fertility of the lowland areas is prevalingly low, soil use, fertilizer management and technologies employed in agriculture become central. Appropriate timing and dosage in the use of fertilizer are critical factors in determining the performance of the sector. Fertilizer usage in Cambodia is lower than in neighbouring countries, also due to lack of confidence among the farmers in the quality of certain types of fertilizer available in the market. There has been a widespread lack of interest among Cambodian producers in introducing technological innovations in agriculture, due to their excessive cost and disappointing experiences. Consequently low productivity technology still prevails.

Research and extension services may be the potential vehicle to modify this attitude among farmers, but progress is still slow. Introduction of improved seed varieties is still inadequate. Information on the potential of the new varieties of seeds, proper use of fertilizer and pesticides, soil fertility conditions and requirements is insufficient among farmers. Soil testing and quality control is still absent in most cases. At the same time, supply of modern seed is still inadequate, and insufficient research stations exist for the purpose.

In general, only 25% of cultivated land is now prepared with the use of machines. About 64% of farmers do not have access or do not own major farm machinery. This is combined with inadequate familiarity with the operational functioning and maintenance of agricultural machinery, and unsuitability of available machine to uneven topography of several regions. Mistrust in the potential benefits from being linked to a field channel water distribution system is widespread. Non-use of agriculture machinery negatively affects the quality of land preparation, the accessibility to existing irrigation system, the productivity of animal husbandry and post-harvest processing. The use of pesticides and insecticides by small-scale farmers is often unknown, while their cost is still high and their quality uncertain, causing several cases of adulteration. It is difficult for farmers to have access to specialized expertise to distinguish between different kinds of pests and insects, and corresponding remedies, whereas the use of herbicides is often indiscriminate, mostly due to lack of training.

Harvesting and threshing of crops is done only in the traditional way, even if by doing so, farmers incur in significant crop losses. Milling is still done following inadequate and obsolete technologies, which generate low-level quality of milled products. In general, post-harvesting technology and management are among the main reasons that make Cambodia agriculture less competitive than many neighbouring countries.

Linked to this traditional approach to technology in cropping activities is also the inadequate knowledge available among farmers to raise livestock, with implications on the quality of their breeds and the limited quality and quantity of their livestock production. Small-scale fishers face similar constraints due to inadequate equipment and fishing gear, and adequate capacity boats. Protection of fishery resources requires also technologies to enforce it. Again, post-harvesting technologies applied in fisheries are inadequate.

The introduction of technological innovations by farmers may be linked to the availability of research activities and quality, intensity and dissemination of extension services. Research can make a major difference in upgrading Cambodia agriculture and generate an improvement in productivity, if associated with adequate extension services on a national scale.

CARDI is the main research institution in the country regarding rice research, but insufficient funds and facilities as well as inadequate human resources, limit its effectiveness, even in rice research (in other crops, CARDI does not have adequate research capacity). Inadequate coordination between research and extension services represents another major problem to make progress in this field.

Associated with these constraints are the weaknesses of the extension services. Extension workers lack adequate connection with research and their skills are still insufficient. There are 4 to 5 extension workers for each district, covering about 10 communes on average (almost 100 villages), which may have a population of as many as 10,000 households. Therefore, it is not surprising that several communes do not have access at all to any extension services.

14. COMPETITIVENESS IN AGRICULTURE

In order to take advantage of opportunities for import substitution in agriculture and promoting agriculture exports, four conditions are required: (a) a competitive price; (b) good quality of production; (c) reliability of supply; and (d) an easy access to markets (including a good marketing network), ensuring effective development of markets and linkages between farmers/producers, wholesalers, and consumers or export links. Product quality and supply reliability are all linked to the productivity conditions highlighted in the previous sections, as well as the use of technological and research just examined in section 13. Productivity affects also the possibility of introducing new and diversified crops (e.g. preferred rice varieties, or crops that can be certified as organically grown) that can

better meet the rapidly changing demands of consumers both in domestic and foreign markets.

At present, 70% of Cambodia's consumption of fruit and vegetables is imported, providing an obvious opportunity for "import substitution". On the other hand, farmers in border areas, who have the advantage of cheaper transportation, are able to sell their production to neighboring countries, and obtain good profits. Improvement in the quality of Cambodia's agriculture is therefore the first condition to enhance its position in external trade.

Increased production and diversification of agriculture can provide a basis for downstream value-added processing, with opportunities for profitable developments also in the agri-business value chain. Improved "upstream" services (e.g. better seed supply, better access to agricultural machinery) may need to be integrated with "downstream" marketing operations, e.g. improvement of transportation facilities. There are many opportunities to add value to agricultural production creating employment, both on-farm and off-farm, and providing additional sources of cash income for workers and households involved in all stages of the value chain. To take advantage of these opportunities requires, besides additional knowledge, also financial resources, for instance through rural credit.

Member of WTO since 2004, Cambodian economy has seen its competitiveness ranking rapidly increase during the course of last 15 years. The expansion of exports depends on several factors that allow an increase in sales to existing or new markets, for the same products or for new ones and not only on "competitiveness" of agricultural production, as the recent global economic crisis suggests that competitiveness, however important, is not a substitute for foreign demand and sound international economy.

Competitiveness of the agriculture sector and related activities (including fisheries and forestry) depends on several factors that determine their productivity, influencing productivity of labour, land and water. Some factors relate to natural events (weather conditions and climate changes) or access to technology (which influence the use of appropriate know-how and the efficient use of inputs, their quality, scientific research and its use in agriculture). Some cost factors regard the market conditions in which each output is produced: access to reliable and good quality supplies of inputs (e.g. high quality seed and fertilizer); available infrastructure for transportation, distribution, and storage, and in general status of trade facilitation; development of post-harvesting processing activities; access to credit and working capital.

The legal framework in which productive activities are carried out is also relevant, especially as regards the conformity to food safety standards and other international norms and requirements, which are crucial for the acceptability of agricultural products in foreign markets, but also for the acceptability of the same products in domestic markets in terms of consumer protection.

Finally, there are more general factors regarding the environment in which agricultural production is generated that affect the livelihoods of population in the rural environment (e.g., health and education): they affect the quality of labour available in the sector. Other conditions regard the access to non-farming income opportunities, which directly affect non-farming population (both in urban and rural locations) but also have repercussions in the markets for agricultural products, since they affect the purchasing power of the consumers of agricultural produce.

These are the complex terms in which increases in productiveness and competitiveness in agriculture production come into play in Cambodia. Although agricultural productivity has significantly improved in rice production and other crops in recent years, it is relatively low as compared with other neighbouring countries. Nevertheless, given the low cost of labour in Cambodia, competitiveness of Cambodian paddy is high, which explains why Thailand and Viet Nam absorb a considerable share of rice production for exports, which is then processed to obtain milled rice further exported or consumed in their local markets.

Competitiveness in rice production ⁴¹ is still limited to paddy, and has not been extended to Cambodian milled rice. Agricultural exports are basically in the form of raw or semi-processed products, which prevents producers to add value to their outputs and does not encourage diversification of production. This is due to the limited capacity of Cambodian mills, often limited by scarce working capital, or inadequate transport facilities, so that processed rice

⁴¹ See Cambodia Country Competitiveness, Discussion Paper No. 7, UNDP, 2009.

costs too much in Cambodia as compared with neighbouring competitors. Very few large-scale mills operate in Cambodia (producing rice of the best quality and highly appreciated in foreign markets), while most local mills have strong limitations in capital and quality of their production. Consequently, margins of profit in the productive chain of rice is often limited, and absorbed by intermediaries who prefer to cross borders and export raw rice, gaining modest intermediation fees, which undermines the acquisition of the full value potential to the Cambodian economy.

Conditions for rice exports, linked to the intensity of demand from neighbouring countries and the reduced constraints in world markets for rice trade, with appearance of new big importing countries showing interest for Cambodian rice, are favourable but exports will be dependent on the potential of an international demand that in general shows low income elasticity. Potential for higher earnings require expansion of milling facilities, which for the time being are limited. SPS certification may be required in some importing countries.⁴²

Exporting performance for rubber has been good in recent years, showing potential for growth, but demand is mostly only from Viet Nam and there is no tariff advantage with other suppliers. Demand is also limited to the performance of one single industry (tire manufacturers), which has strongly been affected by the global economic downturn and the crisis of the international automobile sector.

