1. 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 agroecological, policy and socio-economic contexts. 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 and the present country report applies that in broad sense to the situation in Vietnam.

2. MACRO-ECONOMIC TRENDS IN AGRICULTURE
Vietnam's economic performance since the economic transition to liberalisation, the *doi moi*, in early 1980s has been dramatic. The GDP has grown by 8-10%/annum, the industrial production by 12-14% and agriculture by 4-5%. The farming community responded very quickly to privatised land-use rights and independence in decision making on inputs and marketing of produce. Food production has increased significantly and in 1989 Vietnam achieved national food self-sufficiency and is now a major exporter of rice and a significant exporter of coffee. To illustrate this in rice production: before reforms Vietnam imported 1 million tons of rice and today she exports 4 million tons worth 1 billion USD. The coffee exports of 390 000 tons generated about 600 million USD in 1998.

Despite the food surplus generated at the national level, there is extensive rural poverty and food insecurity especially in the mountainous areas. The Northern Mountain and the Central Highland regions are experiencing the most serious rice deficits in the country. Estimates of food shortage periods in the highlands vary from 3-4 months to 6 months (Buffet, 1997). Malnutrition among children is as high as 40-45% of children under 5 years of age.

The Government has recognised the protection functions of upland watersheds, because of the goods and services the upland areas provide to the rest of the nation. Presently about 25 million, i.e. one third of the population live in upland areas. The average population density is 60 inhabitants /sq km. Vietnam is a mountainous country as the upland and midland areas cover about 75% of the land area. Of the upland and midland areas 85% are poorly developed lacking infrastructure, health care, education and information on improved technologies. The better off 15% of the upland and midland areas are mainly inhabited by the Kinh settlers (Morrison and Dubois, 1998).

Many economists in the development community call for continued process in finishing the economic reforms to ensure economic growth. While domestic input and produce markets have been liberalised export markets for rice, sugar, seeds and fertilisers still have government restrictions. The IFPRI studies (IFPRI, 1996; Goletti and Minot, 1997) show that if the export quota on rice would be removed exports would rise to 5 million tons and increase national income by 225 million USD increasing demand on livestock and feed thus activating production of those commodities. Import restrictions on hybrid maize seed and fertilisers increase the production cost for the farmer. Liberalisation of rice export and import of inputs would strengthen Vietnam's comparative advantage in rice production. Parallel support to diversification into high value crops like fruits and vegetables would buffer the economy, and importantly to our concern, bring better returns to labour and improve incomes in upland areas.

3. AGROECOLOGY

The climate throughout Vietnam is tropical. Land use types are diversified mainly according to the topographical features of the country. Of the 33 million ha's of land 7 million is used in agricultural production. Vietnam can be divided into seven agroecological regions (Goletti and Minot, 1997).

1. The North Mountain and Midlands (NMM)
   - large, sparsely populated mountainous area
   - largest rice deficit

2. The Red River Delta (RRD)
   - fertile, irrigated region, high population density
   - rice surplus, sold to Hanoi and NMM

3. The North Central Coast (NCC)
   - rice deficit region
   - lowest per capita income of all regions

4. The South Central Coast (SCC)
• rice deficit region
• typhoons

5. The Central Highland (CH)

• sparsely populated, mountainous, rice-deficit area
• production of cash crops, especially coffee grown rapidly

6. The Northeast South (NES)

• urbanised region
• rice deficit area, but economically diversified and has the highest per capita income in the country

7. The Mekong River Delta (MRD)

• fertile, mostly irrigated area
• rice surplus of over 4 million tons
• long growing season, enables 3 crops/a

The study by Goletti and Minot (1997) on marketing of rice in Vietnam made four major conclusions: 1) there is high level of commercialisation and private sector involvement in rice production and marketing, 2) there is underdevelopment and regional unbalance in the private sector presence in the country, 3) marketing information is of local nature, not covering the inter-regional gaps, 4) there are serious credit constraints limiting procurement, storage and investment. These findings are of importance to the mountainous rice deficit areas. The need to cover the rice deficit 2.1 million tons of rice needs to be transported from the surplus areas. The long distance marketing is almost entirely in the hands of SOE and formal market information to support the private sector is very limited.

