VIET NAM
AGRICULTURAL SECTOR PROGRAM

ADB TA 3223-VIE

Phase I Technical Report

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SUMMARY

1. OBJECTIVES AND ORGANIZATION OF THE PHASE I TECHNICAL REPORT

The main objectives of the Phase I Technical Report are to: i) review past performance and current status of the agricultural sector; and ii) review the impact of the Asian Development Bank's Agricultural Sector Program of 1995-98. In addition to these objectives, the report indicates some key constraints and future challenges for accelerating agricultural growth in a sustainable and equitable way. The report will not provide policy recommendations or formulate strategies for the sector, as these are the objectives of Phase II and Phase III of the TA.

This Phase I Technical Report is organized into five chapters

Chapter 1: Introduction
Chapter 2: Past performance and current status
Chapter 3: Constraints
Chapter 4: The future challenges
Chapter 5: The impact of ADB Agricultural Sector Program (1995-98)

Chapter 1 provides a rationale for the TA, presents its objectives, and gives the objectives, methodology, and organization of the Phase I Technical Report.

Chapter 2 reviews the past performance and current status of the agricultural sector. The chapter stresses the achievements obtained during the past 10 years, after Resolution No. 10 recognized the household as an autonomous economic agent thus setting in motion an impressive growth of the agricultural sector. The chapter reviews the achievements in production, market orientation, and poverty reduction. It also highlights the shift of emphasis from agricultural production to rural development.

Chapter 3 discusses the main constraints to accelerate growth in a sustainable and equitable way. It provides a conceptual framework that stresses the agrarian and rural structure of Vietnamese society and the implications for analysis of constraints. Constraints are classified into three groups: short term (5 years), medium term (10 years), and long term (more than 10 years).

Chapter 4 indicates the future challenges for agricultural development in Viet Nam. The chapter gives an overview of several global changes that will affect the performance of agriculture in Viet Nam. Together with the analysis of past performance, current status, and constraints carried out in the previous chapters, it offers the basis for identifying the major issues facing agriculture in Viet Nam.

Chapter 5 provides an assessment of the impact of the Asian Development Bank funded Agricultural Sector Program carried out between 1995 and 1998. It reviews the content of the loan agreement and its impact on policy and agricultural sector. It also evaluates the impact of two technical assistance projects on rice and land that were part of the overall program.

2. PAST PERFORMANCE AND CURRENT STATUS OF THE AGRICULTURAL SECTOR

The dramatic changes in economic organization that Viet Nam has witnessed in the years after doi moi have affected society and the economy deeply. Agriculture has responded positively to the new structure of incentives, policies, and changes in macro environment. Four main summarizing statements describe the past performance and current status of the agricultural sector.

- A growing agricultural sector
- An increasing market orientation
- A remarkable success in poverty reduction
- A new emphasis on rural development

2.1 A growing agricultural sector

Viet Nam's agriculture compares extremely well with the growth performance of most developing countries. With a sustained growth of 4.4 per cent over the period 1990-97, Viet Nam has outperformed the average for low income countries (2.5 per cent) and is second only to China (4.6 per cent). The importance of agriculture in the economy is highlighted by a 24 per cent share in GDP, employment of about 69 per cent of the labor force, and an average contribution of about 40 per cent (including the fishery subsector) to exports in 1998.

Over the period 1990-98, the structure of agriculture subsectors has changed slightly. Crops contribute about 69.3 per cent to agricultural GDP, livestock 14.3 per cent, forestry 4.2 per cent, agricultural services 2.4 per cent, and fishery about 9.8 per cent. Minor changes have occurred in a declining share of forestry and in an increasing share of fishery. Within the crop subsector, however, some diversification has taken place, spurred by the dynamic growth of cash crops such as coffee, rubber, sugarcane, fruits and vegetables, and cashews.

The report analyzes in some detail the performance of several subsectors:

- rice,
- other foods including fruit and vegetables,
- industrial and perennial crops,
- livestock, and
- forestry.

Rice subsector

It is difficult to overstate the importance of rice in the Vietnamese economy. Rice is grown over half of the agricultural land in the country and represents over 60 per cent of the cultivated area. Fully 80 per cent of rural households grow rice and almost half of them produce a surplus for sale. The central role of rice in the Vietnamese diet is highlighted by the fact that 75 per cent of the caloric intake is in the form of rice. Finally, over the past 10 years, Viet Nam has become the second largest rice exporter in the world with 4.5 million tons exported in 1999.

Rice output growth of 4.6 per cent between 1986 and 1998 has been entirely due to increases in cropping intensity and yield. Cropping intensity has increased 50 per cent in the Mekong Delta and 10-20 per cent in other regions. Yield increase accounts for 54 per cent of

the growth in output. Improved incentives resulting from market oriented policies are the main factor explaining growth in production.

Other food crops

In addition to rice, Viet Nam produces various other staple food crops including maize, sweet potatoes, cassava, beans, and fruits and vegetables. All together, these crops account for about 15 per cent of the planted area. Nonetheless, they play an important role in areas less favorable to rice, as well as helping to diversify the diet. The major factor explaining trends in the production of these food crops is the change in demand related to rising income.

Maize production has grown rapidly, due to increasing demand for feed and exports. Sweet potatoes have exhibited stagnant growth due to diversification toward rice and maize. Cassava demand for food is declining while the demand for starch processing is increasing rapidly. In the case of fruits, citrus production has grown rapidly, mostly as the result of area expansion; longan, rambutan, and litchi have also witnessed an impressive growth, while banana production is stagnant.

The collapse of the CMEA disrupted exports of fruits in the 1980s, but income growth in the 1990s has created new opportunities. Exports of fresh and processed fruits are growing but still constrained by quality, packaging, and food safety.

Vegetable production has grown rapidly at 6 per cent per year during the 1990s and is grown on 400 thousand hectares in Viet Nam, more than any crop other than rice and maize. The Red River Delta is the main producing region, followed by the Mekong Delta.

As in fruits, the collapse of the Soviet Union created problems in vegetable exports, but exports resumed after 1991. Growth has been vigorous, but less than other agricultural products, implying a declining share in total exports, which has fallen from about 2 per cent to 1.6 per cent.

