INTRODUCTION

The individual country briefs present the general features of agricultural production systems with particular focus on upland agriculture. The production systems are viewed in their agro-ecological, policy and socio-economic contexts with a focus on the agro-ecological and farming systems framework. The connection between poverty and environmental degradation is accepted as the platform for analysis. The analytical framework for decision-making in search of alternative environmentally, economically and socially sustainable livelihood options is presented in the Regional report; this country report applies that, in a broad sense, to the
situation in Cambodia.

2. UPLAND AGRICULTURE

2.1 Production systems

Upland areas in Cambodia are concentrated in the Northwest of the country. The main tributaries to the Mekong in the Northwest are Srepok, Sesan and Sekong. These rivers contribute 20% of the Mekong water.

Agricultural production is mainly shifting cultivation with rainfed rice production. According to IRRI statistics, there is about 50,000 ha of upland rice in Cambodia (2-4% of total rice area). Swidden agriculture has been the main source of livelihood in the highlands for centuries except for during the Khmer Rouge regime (1970-79), when the highlanders were forced to move to the lowlands and grow rice. In fact, this type of dual system, of having both paddy rice and upland swidden cultivation, is quite common among the ethnic groups that have been in contact with the Khmer or lowland Lao. The present government policies supporting sedentary paddy production have also strengthened this mode of production.

The production systems feature the following: 1) Seasonal Hill Rice Production for family consumption (problems: local variety, low yield, fragile panicle/ grain, poor weed control); 2) Seasonal Production for Adjustment to Local Market (exchange of food for community products, exchange for clothes), 3) Animal raising (feed for spiritual belief, feed for wedding, feed for draft animals. 4) Sale of Non-Timber Forest Products (NTFPs) in the dry season.

2.2 A few examples

In Kratie area, inhabited by 240,000 people, of whom 33,000 belong to ethnic minorities, 90% of the soils are poor and best suited for perennial industrial crops such as rubber. Today 20,000 ha of rubber is grown and the latex exported to Vietnam, Korea and Japan.

Sre Treng area is inhabited by the Phong. Rice production is not sufficient and the people have specialised in NTFPs for their livelihood (resin, honey, rattan, bamboo...). However, the forest resources are also diminishing due to extensive logging. Many concessions were approved 4 years ago and the Phong largely lost their access to the forest. Collection and sale of NTFPs, together with animal production, are also important for the Stieng tribe.

In the hilly area of O'Chum district, swidden agriculture is practised. Forest is cleared for a chumgarr, the area for annual crop production. The area stays productive for 3 years. For every hectare of active swidden land, 4-5 hectares are laid fallow. The main crops are rice, sesame and corn. Crop production is largely used for own consumption and the cash income (65%) comes from NTFPs. The farming systems are becoming more unsustainable: increasingly steeper slopes are cultivated and the fallow period is getting shorter (now 3-4 years, used to be 7-8). Soil fertility declines very quickly: the second year yields are only 50% of the first year’s because of the loss of the fertile soil layer and ash. A field is abandoned after weed problems become so severe that outside labour is required for weeding.

Mondulkiri province covers an area of 14,682 sq. km with 1,1 million ha of forest and 350,000 ha of land for resettlement and agriculture. Mondulkiri is the largest province in Cambodia, but has only 30,000 people, of whom 80% belong to highland people divided into ten ethnic groups. Slash and burn agriculture is practised with yields less than 1 tonne/ha. Rice lasts until February/March after which NTFPs are collected and bartered for food. To improve food production, improved varieties and management practices have good potential. On a regional basis there is potential to develop the 300,000 ha of land close to Sen Monorom. The soils are good and could be planted to rubber, coffee, yucca, cashews, and other fruit trees. However, irrigation systems of different scale need to be improved and access to farming tools, seeds, veterinary services and plantation crop expertise secured.

2.3 Choice of crops

In a recent survey a total of 28 rice varieties were identified for growing in the upland areas. Almost all of these are indigenous, not improved varieties. Due to the small acreage of upland rice there is no upland rice breeding programme in Cambodia. The national programme of the International Rice Research Institute
IRRI has introduced some short, high-yielding varieties, but the farmers prefer tall ones which are competitive against weeds.

The number of other annual crops cultivated is very high, close to 40 species of herbs and spices, legumes, root crops, cucurbits and non-food crops. In planting arrangements several species of different heights are planted in the same field. This makes good use of the land and also maintains better ground cover to reduce soil erosion. As many as 10 to 20 perennial species are grown also (e.g. mango, banana, jack fruit, kapok, pineapple, coconut, papaya, tamarind, guava, lime, pomello, sour orange and betel leaf). Newly introduced species include: cashew nuts, mangosteen, sour sop and coconut. Technical competence in such a variety of crops makes intensification of a diversified system easier. Women do most of the agricultural chores but are less involved with the marketing of the produce due to poor language skills. Increased market economy can lead to increased loss of power by women in these communities if language training is not included in assistance programs.