In cassava, competitiveness may be positive, but unreliable volume of supply may be a deterrent to keep processing plants working at their full capacity. Exports have been concentrated in Thailand and Viet Nam, and been mostly limited to raw material rather than processed product. While productivity is very high, high transportation costs and reduced post-harvest processing facilities are a big limitation. Moreover, cassava is not a product that may generate a significant value added.

Cashew-nuts are mainly exported raw (in shells) to Viet Nam (where they are processed) due to low technology, low productivity, high transportation costs, inadequate access to credit and limited local processing capacity. Nevertheless, the dynamic volume of sales in the last few years has been significant. Unfortunately, world market and prices for cashew-nuts is highly volatile, and Cambodia faces the harsh competition of several exporters from Asia, Africa and South America. If Viet Nam increases its domestic production, it may reduce absorption of Cambodian exports. Moreover, the sector requires a long gestation period before obtaining the first harvest.

Soybean has also shown significant improvements in recent years, especially through exports to Thailand and Viet Nam, and potentials for exports to China are significant. International competition is however significant and the world demand seems to be concentrated in few countries. Cambodian exports of soybean may not be able to compete with American soybean in the region, if trade barriers are eliminated in Thailand and Viet Nam. Palm oil, still inadequately developed in the country, has potential for significant growth in the future.

The production of fruit and vegetable is unjustifiably depressed in Cambodia, while the country imports massive volume of these products from neighbouring countries. The potentials are high, but constraints are several, including limited local expertise, limited working capital, undeveloped marketing chains, small volumes of production of good quality standards, and in general inadequate storage and marketing facilities and skills, and potentials for high post-harvest losses. In general, there are problems in meeting international standards of hygiene and safety regulations. Potential SPS problems exist for several products. There are poor technical monitoring and inspection systems. Although there is a high potential for organic fruit, there is limited capacity for a certified organic production. There are difficulties in controlling the level of antibiotics used as well as the residues for some fruits. In some cases (e.g. mango), infestation of insects has produced massive damages.

Exports from fisheries have a high potential in this country, given the abundance of marine and inland water resources but face strong limitation from the food safety side. The EU has banned import of fish from Cambodia due to failure to comply with EU legislation regarding hygiene and sanitary conditions since 1997. Bad infrastructure and processing facilities could hamper expansion in the future. Most exports are informal and still provide low value added to the country. Training of fishermen in modern SPS handling and processing is a requirement to improve competitiveness

⁴² See Cambodia's 2007 Trade Integration Strategy, prepared under the Trade-Related Assistance for Development and Equity (TRADE) Project of Cambodia's Ministry of Commerce and UNDP, December 2007.

in this industry, where conformity with SPS guidelines, both for domestic consumption and exports is crucial.

In general, Cambodia has high shipping costs. This regards in particular local (intra-regional) transportation costs. Local transportation facilities (storage and refrigeration) are insufficient for most agricultural commodities, as inadequate are rural access roads. Moreover, links between farmers and markets are not adequately developed: there is need to establish new vertical chains that open marketing opportunities. Rural credit availability is still a limiting factor in promoting full exploitation of commercialized agriculture. In spite of the increased productivity (yields per ha) obtained in the last few years for several crops, other cost elements, which regard mostly post-harvest operations, are still very high and negatively affect competitiveness of Cambodian agriculture.

Limited awareness and knowledge of potential international markets has often emphasized the indispensable role of intermediaries that reduce the margin profits earner by farmers, in the absence of alternative distribution organizations.

15. TRADE AND FOOD SAFETY

A major limitation to Cambodian competitiveness is the fact that the country so far does not comply with several provisions of the WTO Agreement on Technical Barriers to Trade. In general, certificates of conformity issued by the RGC institutions have no value to the Cambodian exporter or the importer of Cambodian goods and services, in the absence of adequate international accreditation, and this is due to the limited infrastructure in the area of conformity compliance, which should ensure conformity with international standards, and the inadequate alignment of national standards to requirements requested by regional and overseas certification bodies.

This is a serious concern for agricultural exports, when it comes to conditions that affect food sanitary conditions. Market access for plant and animal products has increasingly become subject to risk assessment by the importing countries. This is a constraint that Cambodian exporters have to take into account in order to expand their marketing potentials. In order to open new markets to agricultural and fisheries products from Cambodia, it is not enough to have the marketing structure and the commercial links that promote sales of Cambodian products, if the food safety challenges are not met. Meeting those challenges is the necessary condition to open access to markets.

The RGC is aware that as a member of WTO, Cambodia is expected to implement the WTO Framework Agreement on the Application of the Sanitary and Phyto-Sanitary (SPS) measures. The country's capacity to adopt these SPS measures – which regard plant safety, animal safety and food safety – is very limited, and the institutional confusion due to duplication or conflicting responsibilities of the RGC agencies involved not only create a problem of coordination but hinder the practical application of those measures so that the country often does not meet the international conformity requirements.

Several Cambodian products continue to be excluded from export markets on the grounds of safety, due to poor hygiene in handling or other contaminations, or on grounds of potential environmental risks. International inspectors have highlighted both institutional and technical issues that have undermined the country's attempt to put in place a credible regime of monitoring and surveillance, inspection, testing and certification of Cambodia export products.

Enhancement of SPS control institutional framework is a matter of the most urgent nature for the future role of agriculture in exports, together with measures required to support producers and exporters in producing better quality crops or food that meet SPS requirements of importing and domestic markets. It is necessary to enhance awareness of the importance to increase consumer protection in domestic markets, for the benefit of Cambodian population and, at the same time, to promote testing for export certification purposes, enhance the recognized accreditation of certification in the fisheries sector, and enhance the capacity for plant protection diagnosis laboratories, with the enforcement of a border inspection system, surveillance and pest listing.

Recent outbreaks of food-borne diseases and food scandals (such as melamine contamination in the food chain) had added pressure to add greater regulation and stricter enforcement, not only to ensure market access in foreign countries but also to enhance food safety for the benefit of Cambodian consumers. The requirement for HACCP-based (Hazard Analysis and Critical Control Points) system has become a common feature for public food-safety

in OECD countries. The time may have come to intensify the protection of the Cambodian consumer, not only in terms of food security but also in terms of food safety. Unfortunately, developing countries often do not have the financial and technical means required to comply with these safety standards. However, the urgency to expand foreign market opportunities makes the adoption of these safety requirements and practices a required investment in order to promote export earnings, with significant positive effects also on health of the Cambodian population.

Fish and fish product safety and quality systems call for science-based and transparent decision-making processes, with the use of qualified personnel, trained in food science and technology, chemistry, biochemistry, microbiology, medicine, epidemiology, quality assurance, auditing and food law. The reality in Cambodia unfortunately is that there is a strong limitation of technical personnel of this type and food safety laboratories are not well equipped. Moreover, there are very few regulations and standards and corresponding inspection capacities that are related to fish and fish products, preventing action against cases of adulteration and contamination of fish products.

16. FOOD SECURITY CHALLENGES

With 34.7% of its population living below the official income poverty line, and 20% of the population living below the food poverty line in 2004, food security is one of the most significant problems that Cambodia faces today. Nationally 23 percent of the Cambodian population, or three million people, were food-deprived in 2003-2004, consuming less than the minimum dietary energy requirement (MDER) of 1715 kcal/person/day but 69 percent of the lowest income quintile was considered food-deprived. The food-deprived population consists of the persons that would have to increase food consumption by 280 kcal/person/day in order to reach the average national level of food consumed. In Cambodia only the fifth (wealthiest) quintile was found to have a balanced diet, with the proportion of proteins, fats and carbohydrates within FAO/WHO guidelines. The remaining 80 percent lacked a balanced diet, having a diet low in fats and proteins and high in carbohydrates, the latter sourced particularly from cereals, notably rice.