Industrial and perennial crops

Planted area to industrial and perennial crops has increased from 13.3 per cent to 17.3 per cent during the 1990s. In terms of area, the most important annual industrial crops are sugarcane, peanuts, and soybeans, while the main multi-year crops are rubber, coffee, coconut, and tea. Coffee is by far the largest export earner among the industrial crops, followed by rubber, cashew, pepper, tea, and peanuts.

Growth of sugarcane production was mostly the result of area expansion, but yields are still low. Sugar production is heavily affected by the Government's target of self-sufficiency. The consequences of sugar policy are mostly negative in economic terms and its costs have been evaluated to be quite high. AFTA agreements will push for a reevaluation of sugar policy.

Declining exports of peanuts are the result of increasing domestic demand for cooking oil and human consumption. In the case of soybeans, there has been a modest growth of production and exports. Tobacco is still heavily dependent on imports. In 1998, 28 thousand tons were imported at a cost of $408 million. An average growth of 12 per cent per year of cotton production has contributed to import substitution.

Rubber production has grown rapidly during the 1990s, averaging almost 17 per cent per year. Rubber importance as an export earner is third in crops, after rice and coffee. Rubber exports are strong, but penalized by competitive pressure of Malayan rubber.

Growth of coffee production has been strong after allocation of land use rights to farmers. Production grew at about 20 per cent per year during the 1990s and was almost totally exported. Production, mostly robusta coffee, is concentrated in the Central Highlands. Smallholding farmers grow 90 per cent of production. Most coffee is exported and contributes about 17 per cent of total agricultural export value. Coffee exports have been little affected by the Asian crisis.

Increasingly, cashews are exported in a processed form, adding value to production. In the case of tea, the subsector was severely affected by the collapse of the Soviet bloc, but has recovered strongly in the 1990s. While domestic demand is growing slowly, exports grew at 9 per cent per year. Most exports are managed by Vinatea, a SOE. Finally, pepper is a minor crop in terms of the area allocated to it. However, because of high unit value, pepper has become the fifth largest agricultural export.

Livestock

Even though livestock contributes about 14 per cent of agricultural GDP, the growing importance of the sector is highlighted by a change in the pattern of demand. Moreover, as the majority of the farming population of Viet Nam raises livestock, the growth of the subsector has implications for poverty reduction. Viet Nam has close to 3 million buffalos, two-third of which are used for animal traction. The buffalo sector is facing the challenge of mechanization and is likely to diminish its importance in the future. There are about 4 million cattle, 40 per cent of which are used for work. Both the herd size and annual offtake have grown slowly at 4-5 per cent per year since 1990. Cattle and buffalo contribute to only 7 per cent of the national meat consumption.

Pigs are the most important source of meat consumption. The sector has grown rapidly with offtakes growing at 7 per cent annually since 1990. There is a large variation in the scale and technology of pig production, still dominated by smallholders and traditional methods. Productivity of pig production appears to have risen: the offtake rate has increased from 59 to 68 kg/head, averaging 1.6 per cent annual growth. Even though the biggest pig population is in the Northern Uplands, the North East South, the Red River Delta, and the Mekong Delta are the most important areas for commercial production, mostly due to their proximity to the two largest urban markets. Slaughterhouses are facing increasing competition from small private operations. Consumption per capita is growing and also growing is the preference for lean meat in urban areas.

In contrast to cattle and pig, poultry stocks have accelerated during the 1990s, even though offtakes have fallen slightly. As with pig, there is a large variation in scale and technology, but poultry production is more evenly distributed across regions. The consumption per capita is still very low and is characterized by the preference for local free-range chicken. Egg production is growing more rapidly than other livestock categories. The rich consume six times more eggs than the poor. Imports from China have recently raised concern and tariffs.

Poorly funded research and extension limits the expansion of the sector, in spite of studies showing the high potential benefits for investment in research and quality control. Meat exports are declining substantially because of lack of competitiveness. Some protectionist tendency is evident in recent policy change (Decree 38/1999/QD-BTC).

Forestry

After decades that reduced the forest cover of Viet Nam from 45 per cent of the territory in 1945 to about 26 per cent in 1994, there is a reversal of trend. In the past 10 years, 1.4 million ha of forest has been planted. Policy guidelines and decisions have recognized the

importance of environmental and social effects of deforestation and new programs have been started to tackle the problem (program 327 and the 5 million ha program).

2.2 An increasing market orientation

There is a good reason why doi moi is the most famous Vietnamese word known to foreigners coming to Viet Nam. Since its announcement at the Sixth Congress of the Communist Party in 1986, doi moi has encouraged the development of the private sector and the market system. Resolution No. 10 of 1988 was the beginning of renovation in agriculture and has produced dramatic results in agriculture. Since then, budget deficit has been reduced, trade has grown, and savings and investment improved. The overall economy has increased between 5 and 10 per cent per annum in the 1990s. The presence of a large agricultural sector is one main explanatory factor of the success of doi moi. The most visible expressions of market orientation in agriculture have affected three main aspects: land, rice and fertilizer, and agricultural trade.

In February 2000 (Resolution 03/2000/NQ-CP), the Government has recognized commercial farms as an important source of growth in rural areas and as a factor in poverty reduction. It is estimated that there are more than 100,000 such farms, characterized by large landholdings, use of permanent hired labor, and integration with markets and agroindustry. The Government provides incentives related to leasing of land, taxes, access to credit, and use of labor. The legal framework defining the farm economy is still to be defined, but the already existing policy framework allows for farms with hundred of hectares on a scale well beyond the typical household farm in Viet Nam.

Land

Since 1988, there have been almost revolutionary changes in land tenure. The key turning point was the Land Law of 1993 that recognized five land use rights and a land price. Efforts toward market orientation were sustained in the 1998 Amendment to the Land Law. An official land market is not yet recognized, but informal transactions take place, indicating a growing market. The allocation of land use certificates has made considerable progress for agricultural land. In 1999, about 10 million households had been issued certificates. For forestland, progress had been slower, with only 10 per cent of total land already allocated.

Rice and fertilizer

Rice and fertilizer are the key output and input in agriculture. Any change taking place in these two subsectors affect the overall sector. Rice exports have moved from central control to a more decentralized system, with minor participation of the private sector. The quality of rice exported has improved: the percentage of 35 per cent broken rice has fallen whereas the 5-10 per cent broken has increased. In 1998, according to MOT 70 per cent of total rice exports were of 5-10 per cent broken type. Domestic trade of rice has been fully liberalized.