4. CROPS AND LIVESTOCK

Rice is the backbone of the economy. In 1997 rice production was 27 million tons accounting for 90% of total grain output and 70% of the crop area sown. Maize, sweet potato and cassava are supplementary food crops and fruits and vegetables are increasing in importance. The most important industrial cash crops include coffee, rubber, tea, sugarcane, groundnuts, cotton and cashew nuts. These are mainly grown in the upland areas. Livestock accounts for 20% of the agricultural output. The most important activity is pork production covering 80% of the 1.5 million ton meat production.

Coffee production, especially in the Central Highlands has increased rapidly to 390 000 tons in 1998. The coffee exports were about half the value or rice exports in 1998.

Tea export was 35 000 tons in 1998 valued at 50 million USD. Of the production 62% comes from the northern mountains and 24% form the Central Highlands. Most of the tea is exported to China and Eastern Europe. Production could be increased significantly with improved tea varieties and better crop management and processing facilities.

According to MARD 600 000 to 850 000 ha’s of fruits and vegetables are grown in Vietnam. The exported fruits include: banana, pineapple, mango, litchi, dragon fruit, rambutan, grapefruit, durian, plum, apricot and orange. Post harvest losses are estimated to be 25-30%.

The agro-industrial sector still has major challenges ahead. Only 60% of tea, 40% of sugarcane, 5% of fruits and 1% of meat are processed, while 100% of coffee, rubber and coconut are processed.
5. CHALLENGES TO UPLAND AGRICULTURE

As mentioned earlier 30% of the population lives in the upland and midland areas. Many of these people belong to ethnic minorities. A recent Consultative Group meeting for Vietnam (1998) indicated the need for attention to the following issues in upland development.

Agricultural research and extension on upland production systems needs to be strengthened. The agro-ecological conditions vary as well as the human impact on the environment. Low returns to labour and low productivity reduces the volume of surpluses and thus locks the communities into poverty and reduces the potential to invest in other livelihood options. Security of land-use rights is important, however, the land tenure systems among the different cultural groups vary and the process of land tenure allocation should be sensitive to that and carried out by community participation. A pre-requisite for development is that the essential infrastructures of health, education, credit and markets are secured. The upland communities vary in their agro-ecological, socio-economic and cultural contexts and thus the process of changing livelihood options requires a change in their worldview, which can only happen with community participation in project planning and implementation.

6. TRENDS IN SHIFTING CULTIVATION IN VIETNAM

Like in most areas in the GMB there are two main types of shifting cultivation in Vietnam, pioneer and rotational. The pioneer shifting cultivation, in which a particular area is cultivated as long as the yields are acceptable and the abandoned, is practised mainly by the Hmong living in high mountains. In the rotational shifting cultivation an area is cultivated then left to rest for 10-15 years after which the plot is cultivated again. Rotational shifting cultivation is practised by most other ethnic groups. In addition to these main types there are communities, especially Thai and Muong, practising shifting cultivation to support their livelihood from low-land paddy field. Often these groups are low-landers and not used to shifting cultivation and use practices which cause severe erosion. An in-depth study on shifting cultivation systems by Raintree and Warner (1986) found that a full range from pioneering shifting cultivation to multiple cropping exists in Vietnam in response to population density varying from 5 to 150 persons/sq km. Thus, when seeking for development options the versatility of the shifting cultivation systems needs to be appreciated.

As the population pressure has increased, soil fertility declined and forest rehabilitation required forest land area there has been a shift towards pioneering shifting cultivation during the past 10 years. In some areas when feeling the population pressure the shifting cultivation communities have transferred their rotational shifting cultivation land to the Kinh and moved further into the forests. There has also been mass movement of people from the North to the Central Highlands, which still has relatively good forest cover and continued clearing of forests there. The estimates of the number of people moved and those who moved spontaneously vary from 400 000 to over 1 million. As the population density changed in some areas in the Central Highlands very dramatically subsistence food production has changed to cash economy, whereby income from cash crops, mainly coffee is used to buy rice imported from the Mekong delta.