Poverty conditions prevail, especially in the rural areas, and are associated to food insecurity that is present in all of rural communities and some urban ones as well. In those cases, nutrition is inadequate, and strongly relies on diets of rice and fish.

Malnourishment of children put them at increased risks of infection, illness and premature death. About 54 percent of all cases of under-five mortality in Cambodia are associated with malnutrition. Under-nutrition also has negative effects on children's physical and mental growth and development and therefore on their human potential.

The pursuit of food security means to ensure that poor and food insecure population improves its physical and economic access to sufficient, safe and nutritious food in all times of the year, meeting its dietary needs.

There are four different dimensions of food insecurity:

1. **Food Availability:** This notion applies to farmers or other food producers that lack the ability to directly produce sufficient food to meet their nutritional needs through their own efforts in agricultural production and through gathering from Common Property Resources (CPRs) including forests and fisheries.
2. **Food Access:** this is the form of food insecurity that applies to people who do not have sufficient cash income to purchase enough food through the market at prevailing prices. This limitation may be accentuated by lack of market infrastructure, services and capital to provide a sufficient stock to meet minimum food requirements. When incomes suddenly decline (as in situation of economic crisis) or chronic poverty, this form of food insecurity applies when social transfers or safety nets for people unable to produce or purchase their food needs are insufficient.
3. **Food Use and Utilization:** this is the ultimate manifestation of food insecurity, measured in terms of actual use of food and intake of adequate nutrition. Pregnant and lactating mothers may themselves be malnourished, limiting the nutrition available to their infants. Mother-child care practices may not be appropriate for child health and nutrition. A high incidence of infections such as acute respiratory infection and diarrhea and lack of maternal and child health services reduce mother and child health and nutrition. Lack of access to safe drink-

ing water and hygienic sanitation increases illness and infection rates and decreases health and nutritional status. Ensuring optimal food use may require the utilization of appropriate health and nutrition education.

4. **Food Stability:** Instability in the regular supply of sufficient food and clean water causes malnutrition and food insecurity. Causes of instability can include flood and drought impacts on agriculture, environmental degradation or changes in access to CPRs, shifts in purchasing power for market foods, and political instability including wars and conflict.

The situation of food insecurity in Cambodia, regarding these four dimensions, is the following:

1. Food Availability

Although Cambodia has become self-sufficient in rice production and is now able to meet the minimum staple food needs of the population overall, at the sub-national level rice balances are uneven among different geographical areas and socio-economic groups, with large variations in the intake of non-rice food items and constraints in the efforts to produce sufficient food from crop agriculture due to small farm sizes, high dependency on rain-fed production, rising rates of landlessness, low crop yields, high production risks, excessive cost of credit, lack of crop diversification. In terms of livestock production major constraints include high livestock mortality and morbidity rates and the small number of heads owned by each household. As for access to Common Property Resources (CPRs) such as forests, fisheries and commons agricultural areas, they are an important food resource for Cambodian people, especially the rural poor, but food availability from CPRs is limited by degradation of these resources largely due to commercial exploitation, and enclosure of areas by private interests, which limits access to them.

2. Food Access

Although most rural Cambodians are farmers that produce food, they are also highly dependent on buying some types of food, including rice, for some period every year. Purchasing power to buy food on the market is limited in Cambodia and many poor rural households lack productive assets (such as land and livestock) to generate cash income. Rapidly increasing food prices have limited the capacity of food-insecure households to buy sufficient food and have induced a switch to foods of lower nutritional value or lacking important micronutrients. One of the most significant impacts of the global economic crisis on Cambodia has been through a reduction of the purchasing power of large strata of the population, increasing their food insecurity.

3. Food Use and Utilization

This is a major contributor to malnutrition in Cambodia and may be linked to poor nutrition knowledge and practices, insufficient access to maternal care services, inappropriate mother-child care practices, prevalence of child illnesses including diarrhoea and respiratory infections, and child micronutrient malnutrition. Behind these causes there may be also insufficient access to affordable good quality health services. Expenditure on health care among the poor has often led to indebtedness and asset disposal, and further impoverishment and worsen food insecurity. Insufficient access of rural households to sanitation (16 percent) and lack of access to safe drinking water (42 percent) are additional causes of child illnesses in Cambodia.

4. Food stability

External shocks and stresses can reduce 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, inadequate provision of social transfers or safety nets to provide food and other basic needs to such vulnerable groups. Vulnerability may be either temporary (e.g. due to flood or drought impacts) or permanent (e.g. for elderly population living alone, orphans, people with chronic illnesses, the under-employed).

This is an area where disaster risk reduction and social safety nets may be required. Households who are more exposed to food insecurity need to protect themselves from disasters, both natural than man-made. In case of a natural calamity (drought or flood) that compromise the source of income of the poorest or most vulnerable population, inadequate food intake may be one of the first consequences.

Disasters come also from economic crises, which may put entire communities at risk, as it has been the case through the negative impact of the recent global economic downturn on some key industries such as garment, tourism and construction, which have caused sudden increase of unemployment in large strata of the population, putting entire family at risk of food insecurity. For communities at risk, therefore, a number of measures can be established to better cope with food insecurity, e.g. through the establishment or maintenance of rice banks and other types of “safety net”, or access to all other kind of assistance that the RGC or other institution provide in those circumstances. Another way to enhance food security is also by enabling and training people to interact with public institutions in order to obtain the necessary assistance and advice in case of food insecurity.

Measures to address food insecurity therefore require, in addition to “food-safety nets”, an intensification and diversification of food production, particularly by smallholder farming households and those that are more food insecure, so that through their own crops and grazing lands, they may gain a better chance to achieve a productive use of their resources or may gain access to common property resources of land, fisheries and forests, so that they may become able to produce the required food or the corresponding income as required to meet their food security needs.

From the point of view of the food insecure persons, food security requires improved nutrition and basic health awareness and practices. The most vulnerable people in matter of food security deserve a special attention: women, children and elderly, as they are more at risk when it comes to food security.

17. NATURAL RESOURCE MANAGEMENT: NEW CHALLENGES

With a rich endowment in land, natural resources (particularly forests and water resources) and a variety of ecosystems (uplands and lowland forests, riverine lands, freshwater wetlands, a long coastal line), natural resource management represents a major pillar of the RGC policies. In the 1990s, Cambodia generated significant income from the exploitation of the forestry sector, although this raised concerns for its environmental effects. Similar concerns have been raised for the excess of fishing activities, which may have depleted the existing stock of fish. All economic activities, in a phase of growth alter environmental balances. Some echoed some alarm for the environmental sustainability of the explosion of tourism in the Ankor area.

The sustainable use of these natural resources, including forestry, mangrove, protected areas and fisheries, has become a central component of government policy, and is presently being combined with increasing attention to, and search of a right response to, climate change.

The cancellation of non-performing forest concessions in recent years have increased the forest areas that have reverted to “forest reserve” and has open the open the way to a different approach to preservation policies, promoting joint-management arrangements that involve local communities. Community-based natural resource management (both in the forestry and fisheries sectors) has become the main approach pursued for the enhancement of livelihoods in an environment-friendly strategy for poverty reduction. The pursuit of the Code of Conduct for Responsible Fisheries has been part of these efforts. In forestry, major efforts have focused on forest rehabilitation and responsible use of forestry resources, with emphasis on family-based smallholder forestry, extension to household and community empowerment through participatory approach in management, value-adding of wood products through improved wood processing capacity and development of non-wood forest products, and the development of forestry-related voluntary carbon credit opportunities.

Biodiversity conservation is an important component of natural resource management: in Cambodia there are 23 protected areas (3.3 million hectares) and three additional sites protected by the 1971 Ramsard Convention for the protection of wetlands. UNESCO has declared the Tonle Sap Lake a biosphere reserve in the context of its Man and Biosphere Programme. Several species of flora, freshwater fish and marine fish, birds, reptiles, mam-

imals and invertebrates are included currently under this programme.