Fertilizer is considered a strategic input, which only recently has been considerably liberalized. In the 1980s, SOE controlled the importation and distribution of fertilizer. Production of fertilizer was established in the 1960s with Chinese help. Problems with supply and inefficiency of use were common. Dramatic changes and unstable market characterized the early 1990s. Over-optimism, reselling of quotas, and price fevers were the main problems in the early reform period. In March 1997, the allocation of import quotas was transferred from enterprises to provincial authorities. In December 1999, the quota system was abandoned. Volatile fertilizer prices have benefited Viet Nam during the Asian crisis. Margins between retail and import prices were modest in the 1990s, but have risen recently with a more liberalized system. Urea prices tend to be higher in the North. As a result of strong growth of fertilizer imports, farmers have enjoyed improved access of fertilizer and

have made more effective use of it. However, domestic production is facing enormous difficulties.

Trade

With the exception of rice, all other agricultural products have no quota. However, even in the case of rice, the level of export quota has been substantially increased, implying less implicit tax on farmers. Tariffs and export taxes have been considerably reduced on agricultural products. The result has been a more open economy.

2.3 A remarkable success in poverty reduction

Rural households have participated to the benefits of economic growth, but to a lesser extent than urban households, contributing to a widening income gap between rural and urban areas. Inequality has decreased in rural areas and increased in urban areas. The net effect is a slight increase in inequality. Poverty has declined significantly in the 1990s. It has declined everywhere, but at different rates. Both economic and social indicators show an improvement in poverty reduction.

Poverty in Viet Nam is more common among farmers, households with low education and large families, and minority communities. There is mixed evidence on the relation of poverty and gender. However, there is evidence of geographic concentration, with higher incidence of poverty in mountainous areas. Vulnerability to unexpected events such as natural disasters is a dimension of poverty often neglected in household surveys. Malnutrition among children and mothers remains high.

2.4 A new emphasis on rural development

The linkage between agricultural and rural development is increasingly realized. The Communist Party of Viet Nam has provided guidelines for policy, embedded in Resolution 04/NQ-TW of 1997 and Resolution 06/NQ-TW of 1998. Both these guidelines and the subsequent policies have stressed the need for developing rural society and agriculture, emphasized the restructuring of agricultural production in the direction of a more commercialized system, pushed for acceleration of forestation projects, improvement in rural financial system, and provision of social services to the rural population. A number of policies and programs have been affected by this new emphasis particularly in infrastructure, environment, rural credit, education, health, gender, community development, and cooperatives.

Rural infrastructure

There has been some improvement in rural infrastructure, particularly in the case of irrigation (where 1.4 million ha were added to irrigated areas), and access to rural roads, electricity, and telephone. The improvements, however, have been rather modest, partly because of the past emphasis given on the development of infrastructure of the three (most urban) growth triangles. The new emphasis on rural development is expected to boost investment in rural infrastructure.

Environment

Viet Nam has 11 million farm households attempting to earn a living on just 7.8 million ha of agricultural land. Intensive use of land and cultivation of marginal lands leads to various environmental problems such as deforestation, soil salinization, soil acidification, and natural disasters. There is indication that the Government of Viet Nam is addressing these issues in a serious manner. Agricultural land has increased 13 per cent since 1985 mostly in the

Mekong Delta, Central Highlands and North South East. Forest cover shows recent signs of increase, but "barren land" is 42 per cent of the total. The term is misleading, because a large part of "barren" land consists of cleared forest that is now used for shifting cultivation or livestock grazing.

Uplands are now seen for their natural resource potential and the number of related programs has proliferated. Policy makers have given more attention to the environment in the 1990s, first by creating MOSTE in 1992, then passing the National Law on Environment Protection in 1993, and later with a variety of programs.

The "Regreening the Barren Hills Program" (Program 327) aimed at reforestation based on low-interest credit and payment to households for forest production. The program, however, was poorly planned, thinly spread, costly, and top-down. Nevertheless, it achieved planting of 640 thousand ha of protection forest.

The Five Million Hectare Program succeeds Program 327. It has an ambitious goal of raising the forest cover from 28 per cent in 1998 to 43 per cent in 2020, but faces a number of implementation problems including land use planning, selection of tree species, and cost of forest protection.

In 1997, the Prime Minister issued a decree to ban all natural forest logging. It resulted in a reduction of annual harvested volume rather than its complete elimination. It also led to increasing imports from Cambodia, Laos, and Myanmar.

Population growth

Viet Nam has made moderate progress in reducing population growth. Preliminary results from the 1999 Population Census suggest that Viet Nam has a population of 76 million, representing a 1.7 per cent annual growth rate compared to 2.2 per cent an earlier decade.

Poverty alleviation programs

Two important programs have been approved in 1998, the Hunger Eradication and Poverty Reduction (Decree 133/1998) and the 1715 Poorest Communes (Decree 135/1998). These programs target both households and poor communes in the attempt to reduce poverty and its most severe manifestations, such as hunger.

Rural credit

Rural credit in Viet Nam is dominated by three financial institutions, the Viet Nam Bank for Agriculture and Rural Development (VBARD), People's Credit Funds (PCF), and the Viet Nam Bank for the Poor (VBP), established in 1989, 1993, and 1995, respectively. The legal framework is provided by the Civil Code, approved by the National Assembly in 1995, and the Law on Credit Institutions approved in 1997. The Law on Credit Institutions provides for cheap credit to rural areas and the poor. Even though credit policy has some negative effects on efficiency, financial intermediation in rural areas has improved.

Deposit from customers at VBARD has increased from 42 per cent of loans in 1993 to 65 per cent in 1998, an indication of the bank becoming a more viable financial intermediation agency. The bank has shown an impressive growth of outstanding loans (an annual rate of 69 per cent during the period 1993-98). However, the share of loans to SOEs has also increased from 20 per cent to 31 per cent of the total from 1995 to 1998. The bank reaches about 4 million rural households, representing one third of total rural households. A positive

aspect has been the increasing share of mid-term loans (in 1998 they were 33 per cent of total). However, there is an increasing risk of delayed repayment in the late 1990s.