2.4 Plantation agriculture

There is intense interest in forest and plantation agriculture in the area. For example a concession of 9000 ha has recently been granted for oil palm production. Areas close to Banlung are under pressure for soybean, coffee and cashew nut production. Moreover, much of the province has been allocated to commercial forest concessions (1.4 million ha). As the chumgarrs are not owned by the individual farmers, their forest user rights are threatened by the commercial interests in the area.

There is also some movement of the lowland Khmer to the rural areas to acquire good rice land from the highlanders. These pressures have pushed the highlanders deeper into the forest.

3. Governmental Policies

Cambodia has established an Inter-Ministerial Committee for Ethnic Minorities Development. The Ministries include Ministry of Rural Development (leading); Agriculture, Forestry and Fisheries, Public Works and Transport; Environment; Education, Youth and Sport; Industry, Mines and Energy; Women’s Affairs; Health; Social Affairs, Labour and Veterans, Cambodian Mines Action Centre. On site co-ordination is by Provincial Rural Development Committees (PRDC). The actual projects are implemented by national and international organisations, which presently operate in four provinces (Ratanakiri, Mondulkiri, Kratie, Stung Treng). The taskforce of the committee includes CIDSE, CARERE, AIFC/USA, UNHCR, ILO (Indigenous and Tribal Peoples Project), NTFP.

The IMC has drafted an extensive Highland Policy. The general policy spells out the conditions for the human rights of the highland peoples and their right to their culture, religion and social customs. It also has a section on the rights of the people to their land and forest areas and refers to the stopping of unlawful deforestation. Lastly, this section states that the highland people must be involved in planning and decision-making of matters affecting their areas and lives. The policy then goes on to specify the content for different sectors, environment, land, agriculture, education, health, culture, and infrastructure. These sections of the policy are gender-sensitive, stressing the importance of enabling access and control of resources to women.

4. Land Title Issue

As mentioned earlier there is increasing commercial interest in the upland areas for timber extraction and plantation crops such as rubber, tea, coffee, palm oil and soybean. This has created a situation of competition over the land and ownership has become an issue. There is a conflict between the individual land title policy of the Lands Department and the communal land concept of the communities. In this situation many companies just come and put a sign up displaying ownership. This happens close to Ban Lung especially. Many villagers are now starting to sell their land indirectly for a low price (50-100 USD/ha) because of the fear of losing it in any case. Companies take advantage of the people’s ignorance and get official titles to the land. Legal support is required for the villagers to deal with these businesses.

The official land titling is proceeding through the Lands Department, assisted by Finnmap. The project staff estimates that given the land area and number of staff available, it will take about 10 years for the allocations to be completed. The title allocations have been started in a few pilot sites in the lowlands.
5. Viability of Alternative Production Systems

The MRD and the Cambodia Development Resource Institute (CDRI) made a comparative analysis of the lessons learnt from six development programmes carried out in rural areas. The quickest and most substantial gain was derived from irrigation projects. Paddy yields improved and dry season rice production was possible, thus increasing the surplus to sell. Road infrastructure resulted in better prices and access to markets, but impact was less than from irrigation. The socio-economic fabric of the village led to wealthier farmers with money for inputs to benefit more from the irrigation investments. The yields in wet season rice increased to three tons/ha. Road infrastructure generated benefits through easier access by merchants, lower transport costs and thus more economical interactions with the village and increased income to the farmers.

Loans and credit were a component in many projects. In general they provided more support to the existing livelihood system than to transforming livelihood strategies. Agricultural extension was observed to be very important for farmers changing their production practices, e.g. use of improved varieties and production inputs.

The study also asked the question: how to reach the poor? Three strategies were examined: 1) ‘trickle down’ by assisting the whole community, by 2) targeting the assistance to remote communities and areas and 3) by special projects focussing on the issues of the poor. Overall the first strategy had been the least effective. In most cases the wealthier farmers benefited from the loans, inputs, etc. as they were in a better position to pay for the improvements and to absorb the risk. One has to note though, that the interventions were not of a scale that would transform the economic life in the communities and that the input provision used the existing administrative and power structures, which could be utilised more effectively by the better-off farmers. Targeting the remote areas had more success when combined with infrastructure improvements such as access to roads, wells, irrigation and health facilities. Explicitly targeting the poorest has had variable success. One has to remember, however, that very little has even been attempted and thus experiences are not very extensive yet. A key seems to be to exclusively target the poor and ensure that the project staff and local leadership understand and accept this.