The protection of the environment from soil erosion, degradation, salinity and from the losses to the forestry endowment due to natural or man-made causes has become central in the community-based natural resource management initiatives. Challenges to the natural environment are particularly strong in the transition zones between lowland and uplands, which are experiencing increasing immigration and encroachment of farmers on forested areas. Demographic pressure increasingly threatens ecosystems such as the one in Tonle Sap, based on flooded forest and lake fisheries. The presence of landmines is still a major threat to the natural resources in several regions of the country.

Partly linked to natural resource management is the adoption of disaster prevention. Natural disasters are strongly linked to climatic conditions. Events such as floods and droughts, so frequent in Cambodia, have a major bearing on economic performance and poverty reduction. Between 1998 and 2002, floods accounted for 70% of production losses of rice and drought accounted for 20% of those losses. The link between the intensification of the frequency of these natural disasters and climate change is strong in Cambodia. Even though flooding is a phenomenon that has always been linked to the monsoon variation of the season, its intensification or alteration of frequency may be linked to climate changes. Destructive floods have become more frequent in recent years. Side effects have been the degradation of water quality and the intensification of water-related / tropical diseases such as malaria and dengue.

Cambodia is particularly vulnerable to the immediate effects of climate change, since the hazards that it produces immediately affect the distribution and intensity of existing challenges that threaten natural disasters. Overall temperature could increase by 1.35 - 2.5 degrees C before the year 2100. The immediate consequence could be the increase of total annual rainfall by 35% as compared with current levels, with lowlands, where Cambodian population is currently concentrated, more affected.

The possible impact of climate change on agriculture is a reduced predictability in crop yields, the growing risk of flooding and consequent increase in pest infestation. The demand for access to water for irrigation is going to be necessarily altered, since water availability is going to be altered in volume, quality and distribution. Increases in temperature are likely going to produce effects, particularly in the coastal regions, such as erosions, inundations, increases in extension of wetlands and stress marshes, and salinisation of lands. The country requires an overall climate change strategy and the adoption of a number of measures to make coastal and water resource infrastructures adapted to be more climate change resilient, while national capacities to predict the impact of climate change should be enhanced. National and local capacity strengthened for emergency preparedness and disaster risk management needs to be enhanced, which is also linked to the emergency response to other natural disasters such as those due to trans-boundary animal diseases, their prevention or interventions to minimize their impact.

The country is trying to cope with climate change also through adaptation and mitigation measures to reduce its vulnerability to these modifications in agriculture, forestry, fisheries, water resources, coastal zone and health sectors, while promoting clean and environmentally friendly technologies and interventions, which reduce GHG emissions, making use of clean energy, energy efficient technology and renewable sources of energy, and launching strategies of local adaptation to, and mitigation of, climate change in agriculture and fisheries.

Climate change in Cambodia is mostly due to events that are external to the country but have serious internal repercussions. Nevertheless, the importance of the forest endowment in Cambodia is relevant for the concern related to the consequences of human activity also in Cambodia on the release of GHG emissions. In the case of Cambodia, the emissions are not so much linked to manufacturing activities and urban pollution, as much as to the threat of deforestation. For Cambodia it is estimated that forest loss and forest degradation contribute around 20% of all the CO₂ released, through the carbon released by burning wood or by biological decomposition of forest soil.⁴³ It is also claimed that by drying and conversions of forest swamps, the contribution to the production of methane (CH₄) per unit area may be even a bigger concern, given the more powerful impact that this latter green house gas has as compared with carbon dioxide.

⁴³ See Cambodia's National Forest Programme – Framework Document, July 2009, page 50.

ANNEX V: GOVERNMENT POLICIES AND STRATEGIES IN AGRICULTURE

1. AN OVERVIEW OF DEVELOPMENT POLICIES

The RGC is one of the signatories of the Millennium Declaration launched at the UN General Assembly in 2000, and is committed to pursue the MDGs within its national boundaries. Setting indicators and targets that are appropriate to the country situation, the RGC adopted in 2003 nine Cambodian Millennium Development Goals (GMDGs), which add to the eight MDGs a ninth goal aiming at neutralizing the impact landmines and unexploded ordnances, still widely present in rural areas, assisting the victims of these tragedies. The GMDGs represent the overall goals to be pursued not only by the RGC but also the international community of Development Partners. FAO participates in this overall effort and considers the GMDGs as the starting point in defining its programming strategy in Cambodia.

It is in the pursuit of the GMDGs that the RGC launched, in 2004, the *Rectangular Strategy for Growth, Employment, Equity and Efficiency (RS)*, which represents the most comprehensive reform programme for Cambodia, aimed at tackling long-term problems of poverty and instability in the country. The RS builds on the achievements of previous policies, strategies and plans – such as the *Triangular Strategy (1998-2003)*, the *Cambodia Socio-Economic Development Plan 2001-2005 (SEDP 2)* and the *Cambodia National Poverty Reduction Strategy 2003-2005 (NPRS)*, just to mention a few.

The enhancement of the agricultural sector is the first pillar of the growth process in the RS, being the other three pillars private sector development and employment generation, continued rehabilitation and construction of physical infrastructures, and capacity building and human resource development.

It is on the basis of the strategic orientations of the RS and in the pursuit of the GMDGs that the RGC adopted a National Strategic Development Plan (NSDP) for the period 2006-2010, which committed \$3,500 million in public investment for the support to key sector strategies and plans responding to an overall long-term development vision. More than 60% of planned public investment was allocated to rural areas. The NMTPF 2006-2010 was intended to be the response of FAO to the RS and the NSDP.

Since the launch of the first NMTPF, several circumstances occurred, which required a renewed approach to development policies by the RGC. On 26 September 2008, the RGC launched Phase II of the Rectangular Strategy (RS II), confirming the overall architecture of interlocking rectangles of strategies, policies, priorities and policies suggested in the 2004 RS. RS II builds on the results achieved by the economic policies supported in the RS, such as macro-economic stability, unprecedented economic growth of the economy with low inflation and stable exchange rate, improved agricultural productivity, expanded industrial sector and successful partnerships established with all stakeholders, both national and international.

RS II, however, focuses also on a number of critical issues that require a renewed commitment. These issues regard in particular the following challenges that affect, either directly or indirectly, agriculture performance:

1. The economy continues to be narrowly based around four sectors (garment, tourism, construction and agriculture) and three of them are extremely vulnerable while agriculture has not reached its full potential;
2. Climate change, global economic imbalances and continuing and deepening financial crisis resulting in global economic slowdown, increase in oil price, soaring food price and depreciation of US dollar have brought severe inflationary pressure on the Cambodian economy, further accelerated by the increase in domestic demand;
3. While poverty rate fell from 47% in 1993 to 32% in 2007, rural poverty rate remains high, with a widening gap

- between the rich and the poor, and deep urban and rural inequality;
4. Access to electricity in rural areas is still limited;
 5. The irrigation system has not been fully developed and utilized to its potential;
 6. Shortages of technicians and skilled workers are a major obstacle to accelerating economic development also in rural areas;
 7. Provision of health care services, sanitation and clean water in rural areas has not yet met the targets set in the GMDGs.

The impact of the current global economic downturn on the Cambodian economy has been such that the RCG has decided to revisit the NSDP for 2006-2010. Instead of producing a completely new Plan for the following 5 years, it has been decided to go for a much required extension of the current NSDP, with a shorter duration (three years instead of five), launching urgent measures to respond to the recent external shock and its impact on the economy and the living conditions of the Cambodian population. While this document is drafted, the extended NSDP is still under finalization, in consultation with major external Development Partners (EDPs) and national stakeholders. It is expected that the strategic orientations of RS II will be consistently applied in the extended NSDP, while the quantitative targets established in the NSDP 2006-2010 will be revisited and adjusted to more realistic and achievable levels, taking into account the drastic drop in exports from the garment sector, earnings from tourism, investment plans for construction and job created in non-farming activities.