PCFs has started operations in 1993 and they have witnessed a spectacular growth. From 1995 to 1998 loans have increased at annual rate of 105 per cent. Deposits represent 74 per cent of loans. In 1998, PCFs were serving about 700,000 rural households (about 6 per cent of total). Their interest rate are generally higher than those of VBARD, partly because of the higher costs associated to serving smallhoders. The funds usually provide only short-term credit.

In 1998, VBP had a loan portfolio amounting to Dong 1,200 billion and is providing concessional interest rate loans to about 1.2 million rural households.

Education

Strong commitment by the Government to education has led to dramatic improvement, particularly with respect to enrollment rates in rural areas. The government plans to strengthen minority-area education. Emphasis remains on primary education and literacy.

Community development and participation

There has been an increasing realization that local participation is necessary to rural development. The Decree on Grass-root democracy (Decree 29/1998/ND-CP) has enhanced participation of local communities in discussing issues concerning community development.

Development of cooperatives

The Law on Cooperatives of 1996 created the basis for new voluntary memberships. The Law provided incentives toward the establishment of cooperatives, particularly those related to agricultural activities. Limited capital characterizes most cooperatives, and most of the capital is in fixed assets. In the process of implementation of the Law, the number of cooperatives decreased in the North and increased in the South, while total membership in cooperatives remains greater in the North than in the South. The process of formation of new cooperatives is slow, as most existing cooperatives are transformed from pre-existing forms (the “old” cooperatives) and farmers do not yet see the benefits of participation.

Health

The Government has always given a high priority to health care, but recent reforms have partially privatized health care, limiting access for some segments of the population. Recently, fee exemptions for the poor have been introduced. In 1998, income from patients provided about 13 per cent of the total budget for health care.

Viet Nam’s health status is quite good for its income level as shown by low infant mortality rates and life expectancy similar to countries with five to ten times higher income. The evidence on nutrition status, however, is more mixed. For example a survey of the National Institute of Nutrition found high rates of malnutrition in the Mekong Delta, a surprising result given that this area is the major rice bowl of Viet Nam.

Gender and gender equality

Women are more economically active in agriculture than in other sectors, leading to what some have called the “feminization of agriculture”. Longer working hours in rural areas affect

women more than men. Market orientation in agriculture has given access to more income-earning activities and decision-making by women. Yet, problems remain in implementing gender equality guaranteed by the law in the titling of land user rights, access to bank's credit and to agricultural extension. Through a rich body of policy guidelines and decisions, Viet Nam is at the forefront among developing countries in the implementation of the principles of the Beijing World Conference of 1995.

3. CONSTRAINTS

In spite of remarkable achievements in agricultural and rural development, Viet Nam rural households are still very poor. The improvement of their living standard will depend not only on a continuation of a strong growth of agriculture, bur even more on acceleration of growth of the rural economy. However, there are several constraints to accelerated, balanced, and sustainable growth of the agricultural sector and the rural economy. Discussion of constraints often produces long lists not very useful for policy analysis. It is useful to provide a conceptual framework to classify the constraints. The conceptual framework is based on the realization that Viet Nam is essentially a rural society and likely to remain so in the long run. A large share of the labor force is engaged in agriculture (about 70 per cent) in spite of the declining share of the sector in total GDP. The result is low labor productivity. Low agricultural labor productivity results in rural poverty. Constraints to agricultural growth can then be classified into three groups: short term (less than 5 years), medium term (5 to 10 years), and long term (more than 10 years). The classification is based on what it is perceived Viet Nam can achieve within different time periods.

3.1 Short term constraints

Short term constraints identified in this section include:

- Low investment in agriculture
- Poorly functioning land markets
- Limited access to credit and underdeveloped rural finance
- Lack of focus on post-production systems
- Underdevelopment of agroindustry
- Low investment in agricultural research
- Insufficient agricultural extension
- An underdeveloped seed sector
- Unsustainable irrigation system

Low investment in agriculture

Agriculture contributes only 7 per cent to total investment, in spite of a 24 per cent share in GDP. Of the 7 per cent, most (65 per cent) is contributed by the state budget and SOE, leaving only a small share (35 per cent) that is contributed by the private sector. Low public expenditures in agriculture indicate a fiscal bias against agriculture. The investment is low even when compared to the PIP for 1996-2000. For the years 1997 and 1998, only 12 per cent and 15 per cent of state budget was allocated to agricultural investment versus the initial planned 23 per cent of PIP. Moreover, a large share of the investment (45 per cent) was allocated to SOEs. The bias in favor of SOEs conflicts with efficiency and private sector participation. The new PIP for 2001-2005 might redress some of the past bias against agriculture.

Poorly functioning land markets

The Law does not yet recognize land property and land market. As a productive asset land should have a price determined largely by demand and supply in a market system. However, several constraints limit the emergence of a land market. Land size ceilings appear to retard the process of land consolidation. In fact, households try to evade land ceilings restrictions. As a consequence, official information about land distribution becomes unreliable, because of underestimation of actual large landholdings and landlessness. Land transfers are encumbered by strict regulations. Restrictions on conversion of paddy land limit alternative and more profitable uses of land. Using land as collateral to bank credit is limited by difficulties of banks to auction land.

Limited access to credit and underdeveloped rural finance

In spite of enormous progress in improving access of rural households to credit, only about 50 per cent of rural households are reached by VBARD, PCF, and VBP together. Moreover, the average loans are small ($300-$350) and short term. Controls of interest rate make more difficult the mobilization of savings and the allocation of credit to the most profitable investments. Subsidies to interest rates in programs to help the poor further limit the emergence of commercial banking and the sustainability of rural financial institutions. Preferential treatment of SOEs in credit allocation is based often on non-commercial motives. That induces a crowding out of scarce capital and exclusion of million of rural households and SMEs.

Lack of focus on post-production systems

Little investment has been devoted to post-production systems, in spite of the large contribution to value added. Post-production activities are important for all agricultural products, but particularly for perishable products, which tend to be the most high-value products. There has been some success in postharvest technology development in Viet Nam; however, there is still a lot to do in terms of improving quality for competitiveness of food and agricultural products. Furthermore, organizational problems such as the dependence of postharvest research on SOEs (Vinafood 1, Vinatea, etc.) retard the development of research capacity.