While the government has started to acknowledge shifting cultivation as a land use system in the uplands MARD continues to promote fixed cultivation under a policy formulated in 1968. Uptonow 500 of the 1500 communes involved have changed to the alternative agriculture systems program of the Department for Resettlement and Development of New Economic Zones, while the rest practice shifting cultivation.

7. EXPERIENCES FROM INTERNATIONAL PROJECTS IN THE HIGHLANDS.

In the following three development projects operating in the uplands are described to illustrate with concrete examples the realities of the upland communities and the experiences gained in assisting these communities. The examples are to provide food for thought for the Phase II planning of the RETA project.

1. EXAMPLE: CIDSE

CIDSE (International Organisation for Co-operation and Solidarity), a Catholic NGO, funded by EU is developing agricultural extension in the mountainous areas in Thai Nguyen province. Most of
the people belong to Hmong or Thai groups. The groups have sedentary holdings and do not practice shifting cultivation. The project support is targeted to the poor farmers. Establishment of hedgerows and terracing is supported by the project. Technical assistance also includes testing of forage species which could be used for both green manuring and as forage. The poor farmers in the project area have lack of land and are thus expanding agricultural production to the slopes. The normal rotation is rice, maize, cassava, but some farmers have introduced grain legumes into their system. One model farm has also introduced pineapple as a cash crop.

There is an inter commune extension agent for every three communes. Project provides low interest loans for small scale irrigation, pig and goat raising and credit for tree seeds and fertilizers. The farmers are very interested in irrigation because it doubles their crop production volume. Animal raising in the remote areas is rather difficult because lack markets. There is better potential in growing new varieties of maize and rice. Rice yield from the local seed is 100 kg/360 sq m, whereas improved varieties give 200-300 kg. Rice sells for 2500D/kg from the farm gate. The project has been on-going for 9 years and it now covers 4 districts. Women do most of the agricultural work in these communities but are seldom members of the Village Development Committees. The project is doing gender training to change this.

The future vision of the project is to pursue an integrated approach including forestry, agriculture, health and education. The development plans will be developed together with the existing VDCs.

(Source: Mr. Phuc, CIDSE, personal communication, 1999)

2. EXAMPLE: Social Forestry Development Project at Song Da.

The program, which operates in two provinces in the North-Eastern corner of Vietnam, is GTZ funded and has been on-going for 12 years. The area encloses the watershed of the Blac river, which is very important source of hydropower for Vietnam and thus watershed management is of national interest. Until 1993 forestry and reforestation were the main focus of the project, but then the project was re-oriented toward more horizontal rural development approach. In the phase the project developed methodology for 1 million ha reforestation through natural regeneration. In agriculture, viable options in the highlands are few and they mainly relate to industrial crops like sugar cane, rubber, coffee and tea. For coffee and silkworm production there is government subsidy available. These crops require high management input and support on the processing end also.

In the village development planning the project provides technical assistance for the former mentioned forestry and agriculture activities and has funds to direct to environmental conservation via ‘debt-swab’ program utilising debts from Vietnam to former Eastern Germany which are now directed to environmental conservation.

The Northern Highlands are a paddy-rice deficit area but are producing quite a bit of maize and some upland rice. In the project area for annual food crops the options are to intensify production through high yielding varieties of rice, maize, beans and peanuts. One interest is to cultivate short-duration rice varieties and try to fit in a winter crop of maize or vegetables in the winter. In soil conservation efforts the project has introduced hedgerows of several species such as Cajanus cajan, Calliandra, and Leucena.