2. AGRICULTURE IN THE NATIONAL DEVELOPMENT POLICIES

An integrated approach to agriculture

Starting from the recognition that the recent economic growth has been “*narrowly based*”, rendering the economy “*relatively vulnerable to external shocks*”, already anticipated in the RS since 2004, the agriculture sector is addressed in RS and RS II mainly in terms of improvement of productivity and diversification of agriculture, although special attention is also given to reforms regarding land, fisheries and forestry. Such a strategy is based on the recognition of a few fundamental concepts:

- Agriculture and agro-industrial activities have the power to become major contribution to expand the base for economic growth in Cambodia;
- If agriculture benefits from improved productivity and diversification, it can serve as the “dynamic driving force for economic growth and poverty reduction”;
- agricultural growth is a major factor in providing better living conditions for the rural people;
- agricultural growth is a major contributor to ensure nutritional improvement and food security; and
- agricultural growth is potentially a major contributor to the expansion of exports.
- The RGC promotes agricultural development in the context of an integrated approach to rural development and agriculture growth, which takes account of a series of other concomitant factors that need to be verified in order to achieve concrete results in the agriculture sectors. These factors are:
 - improvements in physical infrastructure, particularly through restoration and construction of transport infrastructure (inland, marine and air transport), and especially through the reconstruction of rural roads;
 - better management of water resources and irrigation (high priority is given to the rehabilitation of existing irrigation systems, and construction of new ones, as well as maintenance, and efficient management of irrigation infrastructure, water reservoirs, canals, pipes, drainages, flood and sea protection levies, and water pumping stations to increase irrigated areas and boost agricultural production);
 - development of energy sources to support agricultural production (e.g. through the provision of electricity in rural areas through small-scale generating units).

Moreover, the overall performance of the agriculture sector requires the development of the private sector, creat-

ing the conditions for a more favourable environment for private investment, promoting the expansion of SMEs, which may have a role that complements the expansion of agricultural activities, and stimulating the generation of productive employment opportunities in rural areas, both in farm and off-farm sectors of activity, both through the creation of new jobs and the improvement of working conditions in the existing ones. Complementary to these factors is the establishment of social safety nets for several groups severely affected by the external economic shock. Finally, the RCS recognises that the development of national capacities and promotion of human resources is fundamental for any economic progress in the country, and this also applies to the agriculture sector, and requires the support of a series of fundamental social services, through enhanced quality education, improved health services, fostered gender equity and an appropriate population policy.

Starting on these premises, the promotion of agricultural productivity and diversification in both RS and RS II is conceived mainly through the adoption of an approach based on “deepening” of agriculture, which is achieved by *increasing yields using the existing land through intensification*, and not through the “expansion” of cultivated land through an alternative model, which could be defined as “extensive” agriculture.

In order to achieve these results, RS and RS II recognize that adequate access to productive factors is required, and in particular: (a) access to land (which the RGC stimulates through the implementation of the Law on Land Management, giving high priority to social land concessions, particularly in the rural areas); (b) access to water and irrigation schemes (focusing on the improvement of productivity in existing irrigation systems and the enhancement of water quality for the use by rural communities); (c) access to support services such as agricultural research and rural extension; (d) access to inputs such as seeds, fertilizers, etc.; and (e) access to rural credit. RS II add more specific elements to this strategy, emphasizing the need to intensify efforts on increasing production, employment, rural income, ensure food security, increase agricultural exports, especially finished goods (in particular rice), also thanks to an integrated approach with an improved use of inputs, enhanced agricultural extension, research, improvement of rural infrastructure, especially irrigation network, expansion of rural credit and microfinance, agricultural market development, better organization of farmer communities.

The improvement of agriculture productivity and diversification

The NSDP explicitly addresses the requirements for an intensification of agriculture productivity, stressing the need of focusing on:

- Need to compare productivity in Cambodia with high yielding varieties developed elsewhere (especially in neighbouring countries);
- Need to increase production of rice for export and production of crops with special “niche” value;
- Need to increase production of crops like fruits and vegetables for which Cambodia is currently heavily dependent on imports;
- Development of cropping systems that make the best use of limited water resources and reduce annual fluctuation of production due to natural events; and
- Economies of scale and social dimensions of agricultural land management as they relate to small farm holders, farmers cooperatives, contract farming, large scale land concessions (in terms of productivity, diversification and equity).
- In order to increase productivity in all crops, the NSDP identifies the following lines of action:
- Identification of best crops through soil surveys and other means;
- Pursuit of intensification of cropping, including multiple seasonal crops on the same land;
- Increase of yields by use of better inputs (seeds, fertilizers, proper practices), improved water management, and crop protection; and, at the same time, promote low-input, low-cost methods of production, including System of Rice Intensification (SRI), to avoid over-use of pesticides; and
- Diversification of crops.

RS and RS II single out a number of factors which are crucial to improve productivity and achieve diversification in agriculture:

- the importance of ensuring that the quality of Cambodian agricultural products is improved toward international standards;
- the priority attributed to the agriculture development of border and remote areas to control migration;
- the development of township centres adequately equipped with infrastructure that ensure better livelihoods to the rural population;
- strengthening natural resource conservation, also through links to eco-tourism;
- the continued promotion of the *'one village one-product'* approach, by encouraging modes of production suited to village contexts and market needs;
- support to community-based development of the fisheries sector through the empowerment of local communities that can participate directly, actively and equitably in fishery plans, programmes and management. This is achieved also by supporting fishing communities through technical assistance in order to ensure sustainable management of fishery resources based on higher technical standards, while ensuring proper demarcation of fishing lots;
- promoting aquaculture and assistance to fish farmers (also with contribution of technology, seed, credit and better market access); and
- pursuit of the goal of the Forestry Reform, which is to ensure a sustainable forestry management through a sustainable forest management policy, through the development of a Protected Area System to protect biodiversity and endangered species, and the development of Community Forestry, also in parallel to interventions to address challenges of climate change. High priority is given to the support to forest communities and their expansion and the support to the private sector to establish forest plantations in degraded forest land.

In order to achieve these results, RS II announces, in the context of farming activities, special efforts in the following areas:

- i. Expansion of the system of technical and agricultural extension services, to roll them out to the district level, and establish links with a community level volunteer network;
- ii. Partnership between small land holders and large-scale agricultural farms, between economic and social land concessionaires;
- iii. Encouragement of multi-purpose farms in order to increase productivity in animal husbandry and multi-crops;
- iv. Establishment of an enabling environment to attract private investments (domestic and foreign) and contributions from NGOs to the transfer of know-how to farmers;
- v. Enhancement of the link of farmers to the regional and global agricultural markets;
- vi. Improvements of the quality of agricultural products in conformity with international standards.

3. STRATEGY ON AGRICULTURE AND WATER (SAW)

The NSDP for 2006-2010 asked for the formulation of a national Strategy for Agriculture and Water (SAW) for the period 2006-2010, to be based on the national priorities indicated in the RS and the NSDP. The RGC established a Technical Working Group on Agriculture and Water (TWGAW), under the leadership of MAFF and MOWRAM (the two lead national agencies responsible for the formulation and implementation of this strategy), which was tasked for drafting SAW. SAW focuses on the *'enhancement of the agricultural sector'* and the *'rehabilitation and construction of physical infrastructure'*, which includes *'management of water resources and irrigation'*. Fisheries and forestry are not addressed in SAW, as they are covered by other specific exercises. Similarly, no special attention is given to livestock in SAW, which focuses on crops.

SWOT analysis for agriculture and water

The strategy document starts by recognizing strengths, weaknesses, opportunities and threats in the agriculture sector, before outlining a strategic vision, development goals and key components of the strategy.