Underdevelopment of agroindustry

Broadly defined, agroindustry units represent about 80 per cent of total rural industry. Public expenditures and total credit is biased toward SOEs in spite of poor performance and low contribution to employment in rural areas. Food processing is a major source of agricultural growth in many developing countries and in Viet Nam the sector is a dynamic one. Contrary to common perception, outdated machinery is not one major constraint in developing the food industry. Flexibility of production and response to changed external environments explain the success of SMEs with lower technology than large ones.

The bias against SMEs in credit allocation has negative effects in terms of income and employment growth of the economy. A broad-based approach to agroindustry development might actually make small and medium enterprises more conducive to growth than large enterprises. The large gap of SME belonging to the corporate sector (limited liability companies and joint-stock companies) is a missed opportunity for Viet Nam.

Low investment in agricultural research

Agricultural research in Viet Nam is characterized by a fragmentation of efforts. More than 30 research institutes exist with small budgets and little coordination. Reorganization of the system is encountering difficulties. There is very low level of budgetary support, even when compared to other countries in the region. Viet Nam spends about 0.08 per cent of agricultural GDP on research, compared to 6 per cent for China, and 10 per cent in Malaysia, Pakistan, and Thailand. Other countries in Asia spend more than 3 per cent. As a result the current budget does not allow tocarry out research adequately.

Major institutional and budgetary reforms are necessary for Viet Nam to realize the potential for agriculture. Most of the budget to research is spent to pay salaries and overhead. That leaves very little for research activities, even though high returns to agricultural research have been known worldwide.

Insufficient agricultural extension

There is a long history of agricultural extension in Viet Nam, but only in 1993 the national agricultural extension service was created. Voluntary extension organizations complement the national system and there is some evidence of successful extension services. However too small a number of extension workers serve a huge farming population. Low budget is devoted to extension and its allocation reflects a preference for fast-growing subsectors.

An underdeveloped seed sector

The formal seed sector provides only a small share of the required seeds for a modern agriculture. The presence of the private sector in the formal seed sector is still very limited. Imports are small in spite of high needs. Lack of enforcement and accepted standards for quality controls hampers improvement of the sector. There are indications of constraints of farmers to access hybrid seeds of maize from foreign companies.

Unsustainable irrigation system

Irrigation absorbs the largest share (55 per cent) of state budget to agriculture, the expenditures of which are 90 per cent capital expenditures. The result of huge losses of Irrigation Management Companies is under-funded O&M, deterioration of the current irrigation system, and a drag on state budget. Water fees are not based on water use and both their level and collection vary from place to place. Poor service delivery sometimes results in the unwillingness of farmers to pay for irrigation fees. Inefficiency results from a fee structure based on irrigation system rather than on use and on paddy yields rather than on cash. Need to consider the experience of water use associations.

3.2 Medium term constraints

Medium term constraints identified in this section are:

- a poorly diversified agricultural system
- low access to social services

A poorly diversified agricultural system

The subsectoral composition of agriculture (crops, livestock, forestry, and fishery) has changed slightly in the past 10 years; however, within crops, the strong growth of some industrial and perennial crops has signaled the emergence of a more diversified system. The emphasis toward agricultural diversification in Viet Nam today echoes similar strategies pursued by other Asian rice economies during the 1970s and 1980s.

A narrow concept of diversification considers mainly the increase of variety of agricultural products produced at the farm level. A broader concept stresses that diversification is a complex process of adaptation involving new crop mixes and animal breeds, technological change, and commercialization in response to a change in the pattern of domestic and export demand. As such, diversification involves the entire rural economy, the development of agroindustry, the improvement in infrastructure and institutions.

Diversification is not an objective, but rather a process that characterized the response to changed market and technological conditions. Why then should policy be involved in diversification? Five main reasons are relevant. First, the success of rice is accompanied by declining real prices and diminished incentives for farmers. Second, the contraction of the agriculture takes place at a more rapid pace than the contraction of agricultural labor, thus making a large surplus of labor available in rural areas. Third, the changed pattern of demand from staples to other foods, both domestically and abroad. Fourth, diversification is seen as a strategy for reducing risk arising from a more open economy. Fifth, diversification might also contribute to ease the pressure on scarce natural resources.

The constraints to diversification are in effect constraints to the development of a modern and flexible rural economy. It will take huge investments, good policies, and time to resolve these constraints.

Low access to social services (education and health)

Poverty is closely linked to lack of education. Poor households have less access to education, partly because they pay a significant share of the total costs. Non-government provision of education is important but the poor must be protected. Access to education is affected by gender and geography. Upland areas are still less well served, in spite of government efforts. Government policy provides for assistance to ethnic minorities, but literacy rates among these households are still low. Attendance is low in remote upland areas. Bi-lingual education may be a promising approach and is being tested by a World Bank/UNICEF project. The government is strengthening the educational system in upland areas and considering to phase out the 120-week curriculum.

In spite of progress in health, serious problems remain. Malnutrition varies widely by regions, being roughly correlated with poverty, but not with rice deficits. Various health problems affect upland families. There are still important questions related to health and nutrition that have not yet an adequate answer. Questions such as: why does the 1988 survey show such low malnutrition? why malnutrition is high in the Mekong Delta?

3.3 Long term constraints

The long term constraints identified in this sections are:

- A low level of infrastructure development
- Management of natural resources under stress

A low level of infrastructure development

A low level of infrastructure development limits the growth opportunity of rural areas. Past national program have focused on the three growth triangles and less on rural areas. Currently there is a reorientation of policies and programs towards rural infrastructure. It will take huge investment and more than a decade to bring rural infrastructure to an adequate level. The magnitude of the investment implies a need to prioritize, participation of the

private sector, and stable macroeconomic environment promoting growth. However, in the short and medium terms there is scope for alternative measures such as better cost recovery mechanisms, improved efficiency of commercial operations, and a clear infrastructure development strategy.