The people are from ethnic minorities, mainly Thai and Hmong. They have representation in the local governments. The communities practice mainly sedentary cultivation, and shifting may only occur within the demarcated village boundaries. There is good access to inputs if demand and purchasing power is there. The first investment is always to paddy. For upland crops there is very little of fertiliser investment because of unreliable rains. The project has also exerted effort to develop the local extension service structure in participating communities. The extension service dealing with individual farmers is only 5 years old in Vietnam: Before the system was based on co-operatives supplying also agricultural extension. The work has a strong training component in it emphasising land-use planning. The coverage of extension at the district level is about 30%.

Land allocation is a much-talked about question in Vietnam and in the project area the official due date for completion is end of 1999. Land allocation can vary from allocating individual plots to demarcating...
village boundaries and the related cost varies from 20 cents to 5 USD/ha. Also the land allocation practices vary from community to community. This should be kept in mind when allocating the land. In general, the change in the mind-set from centrally planned economy to individual decision-making is quite a leap, which needs to be appreciated in development planning.

(Elke Forster, GTZ, personal communication, 1999)

3 EXAMPLE: Mountain Region Development Program, SIDA funded program.

The process of change of this project is interesting and reflects the changes the upland farming communities have undergone during the past 20 years. As the GTZ project the MRDP program started also as a forestry project catering to make plantations to produce raw material for a pulp and paper company. In mid 1980s the project evolved into a social forestry project, and in early 1990s it was reformed to be a province based farm-forestry project. Then the land allocation started and the project responded by changing towards a household based forest management approach with a fruit tree component. Farmers also re-established the home garden system in early 1990s and the project assisted in that. Then also livestock production became a component. Presently the project is based on PRA based planning in villages. One of the aims is to acquaint the extension staff with the new needs of the farmers. As farmer interest into new cropping and livestock production systems expanded the technical scope of the project expanded. A credit facility was introduced in 1993. At that time the project operated at middle elevation with households having 20% in field crops, 45% in the home garden and some land allocated to upland crops (maize, cassava): The villages were located close to the markets.

In 1995-96 the project was rethought again then the MRDP was born and the project moved up to the mountain areas. Now the program has land-use planning, business development, credit and extension components. The program is entirely run by the Vietnamese system and promotes the government policies to an extent. Work in the mountains is much more challenging because of the high variation in land-use. The wealth of the rapid economic growth has reached the mid-elevations but not so much the mountain regions yet. Absence of markets is a serious constraint and especially the state control of the markets. There are differences also in the welfare status of the ethnic groups. The Tay, and Mung have benefited more of the economic growth because they located at mid-elevation. The Hmong and Zhao have benefited less because their communities occupy the hilltops.

The economic response of the mid-elevation communities has also been faster for the reason that their farming systems are more adaptable to the government supported changes to improved cropping systems than the ones in high-elevation. It is important to note, however, that the mountain areas have not been in isolation, but have had economic interactions via forest products and opium for a long time with the lowland areas.

Besides cash crops the production of buffaloes for lowlands has become an attractive activity in the mountains. The trained buffaloes are sold for the lowland rice farmers and some even exported to Laos. This could have a comparative advantage in the hills, but fodder production needs to be improved. Another great entry point for economic development is water. Small irrigation and water-management systems can do a lot for crop production. However, a major problem is that irrigation companies are not interested in such small-scale deals. Fish production is another great source of income for many communities, but there one needs to be careful in terms of community rights to water. In terms of national capacity understanding and development of integrated watershed management needs to strengthened in training of extension workers.

(Edvin Shanks, MRDP, personal communication, 1999).

8. CONCLUSIONS

Vietnam has undergone miraculous economic growth after the liberalisation policies were launched. Much of that growth comes, in addition to paddy rice, from production of upland crops like coffee, tea, fruit trees,
sugarcane and vegetables. There is still potential to expand the production, however, to promote exports product quality and level of processing has to improve. The mid-elevation areas have been able to integrate better to the mainstream economy than the remote highland communities. From development experience it seems that a horizontal, integrated approach is required to assist the remote communities to reach the level to be able to integrate. The experiences from the long term development projects can be very helpful for the Phase II feasibility studies for the present RETA project.

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