Box A5.1: SWOT analysis of the Agriculture and Water Management in SAW

Strengths	Weaknesses
<ol style="list-style-type: none"> 1. Land resources are available 2. Water resources are available 3. Abundant manpower is available in rural areas at low labour cost 4. MAFF and MOWRAM have good human resources potential 5. Policy and/or strategic frameworks are developing for MAFF and MOWRAM 6. Stakeholders are committed to and recognise the importance of the sector (Government, EDPs, NGOs and farmers) 7. Diverse agro-ecosystems are available, with many land-types and cultivars 8. Developing focus on community empowerment and engagement, through inter alia Community Councils, FWUCs and FOs 9. Agri-business is developing 	<ol style="list-style-type: none"> 1. Institutional capacity, management and project implementation by MAFF and MOWRAM are weak 2. Water resources are highly variable in time and space, and agricultural water management technology is poorly developed 3. There is limited investment capacity or interest in investing in agriculture 4. Technology transfer is weak and farmers and extension workers have a low level of knowledge, access to technology, and skills 5. Soil fertility is low in many the areas. 6. Socio-cultural weaknesses include low community solidarity, vulnerability of farmers to landlessness, a cultural focus on subsistence agriculture: "Rice first, fish second" 7. Information asymmetry (inconsistency) among stakeholders 8. The productivity of agricultural labour, land and water is low (resources are used inefficiently) 9. There is weak access to markets 10. Legal instruments for A&W are inadequate.
Opportunities	Threats
<ol style="list-style-type: none"> 1. Improvement of governance, including RGC commitment (the GAP), policy definition and political stability. 2. Market development and integration with the regional and global economy. 3. Strong support from External Development Partners for investment in A&W 4. Science and new technologies 5. More fully exploit natural resources (water and land) that presently are under- or un-utilised 6. Availability of investment funds, including incentives, private funds, and rural credit services 7. Decentralization and de-concentration policy 	<ol style="list-style-type: none"> 1. Market changes, including highly competitive international markets 2. High cost of oil and gas. 3. Political circumstances, including competing demands for RGC funds from other sectors 4. Legal circumstances, including continued failure to enforce laws on land, water, forests etc. 5. Natural disasters 6. Degradation of the environment 7. Failure to implement governance, judicial and other reforms 8. Social and political changes, e.g. social conflict over access to water and land, Labour migration. 9. Decreasing EDP support for A&W

The amount of total investment required for the implementation of SAW is estimated to amount to \$350 million for the five-year period, but it does not cover the requirements of several activities regarding rural infrastructure (e.g., roads) and land management, which are the responsibility of other RGC agencies. Moreover, fisheries, forestry, and livestock are not covered.

The long-term vision “vision” identified in SAW is the following: “to ensure enough, safe and accessible food and water for all people, reduce poverty, and contribute to economic growth (GDP per capita), while ensuring the sustainability of natural resources”. Its overall goal for the strategy is: “to contribute to poverty reduction, food security and economic growth through (a) enhancing agricultural productivity and diversification and (b) improving water resources development and management.”

Components of SAW

There are eight key components in SAW. They are conceived as different steps of a sequential process for the implementation of the Strategy. They are the following:

1. **Ensure favourable pre-conditions** (such as improved governance, strengthened law and order, integration into international trade, promotion of private sector investment);
2. **Strengthen the enabling environment**, including development (and implementation with appropriate mechanisms) of relevant policies, laws and regulations, and development of institutional capacity in MAFF and MOWRAM;
3. **Mobilize natural resources (water, land and soil)**, by improving farm water management (e.g. through water harvesting/storage, gravity-fed irrigation systems, and technology such as drip irrigation of vegetables), promoting soil fertility management, protecting water resources from pollution and degradation in order to be available also for fisheries and ecosystem maintenance, promoting rice-field fisheries and aquaculture, promoting settlements of cultivable land and securing land ownership against land theft;
4. **Mobilize human and financial resources**, including capacity building for RGC officials as well as support to farmers and other members of the rural households, upgrading their skills, their access to credit, inputs (e.g. fertilizer or agricultural machinery), facilities (e.g. pumps), promoting their investment skills (e.g. in rice milling) in agribusiness, through education, training and extension, and development of appropriate technology;
5. **Empower people and communities**, such as Farmer Water User Communities, cooperatives and other organizations to market crops and purchase inputs, by promoting access to *micro-credit and other funding* sources and encouraging *community organizations* (Commune Councils, Village Development Committees, etc., with access to *Commune-Development Funds*);
6. **Apply a River Basin approach to integrated water and land management**, since river basins provide a better basis for managing water resources than administrative boundaries;
7. **Increase productivity of agriculture**, achieving both food security and commercial goals, by improving the quality of inputs such as seeds and fertilizers, reducing harvesting and post-harvest losses and introducing innovative agricultural and water management practices;
8. **Expand commercialized agriculture**, to generate cash income and provide a basis for agri-businesses, by providing information and forecasts regarding market demand, promoting new product opportunities, facilitating the establishment of value-added processing facilities, administering arrangements for product quality assurance and food safety, and facilitating entry into profitable markets, particularly via improved transport and storage facilities, marketing infrastructure, or bulking/wholesaling arrangements.

The sequential nature of this series of strategic component can be described as follows. Component 1 (*Ensure favourable pre-conditions*) is Step 1 of the process, which ensures that preconditions such as good governance, efficiency of the public administration, and opening of new markets, are in place. These pre-conditions are beyond the immediate control of MAFF and MOWRAM. Component 2 (*Strengthen the enabling environment*) is Step 2 of the sequence and focuses on capacity building within the agencies that are more directly responsible for the implementation of SAW (MAFF and MOWRAM). The following phase, Step 3, is the outcome of the interaction

of different components: Component 3 (*Mobilize natural resources*), Component 4 (*Mobilize human and financial resources*), and their integrated pursuit of Component 5 (*Empower people and communities*), applying a *River Basin approach to integrated water and land management* (Component 6). Step 3 is therefore the core of the Strategy. Step 4 is outcome of the previous phase, and is represented by achievement of two key objectives: (a) *to increase agriculture productivity* (Component 7), and (b) *to expand commercialized agriculture* (Component 8).

Five National Programmes

The Strategy is implemented in five National Programmes that aim to achieve corresponding development goals.

Programme 1: Institutional capacity building and management support programme for agriculture and water resources

This programme focuses on capacity building in MAFF and MOWRAM, as lead agencies in agriculture and water resources, in areas such as policy and planning, legal-regulatory and enforcement work, and other institutional and organizational matters, mobilization of human resources, administrative procedures and management systems, information and database management, and coordination with other agencies and stakeholders. This programme is related to development of institutional capacity not only at central level, but also at the provincial, district and commune levels, and is expected to proceed at the same time as the RGC's *Strategic Framework for Decentralization and Deconcentration Reform*. Its purpose is to ensure that both agencies are able to provide efficient, effective and comprehensive support to farmers and the agricultural industry.

Programme 2: Food security support programme

This programme contributes to the achievement of poverty reduction and removal of disparities and reduction in gaps between regions and individuals by focusing on increasing food security and incomes and poverty reduction in rural areas and among those that depend on agricultural and natural resources and related employment. Its immediate goals are to increase and ensure food availability, improve food accessibility (increasing incomes and affordability), and ensure optimal food utilization through health and nutrition education. It pursues four objectives:

1. A more productive and diversified agricultural system, capable of assuring food security and better quality of life to rural communities, especially the poor;
2. Intensified and diversified food production by smallholder farming households, particularly those that are food-insecure, based on their own crop and grazing lands, and access to common property resources of land, fisheries and forests;
3. Empowerment of community groups, particularly of food-insecure households and women, to gain full benefit from governmental assistance programmes and “food-security safety nets” such as rice banks, enabling and training people to interact with elected representatives and governmental agencies, from Commune Councils upwards.
4. Development of policies and information on aspects of food security related to agriculture and water management.

Programme 3: Agricultural and agri-business (value-chain) support programme

In order to increase income, develop and extend markets for agricultural products, and ensure food security for poor, this programme aims at improving agricultural productivity and production, and promoting agri-business, by making effective use of inputs and market opportunities, steadily intensifying and diversifying production. To achieve this goal, the programme will:

1. Provide inputs and services, including financial services and water management services that enable cost-effective, environmentally sustainable and profitable agricultural production.
2. Adopt “best practices” for cropping, animal husbandry, aquaculture and crop water management that achieve cost-effective production, ensure better quality and safety of products, and enhance the productive capacity

and quality of soil and water resources.