Management of natural resources under stress

Several factors contribute to the degradation of forest areas, including logging, fuelwood demand, shifting cultivation, and expansion of sedentary agriculture. The latter three factors are exacerbated by population growth and in-migration. Logging by state forest enterprises has declined due to changes in policy. Fuelwood demand, particularly in the Northern Uplands, is still a problem. Shifting cultivation has become unsustainable with high population growth. Government programs have attempted to settle slash-and-burn farmers, but these farmers are generally non-nomadic, and some attempts to limit shifting cultivation have not been effective. Expansion of sedentary agriculture also contributes to deforestation, particularly in the Central Highlands.

Deforestation affects water and soil characteristics that increase rainfall runoff and may increase the intensity of local rainfall, both of which could exacerbate flooding. While coastal flooding regularly imposes losses on the order of $50 million per year, the floods in 1999 cost an estimated $250 million in flood damage.

In the lowland, intensification is the main environmental issue. Conversion of Mekong marshland may have been a poor investment, as well as having adverse environmental consequences. Subsidized irrigation schemes deserve closer scrutiny.

High rice yields may not be sustainable due to pest problems and soil degradation. Rice yields continue to grow, but more slowly. The impact of rice on soil conditions needs attention. One study found high yields for a long time, but adverse trends in soil conditions. Aquaculture has contributed to the loss of mangrove habitat, but research shows co-existence is possible. Soil salinization is a problem along the coast, and treatment is difficult in the best case, and impossible if the groundwater is saline. To the extent that dam construction results in enhanced dry-season stream flows, salinity intrusion in coastal areas might be reduced.

The impact of flooding is becoming increasingly severe, leading some to question if they are entirely “natural” disasters. Viet Nam has a long history of disaster management, and donors have assisted in this area, but greater attention needs to be paid to possible links with human activity.

4. THE CHALLENGES AHEAD

There are enormous challenges in pursuing the goal of accelerating agricultural growth in a sustainable and equitable way. The discussion of constraints has already indicated some major issues that a strategy for agricultural and rural development will have to face. Changes in policy, investment, and institutions will have to create the conditions to implement such as a strategy. However, it is important to put the situation of Viet Nam within a global perspective.

4.1 Global trends affecting agriculture

Seven global trends will affect Viet Nam agriculture, as the country tries to pursue its own development strategy. As (i) agriculture contracts in many countries; (ii) urbanization increases; (iii) international trade becomes more liberalized; (iv) the interest in redressing

inequities grows; (v) the concern for the environment is more widespread; (vi) the global agroindustry becomes more concentrated; and (vii) agricultural market structure is increasingly dominated by various forms of vertical integration, Viet Nam will have to compete with many other countries in similar situation. Reflection about these trends will contribute to develop a more suitable strategy for the specific conditions of Viet Nam.

4.2 The key issues

The analysis of global trends together with the review of the current status of agriculture and the discussion of constraints suggests three sets of issues that a strategy for agriculture in Viet Nam will have to consider. These issues are:

- Increase agricultural labor productivity
- Improve management of natural resources
- Integrate agricultural and rural development

4.3 Increase agricultural labor productivity

To increase agricultural labor productivity is related to several issues.

Sustain increase in rice productivity

A consolidation of high rice productivity in key rice basket areas would allow more scope for diversification of agriculture in these and other areas.

Promote broad linkages and market-oriented diversification

Policies to promote diversification should not be based on just "picking the winner" approach, but provide incentives and conditions for broad linkages within the rural economy to take place.

Promote development of SME

SME can contribute to higher income and employment generation in rural areas. In the long term, consolidation of industry might be efficient, but in the short and medium term a broad-based approach including a key role for small and medium enterprises well integrated with household and large enterprises will be more favorable to growth. There is evidence that SME can adapt to the new environment and establish an interface with the global agroindustry.

Develop post-production systems

Post-production systems capture a large part of the value added in agriculture, through reduction of losses, processing in high-value products, expansion of export opportunities, assurance of food safety and quality, and better nutrition.

Better interface between smallholders and global agroindustry

Smallholders and small enterprises are increasingly cut off from the development of global agroindustry. Improving the interface between small and large through innovations such as contractual agreements that include provision of credit and technical support and price incentives for higher quality can benefit the rural economy. Commercial farms can be a vehicle to improve the interface, as well as added incentives to FDI in rural areas.

Develop supporting institutions and the software of development

The software of development (research, extension, market information, cooperatives, business associations) is often neglected even though is as important as the hardware of development (roads, electrification, irrigation, communication, ports).

4.4 Improve the management of natural resources

There is a growing awareness of environmental constraints reflected in policy making, but implementation is still slow. Choices between short term benefits that are often unsustainable and long term costs often result in environmentally destructive practices. There is a poverty of reliable benchmark data on environment making difficult the task of understanding the extent of the problems. Secure property rights make easier the adoption of sustainable practices. Market solutions to externalities associated to natural resource use can be part of the solution. So can zoning, impact assessments, and the enforcement of environmentally-sensitive land use plans.

4.5 Integrate agricultural and rural development

Participation of all stakeholders is key to promote integration of agricultural and rural development. Strengthening of market mechanism and participation of private sector are necessary to promote rural development that will involve better rural infrastructure, well-functioning rural financial system, lower poverty, and better access to social services such as education and health. Effective participation requires incentives related not only to prices, but also to governance, transparency, and accountability.

5. IMPACT OF ADB AGRICULTURAL SECTOR PROGRAM (1995-98)

The Agricultural Sector Program of 1995-98 was the first such program that ADB conducted in Viet Nam. It amounted to about $80 million and its principal objective was to create a favorable environment for sustained growth, increased efficiency of the agricultural sector, including agricultural production, processing and trade, and to promote socioeconomic equity and reduce poverty through improving farmers' access to credit and improving farmers' rights to long-term land use.

The scope of the program included three main areas related to i) market orientation and efficiency; ii) rural financial intermediation; and iii) land tenure. The measures to be implemented under the loan were expressed in 45 commitments under the agreement. The program also included two TAs on rice and land, respectively.

Overall, the program was successful in supporting a process of policy change that would probably have taken a longer time to occur without the support of the Agricultural Sector Program. The time "saved" in the adoption of some policies contributed to higher income growth and poverty alleviation. In the case of the rice sector, the present value of the policy changes over the period 1995-2000 has been estimated to be $220 million. Since the changes in policy have benefited the farming population, the group to which most of the poor belong, poverty has declined, as shown by the recent estimates of the VLSS.