It is important to remember that communities and different community members are in a continuum of development and the impact of an intervention depends on this. Roughly stated, the closer to a transformation the community is, the more facilitation at that transition stage will also benefit the disadvantaged. The more disadvantaged the community is, the more explicit and specialised programmes embedded in horizontal infrastructure improvements are required. In terms of financing, the national government should channel more of its monetary resources through formal channels down to the communities to develop and support agricultural extension, rural credit, road infrastructure, etc.

6. Environment for Community Participation

Many NGOs have been working with the MRD staff to develop the concept of Village Development Committees, VDCs, which are collective decision-making entities in the villages. The experiences have been positive and the MRD has drafted a policy, which has been endorsed as the official policy for village level participation and as a part of the administrative structure of the MRD. The policy is grounded on decentralised planning, people participation and it is area-based and multisectoral. The VDCs have been established in several provinces and have already proven themselves as a strong unit to voice the opinions of the villagers.

In terms of participation in decision making, the Village Development Committees have been found to be effective and have a role in engaging the people. Women have been found to be skilful in leadership, especially in villages where they are the majority in the VDC.

7. Financial profitability/returns to labour of alternative forms of commercial agriculture and subsistence agriculture – case study from Ratanakiri

Forest cover in Cambodia has fallen from 74% in 1970s to 58% today (Rainforest Action Network Report, 1994, The Nation, 1992). There are no systematic studies on the causes of deforestation in the country. Often
the swidden cultivation systems are blamed but this should be examined and compared to the extent of commercial forest exploitations.

Over 85% of the people in Ratanakiri belong to ethnic minorities. Villages are based in locally recognised boundaries, but communities do not have legal rights to the land. There is increasing pressure on the land from forest concessions and also population pressure. Thus, fallow periods have become shorter and fertility of the soils reduced. The study compared the value of forestland used for traditional purposes vs. commercial timber extraction. In short, the study showed that traditional use of forest resources exceeded the benefits of timber extraction by 200 USD/ha. The analysis framework employed a Total Economic Valuation method considering all benefits from the forest area. RRA was used to get information on NTFPs. Also land-use maps were analysed and a forest inventory on a half a hectare area was carried out. NTFPs were classified as: food, medicine, fuel, structural materials, animal products, live animals and ornamentals. Forest products were shown to have a value of circa 4000 USD/ha. If the area were harvested for timber the benefit would be 1700 USD/ha.

The analysis also clearly showed that food crops were mainly utilised for home consumption and cash income was derived from the sales of the NTFPs. This finding is very important in assessing the economic viability of altering land use and production systems. (Related web site: www.idrc.org.sg/eepsea).

8. Strengths and challenges for upland agriculture development in Cambodia

Extreme rural poverty and lack of important social support services (e.g. health, education, roads) are major challenges for the development of the rural sector in Cambodia. The former governments have been reluctant to channel funds to the rural sector. Hopefully this situation can be improved. Regarding environmental degradation, the population pressure in the highlands is not yet alarming. There is potential to intensify the existing land use systems within their own framework in many areas. Land use patterns and land use arrangements should be carefully understood before changes are pursued. While the government presence has been limited in rural areas, the NGO community is quite strong and has long experience with the mountain people.

Following is a short table listing the enabling and disabling factors to be considered in the search for diversified and intensified production systems.

Table 1. Strengths and challenges for rural development in Cambodia

<table>
<thead>
<tr>
<th>STRENGTHS</th>
<th>CHALLENGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diversified crop production</td>
<td>Extreme poverty in rural areas</td>
</tr>
<tr>
<td>Sustainable indigenous farming systems</td>
<td>Poor social services (health, education etc.)</td>
</tr>
<tr>
<td>NTFPs as a source of income</td>
<td>Unclear land tenure system</td>
</tr>
<tr>
<td>Potential to expand plantation crops</td>
<td>Human capacity in agricultural expertise limited</td>
</tr>
<tr>
<td>Fairly good NGO capacity</td>
<td>Limited governmental budget allocation for rural development</td>
</tr>
<tr>
<td>IMC for indigenous people, an administrative framework</td>
<td>Limited control over natural resource utilisation by the communities</td>
</tr>
<tr>
<td>Village Development Committees enable community participation</td>
<td></td>
</tr>
</tbody>
</table>

References:


Rural Development Structure.