3. Facilitate product handling, post-harvest processing, and marketing in order to provide market access, sales opportunities, and off-farm employment for farmers and rural communities, and agri-business opportunities for the private sector and farmer organizations.
4. Develop practices for the quality control and quality assurance of agricultural products that ensure that product quality and safety meet the standards required by the target markets.

Programme 4: Water resources, irrigation management and land programme

This programme aims at increasing the productive use of cultivable lands and associated water resources by increasing efficient and effective use of existing irrigation schemes and enabling and safeguarding access to land, promoting sustainable and pro-poor management of water resources, water management facilities, water-related hazards, and land resources in an integrated river basin context.. It addresses both irrigable and rain-fed croplands, ensuring that soil and water resources are not degraded by over-use and competition. It facilitates cooperation among farming communities, especially with regard to managing community-owned facilities. Its components include:

1. Integrated, river basin-based Water and Land Utilization Planning;
2. Agro-Ecosystems-Analysis-Based Irrigation System Development;
3. Irrigation System Rehabilitation and Development;
4. Participatory Irrigation Management and Development;
5. Participatory On-farm Water and Agricultural Management Training and Extension;
6. Land Allocation and Tenure Programme; and
7. Flood and Drought Preparedness Programme.

Programme 5: Agricultural and water resources research, education and extension programme

The programme has two main purposes: (a) to ensure that RGC officials, farmers, and other agri-business interests have access to, and are equipped to use, the best available knowledge, information and technology related to agriculture, agri-business and water management; and (b) to enhance the capacity of rural communities, commune councils and other community-based organizations to participate effectively in aspects of agriculture, agri-business and water management that require communal action.

Specific objectives of this programme are:

1. development of a sustainable and responsive capacity for research, science and technology, consisting of facilities that are adequately resourced, well managed, co-ordinated, and staffed by sufficient trained and motivated scientists/technologists;
2. establishment of an up-to-date knowledge/information base and technological capacity, based on a cost-effective combination of national research and development, field experience, and information gathered from international sources;
3. development of an effective and comprehensive capacity for educating and training research and technical RGC staff, farmers, and others engaged in agriculture, agri-business and water management, and for transferring appropriate technology to potential beneficiaries;
4. establishment of an effective, nation-wide capacity to empower and train rural communities and commune councils to participate in, and take responsibility for, communal aspects of agriculture, agri-business and water management

The components of this programme are quite varied, and cover – inter alia – crops and water research (including irrigation, crop water requirements, land/soil fertility, land classification and crop zoning), livestock and animal

husbandry research, a river-basin study, agro-industry development potential research, pest control and management research, agricultural engineering and post-harvest technology research, development of agricultural extension policy, farming systems development; participatory training and extension, participatory on-farm water management, development of farmer organizations, development of a farmer training programme in agriculture and water management based on the Farmer Field School model.

4. STRATEGIC FRAMEWORK ON FOOD SECURITY AND NUTRITION (SFFSN)

In 2007, the Council for Agricultural and Rural Development (CARD), in consultation with the Technical Working Group on Food Security and Nutrition (TWG-FSN), prepared the Strategic Framework for Food Security and Nutrition in Cambodia 2008-2012 (SFFSN), which is a reference document on the cross-cutting issue of food security and nutrition. SFFSN has influenced the formulation of Programme 2 of SAW (Food Security Support Programme) just described in the previous section. Its implementation should be harmonized with the Cambodian Nutrition Investment Plan (CNIP 2008-2012) developed by the RGC through the National Council for Nutrition chaired by Minister of Planning.

As in the case of SAW, SFFSN contains a situation analysis, a vision, an overall goal and five objectives. The situation analysis identifies constraints found in agriculture, forestry and fisheries, poverty and lack of household income, maternal health, mother-child caring practices, access to quality health services, and access to domestic clean water and sanitation, as well as instability in food supply due to shocks such as flood, drought and socioeconomic vulnerability, soaring staple food prices and their impact on the poor households, and the social and economic costs of malnutrition, which calls for significant investments to improve the FSN situation and cooperation and efficient coordination mechanisms linking a wide range of ministerial and non-governmental stakeholders. The SFFSN long-term vision is the following:

“All Cambodians have physical and economic access to sufficient, safe, and nutritious food, at all times, to meet their dietary needs and food preferences for an active and healthy life.”

Its overall goal, already incorporated into NSDP and consistent with the CMDGs, reads as follows:

“By 2012, poor and food-insecure Cambodians have substantially improved physical and economic access to sufficient, safe, and nutritious food to meet their dietary needs and food preferences for an active and healthy life.”

The five objectives of SFFSN are the following:

1. *Increased Food Availability.* Food-insecure households should increase food availability from their own agriculture and livestock production and from common property forests and fisheries. In order to pursue this objective, SFFSN should focus on enhancing of productivity and diversification of agriculture, improving management of water resources and irrigation, accelerating fisheries and forestry reforms.
2. *Increased Food Access.* Food-insecure households should increase their food access by increasing household income, by increasing wage employment opportunities, increasing micro-enterprise business opportunities, developing market and transport infrastructure and related services.
3. *Improved Use and Utilisation of Food.* Food-insecure households should improve the use and utilization of their food resulting in reduced malnutrition, morbidity and mortality, particularly among women and children, improving domestic water supply, sanitation and hygiene practices, improving food safety and enhancing food fortification.
4. *Increased Stability of Food Supply.* Improved or new social safety nets for vulnerable groups and enhanced capacities of food insecure households to cope with risks and shocks, including with disaster management safety nets, should increase the stability of their food supply.
5. *Enhanced Institutional and Policy Environment for FSN.* The institutional and policy environment for achieving improved food security and nutrition in Cambodia should be enhanced, by strengthening capacities and improving coordination for FSN, integrating FSN into the decentralised local planning process and improving

FSN-related information management and targeting of FSN interventions.

Since the SFFSN is intended to serve as a holistic cross-cutting frame of reference for the formulation and review of sector strategies, and to guide the design and planning of programmes and projects for improved food security and nutrition, it is here included as an important reference for the formulation of the NMTPF 2011-2015. SFFSN has a major role in the formulation of National Programme No.2 of SAW on food security.

5. CAMBODIA'S NATIONAL FORESTRY PROGRAMME AND THE LAW ON FORESTRY

The strategic orientations of the RGC on the forest sector are based on the Law on Forestry adopted by the National Assembly on 30 July 2002 and ratified by the Senate on 15 August 2002. That law put the basis for the preparation of an Independent Forest Sector Review (IFSR) conducted in 2004, the establishment of a Technical Working Group on Forestry and Environment (TWG F&E) and the formulation of a first Action Plan for Forestry and Environment for the period 2007-2010.

It is on the basis of that experience that the National Forestry Programme (NFP) was launched as a living document. The present revised version of the NFP, issued in 2009, provides the elements of a long-term forest policy in Cambodia for the period 2010-2030. The NFP includes a Strategic Framework, which sets an overall vision and programmatic and policy priorities, a Backward Document, with factual information on the sector, and six Implementation Programmes.

In its vision for the NFP, the RGC "*considers the ecologically, socially and economically viable conservation and management of forest resources as a major pillar of public welfare directly contributing to environmental protection, poverty reduction and socio-economic development*".⁴⁴ The core concept behind the NFP is the pursuit of *sustainable forest management*, which is defined as the "*stewardship and use of forests and forest land in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality and their potential to fulfil, now and in the future, relevant ecological, economic and social functions, at local, national, and global levels, and that does not cause damage to other ecosystems*". (FAO definition reported in the NFP for Cambodia).

The strategic directions for forestry pursued in the NFP are the following:

1. To increase contributions from forests to overall socio-economic development;
2. To become a producer of sustainable high-value timber and associated high-value non-timber forest products; and
3. To become a supplier to the emerging carbon sequestration markets.

The operationalization of the NFP, which covers a time frame of 20 years, takes place through six implementation programmes, which define shorter term (5 years) action plans, linked to the current Action Plan (2007-2010) of the TWG F&E. The NFP implementation programmes regard the following themes:

1. Forest Demarcation, Classification and Registration
2. Forest Resource Management and Conservation
3. Forest Law Enforcement and Governance
4. National Community Forestry
5. Capacity and Research Development (which covers also extension and public awareness)
6. Sustainable Forest Financing.