The main achievements related to the decentralization of rice exports, the internal liberalization of rice markets, the impressive growth of rural finance, and the improved process of land allocation. This impact was partly realized over the course of the program, but other changes were implemented over the years immediately after completion of the program. For example the participation of the private sector to rice trade, the elimination of quota in fertilizer, and the recently adopted resolution related to the recognition and promotion of commercial farms.

Even though the impact of the program can be considered successful on market orientation, yet, as seen in the constraints chapter of the Inception Report, problems remain in the participation of private sector, treatment of SOEs vis à vis the private sector, participation of farmers in associations and cooperatives, and financial intermediation. The commitments implied in the area of land tenure have been largely met.

Various problems in implementation related to the short duration of the loan, coordination problems, and capacity of execution agency. Even though the loan was not tied to specific projects, its proceeds were used in sugarcane ($49 million), civil works ($27 million), and forestry development ($ 3 million). The biggest share of the loan (62 per cent) was used in promoting sugarcane and the troubled sugar sector.

Impact of the ADB rice marketing study

The goal of the project was to work with MARD to improve understanding of the impact of recent economic reforms on the rice sector and to examine the impact of alternative rice policy options. The project carried out surveys, gathered secondary data, developed a simulation model and provided training. Dissemination of results was an intensive part of the project.

The findings highlight the role of private traders, the importance of macroeconomic trends, and the impact of the rice export quota. Six main conclusions led to five recommendations for policy. Study findings have contributed to policy debate leading to rice sector reforms.

The export quota has been relaxed since 1996, resulting in smaller margins between domestic and world prices. Private exporters now have a share in total exports, albeit small. Benefits of these policies are estimated at $222 million over five years. If sustained until 2020, the present value of the benefits rises to almost $1 billion. The benefits compare the actual situation with what would have resulted if the previous policies were still in place. Reforms abolished restrictions on internal movements of rice, partly in response to the study's recommendations and the support of the loan. The study also recommended targeted poverty programs rather than using a rice trade policy. Training courses were effective, but continued use of the model is limited.

*Impact of the land administration projec*t

The TA comprised of two components: i) the development of a computerized land information system (LIS) based on primary survey data and secondary data, and ii) review of the existing agricultural taxation system. It also included training activities and study tours of staff of GDLA and MOF to selected Asian countries.

The main conclusions of the study indicate that there are multiple sets of land records with numerous discrepancies. Farmers rarely register land sales, so official records are out-of-date. Temporary land certificates have been used but have not legal basis. Land valuation is carried out by numerous bodies but is not related to market values.

The main recommendations suggest that GDLA should designate one set of books as authoritative, an integrated mapping and land allocation in a computerized system, using modern technology. GDLA must streamline procedures and bring valuation closer to market values. A new agency for land valuation is needed.

In response to the recommendation of the study, GDLA has designated provincial books as authoritative, and accepted integration of mapping and allocation. Computerization of

records is proceeding, and registration has been streamlined, but land valuation has not changed much. The TA was useful to improve methods and accelerated the process of land registration.

CHAPTER 1. INTRODUCTION

Agriculture is the backbone of the Vietnamese economy.

Agriculture is the backbone of the Vietnamese economy. It employs 70 per cent of the labor force, contributes 24 per cent of gross domestic product and generates roughly 30 per cent of export revenue. Viet Nam's agriculture grew at a sustained level of 4.3 per cent per year between 1990 and 1998, as a consequence of market-oriented policies, more clearly defined property rights, and an export-oriented strategy. Growth was marked by impressive increases in the production and export of rice, coffee, and other agricultural commodities, thus ensuring food security and securing valuable foreign currency. Over the same period, per capita income increased more than 6 per cent annually and poverty declined. In spite of these successes, rural incomes are still very low and the rural-urban income gap is rising. With 80 per cent of the population living in rural areas, this situation constrains overall economic growth and risks raising social conflict.

Slow down of the economy in the aftermath of the Asian financial crisis.

Since 1997, the growth of the economy and of exports has slowed markedly. This deceleration is attributed to several factors. The Asian financial crisis led to the depreciation of many regional currencies, giving exports from those countries a competitive advantage over Vietnamese exports. The same crisis has affected investor confidence in the region's economic stability, reducing new foreign direct investment in Viet Nam. Furthermore, there is a perception that Viet Nam has not liberalized its economy as quickly as expected, particularly with regard to the reform of state owned enterprises (SOE).

In the long run, agriculture will diminish its importance in the economy.

In the long run, the relative importance of agriculture in the economy will decline as improvements to farm productivity allow a smaller proportion of the population to provide for the country's agricultural needs. This process of structural transformation is facilitated by investments in the agricultural sector to increase productivity. However, increasing productivity will also require progress in the areas of market development, institution building, governance, and a stable macroeconomic environment.

Need to formulate appropriate strategy for agriculture.

In light of the current slowdown and the long run structural transformation of the economy, it is important to formulate an appropriate strategy for agriculture. Future growth of the sector is closely linked to the overall growth of the economy, not only because of the important share of agriculture in GDP and the labor force, but also because of growth linkages between agriculture and the rest of the economy.

Rationale of the TA.

Several constraints remain to accelerate growth of agriculture in a sustainable and equitable way. The recently completed Asian Development Bank Agricultural Sector Program (1995-98) was successful in supporting the Government's effort at reducing some trade restrictions, assisting the development of rural financial institutions, and supporting the implementation of the Land Law. More work remains. Before moving to a new program, however, it is necessary to analyze the impact of past interventions, the current

status of reforms and plans, the major outstanding issues, and the recommendations needed to address them. Based on this background, the Asian Development Bank has designed a technical assistance (TA) project on Agricultural Sector Program. The TA will take 12 months starting in December 1999. The executing agency is the Department of Agricultural and Rural Development Policy of the Ministry of Agriculture and Rural Development (MARD) and is assisted by a team of international and local consultants under the leadership of an association between ANZDEC, IFPRI, and Lincoln International.