Cambodia ratified the UN Framework Climate Change Convention (UNFCCC) on 18 December 1995. The Convention entered into force for Cambodia on 17 March 1996, thus making the country eligible under the financial mechanism of the UNFCCC. In 2002 Cambodia provided its Initial Communication to the UNFCCC. The Ministry of Environment is appointed as the Designated National Authority (DNA) for Clean Development Mechanism for the

⁴⁴ See Cambodia's National Forest Programmeme – Framework Document, July 2009.

Kyoto Protocol (CDM) and its projects in Cambodia. Its Cambodia Climate Change Office (CCCO) functions as the secretariat for CDM. Following the UNFCCC Conference of the Parties in Bali in December 2007, several countries suggested the launch of a funding mechanism related to the climate mitigation through reduced deforestation and forest degradation (REDD). NFP is the overall policy mechanism that allows Cambodia to get involved in REDD.

For the purpose of this NMTPF, two NFP implementation programmes are singled out:

1. the **Forest Resource Management and Conservation Programme**, which intends to ensure that future sustainable forest management and conservation of national forests takes place in Cambodia, including through the development of a management system for protected forests, including biodiversity conservation and eco-tourism development, conservation of forest genetic resources and establishment of seed banks for planting programmes; and
2. the **Community Forestry Programme**, based on the principle that communities are best placed to make appropriate decisions regarding natural resource use for their own benefits. Community Forestry (CF) is a concept that was developed since the mid 1990s, on the expectation that CF can significantly contribute to forest protection, enhance productivity and improve living conditions of community members and, at the same time, stabilize watersheds and ecosystems, by piloting initiatives in marketing carbon in Cambodia.

6. NATIONAL FISHERIES SECTOR POLICY

The fisheries sector is of crucial importance for the people of Cambodia. The RGC put the fisheries sector in a prominent position in the RS, as one of the four sides of the “Enhancement of the Agricultural Sector” rectangle, since million of Cambodians depend on fish in terms of food, income and livelihoods. Fish is estimated to contribute three-quarters of the protein intake to more than two million Cambodians.

Overall national goals in this area are the maintenance of sustainability and to ensure regeneration of natural resources (environmental protection of fisheries, conservation of biodiversity, preservation of fish resources), and the establishment of better links between fisheries, on the one hand, and socioeconomic development, good governance and poverty alleviation on the other. In the RGC policy, fisheries is a main contributor to economic development and, at the same time, a major source of livelihoods of fishing communities. The RGC is committed to support the implementation of the inter-governmental conventions related to fisheries such as the “Regional Code of Conduct for Responsible Fisheries”, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the Convention on Bio Diversity (CBD) and the agreement of the Mekong River Commission on water utilization of the Mekong River.

The RGC vision for the fisheries sector is the following: *“Management, conservation, and development of sustainable fisheries resources to contribute to ensuring people’s food security and to socioeconomic development in order to enhance people’s livelihoods and the nation’s prosperity”.*

A specific Law on Fisheries was adopted in 2006, addressing all aspects of the sector: the fisheries administration, the sustainability of fishery management, fishery protection and conservation, the management of mangroves and inundated forests, the management of fishery exploitation, inland and marine fisheries, aquaculture management, fisheries communities, transport and trade of fisheries products, licensing, procedures for solving fisheries offenses and in general law enforcement issues.

Managing and utilizing sustainable fisheries resources are considered essential means to enhance food security and food safety in the country, in the context of poverty alleviation efforts.

The promotion of fishing activities in the Exclusive Economic Zones (EEZ) is encouraged. The RGC is committed to the implementation of the regional code of conduct of responsible fisheries in the international grounds.

The legislation on fisheries and its implementation give a special prominence to the need to support community-based fishing lots, which should be expanded both in inland and coastal regions. Additional efforts are required to

promote aquaculture, in order to respond to the increasing needs for fish for domestic consumption as an important component of food security. The RGC encourages the implementation of the “Regional Code of Conduct for Aquaculture” in the context of the development of different kinds and scales of aquaculture. The RS II indicates its intention to promote aquaculture, providing a package of assistance to fishing farmers, which will include technology, seeds, credit and better access to markets.

As underlined by the NSDP, the fisheries sector is undergoing major reforms towards a poverty-focused approach. The most dynamic component of its production comes from aquaculture. One of the key issues is therefore the allocation of fishing lots to small-scale producers. The recent trend has indeed privileged small-scale fishing, reducing conflicts in the sector. The Rectangular Strategy Phase II counted 509 community fisheries management mechanisms in place, active both in marine and fresh water. Community Fisheries (CFi) were established by Royal Decree on 29 March 2005. The RGC will ensure the proper demarcation of the fishing lots to the benefit of the CFi, will encourage their participation in the preparation of plans and management of natural resource, and will provide them with guidance and training.

The RGC is also taking measures to strengthen national fisheries natural resource conservation, including action against the use of illegal fishing gear and other anarchic activities that undermine conservation efforts, supporting with the same measures CFi.

Measures are taken to enhance fish processing and packaging by encouraging large-scale investment in that area, improving fisheries infrastructure, expanding domestic markets that should benefit small-scale fishermen and CFi. The RGC considers the promotion of measures to ensure quality and safety of fishery products of the utmost importance.

ANNEX VI: AGRICULTURAL SECTOR DONOR MATRIX

DONOR

(Thousand USD)	UN Agencies							Int'l Financial Institutions		European Union and Member Countries							Other Bilaterals				
	SUB-SECTOR	FAO	IFAD	UNDP	WFP	UNEP	ADB	IBRD/ World Bank	Denmark	Finland	France	Spain	UK	EU/EC	Australia	Canada	Japan	New Zealand	Korea	USA	
Agriculture financial services	3.22%						30,165								4,675						
Agriculture inputs	0.58%	200						92								5,930					
Agriculture Sector policy and management	5.25%	142				27,070				3,366		26,112									
Agriculture water & irrigation	32.40%	4,114	53,987		56,892	90,820				17,111		18,336	426	45,544		33,641		29,200			
Cash and Export Crops	1.77%									11,743											
Education, Training	0.69%	2,576						102					567	533		3,328					
Extension Services	2.98%	3,197								365				23,567		5,038					
Fisheries	11.32%	7,108						65,300			1,052				372	9,609	5,040			33,853	
Food Crops	1.81%	65											2,115	16,929				412			
Livestock and Veterinary	2.99%	1,849											8,577	418	3,834	4,811		1,800			
Post harvest	0.24%															2,639					
Forestry	0.83%	350			1,800						249		1,844			4,753					
Food Security, Nutrition	6.38%	16,902				40,080							12,011								
Environment & conservation	5.76%	4,393	8,595		2,500	20,260	7,863			2,954	1,656		440		2,206	12,438	126				
Emergency & Food Aid	7.68%	6,475			75,042	1,500															
Rural development (Policy and administration)	8.21%			43,063		57,030			2,798			26,112						2,800			
Rural development (Water and Sanitation)	6.42%					35,660						20,698		1,989	822	7,785		2,000			
Other	1.48%						340			4,033			2,123		5,148	4,337					
Grand Total	\$1,080,800	\$47,371	\$53,987	\$51,658	\$131,933	\$302,585	\$19,203	\$72,692	\$2,992	\$39,207	\$3,322	\$91,258	\$28,143	\$88,980	\$17,056	\$94,309	\$5,116	\$36,212	\$33,853		
% of the total		4.38%	5.00%	4.78%	12.21%	28.00%	1.78%	6.73%	0.28%	3.63%	0.31%	8.44%	2.60%	8.23%	1.58%	8.73%	0.48%	3.35%	3.13%		

* Value expressed in thousand USD

* Exchange rates used for the conversion of the local donor's currencies in USD as average x-rates between local donor currency and USD over the period 2007-2008

* Projects included in the Matrix covered the period 2007-2009. Projects initiated before 2007 but completed after 2007 are included. Pipeline project for the same period are also included.