1.1 OBJECTIVES OF THE TA

Three related objectives are:

- **review of policies and programs;**
- **analysis and recommendations;**
- **preparation of strategies.**

The overall objective of the TA is to assist the Government in designing an agricultural program to help establish a competitive market-based and diversified system through policy reforms in several critical areas and subsectors. The specific objectives of the TA are:

- to assess the impact of previous policy changes in the sector and to assess the current status of agricultural strategies and plans;
- to conduct detailed analysis and provide recommendations for future policy and institutional changes; and
- to prepare draft strategies for the sector for the next 5, 10 and 20 years, and a proposal for an agricultural program or sector development program.

1.2 PHASES OF THE TA

Three phases:

Phase 1: reviews of current policies and programs.

Phase 2: analysis and recommendations.

Phase 3: preparation of strategies.

The TA will be implemented in three consecutive phases:

- Phase I (three months) concentrates on two tasks: assessing the impact of recent projects and programs (particularly the ADB Agricultural Sector Program and two ADB technical assistance projects) and reviewing the current status of the agricultural sector, including plans and strategies.
- Phase II (four months) involves more in-depth analysis and diagnosis of the agricultural sector, focusing on constraints associated with policy and public investment.
- Phase III (five months) involves the integration and synthesis of this information to develop medium- and long-term strategic plans for the agricultural sector.

1.3 OBJECTIVES OF THE PHASE I TECHNICAL REPORT

The phase I technical report will review the current status of agriculture and the impact of the ADB Agricultural Sector Program.

The main objectives of the Phase I Technical Report are to: i) review past performance and current status of the agricultural sector; ii) review the impact of the Asian Development Bank's Agricultural Sector Program of 1995-98. The review will also indicate some key constraints and future challenges for accelerating agricultural growth in a sustainable and equitable way. The report will not provide policy recommendations or formulate strategies for

will not provide policy recommendations or formulate strategies for the sector.

1.4 METHODOLOGY

Methodology for Review of Current Status of Agricultural Sector

Various methods to be used.

The approach in this part will be based on a combination of time series analysis, analysis of secondary data available from primary surveys, literature review, and discussion with key informants. The key questions include: How has government policy and public expenditure evolved since 1986 when the policy of doi moi was announced? How have these policies influenced incentives facing farmers, traders, agricultural processors, and consumers? How have these participants responded to the changes in terms of production, consumption, and investment? What are the net effects on income, nutrition, and poverty in the seven ecological regions of the country? In addition, we are interested in institutional changes that may influence the income generating capacity of rural households, particularly the poor, in the future. It is important to note that this analysis should involve gathering and synthesizing a large amount of information from various sources: data on prices, production, and trade; interviews with various stakeholders; and published reports and documents.

Methodology for Impact Assessment

Three steps for impact assessment: projects, incentives, income and poverty.

Assessing the impact of the ADB Agricultural Sector Program, the two ADB technical assistance projects, and related agricultural projects involves three steps:

- The first step is to evaluate the impact of the projects on agricultural policy and public expenditure. This is perhaps the most difficult task because policy changes are affected by numerous factors and isolating the impact of a given project will necessarily rely on the judgement of policymakers and knowledgeable observers of agricultural policy in Viet Nam.
- In the second step, we evaluate the impact of the adopted policies on incentives for agricultural production (e.g. prices, access to credit, availability of inputs, security of land tenure, etc.). This step involves analysis of price data, taking into account exogenous factors such as shifts in world prices. In the case of the Rice Market Monitoring and Policy Options project, we are interested in whether relaxation of the rice quota has reduced the margin between domestic and FOB rice prices, whether internal market liberalization has in fact reduced north-south price margins, and whether private sector has improved access to domestic and international trade.
- The third step is to examine the impact of changes in prices and production on income, poverty, and income distribution. The link between price changes and the distributional impact on households can be made using household survey data. The team already has access to and experience with the 1992-93

Viet Nam Living Standards Survey. The 1997-98 Living Standards Survey should be available for a more updated view of the household impact of reforms.

1.5 ORGANIZATION OF THE PHASE I TECHNICAL REPORT

Chapters

- **1: Introduction**
- **2: Past performance and current status**
- **3: Constraints**
- **4: Future Challenges**
- **5: Impact of ADB Agricultural Sector Program**

This Phase I Technical Report is organized into five chapters, including the introduction (chapter 1). Chapter 2 reviews past performance and current status of the agricultural sector. The chapter stresses the achievements obtained during the past 10 years, after Resolution No. 10 recognized the household as autonomous economic agent thus setting in motion an impressive growth of agricultural sector. The chapter reviews the achievements in production, market orientation, and poverty reduction. It also highlights the shift of emphasis from agricultural production to rural development. Chapter 3 discusses the main constraints to accelerate growth in a sustainable and equitable way. It provides a conceptual framework that stresses the agrarian and rural structure of Vietnamese society and the implications for analysis of constraints. Constraints are classified into three groups: short term (5 years), medium term (10 years), and long term (more than 10 years. Chapter 4 indicates the future challenges for agricultural development in Viet Nam. The chapter gives an overview of several global changes that will affect the performance of agriculture in Viet Nam. Together with the analysis of past performance, current status, and constraints carried out in the previous chapters, it offers the basis for identifying the major issues facing agriculture in Viet Nam. Chapter 5 reviews the Asian Development Bank funded Agricultural Sector Program carried out between 1995 and 1998. It provides an analysis of the loan agreement and the impact on income and poverty of the program, including an analysis of impact of the technical assistance projects on rice and land.

CHAPTER 2. PAST PERFORMANCE AND CURRENT STATUS

Four main achievements in agricultural development over the past decade.

The complexity and rapid change in the agricultural sector of Viet Nam over the past 10 years makes difficult the task of evaluating its performance and current status. As the sector is becoming more diversified, markets more integrated, and the linkages with rural development increasingly recognized, the task of limiting the analysis to production, trade, and prices of crops and livestock subsector risks neglecting important aspects that are crucial to the understanding of the current situation and future opportunities. The TA team has therefore opted for a different approach. Four main summary statements are highlighted that will serve as a guide in the understanding of agricultural sector performance and current status. The four statements are a sort of summary of what the TA team perceives as the main characteristics of past performance and current status of agriculture. Each statement will be clarified and this will in turn lead to a more detailed analysis at the subsector level.

- A growing agricultural sector
- An increasing market orientation
- A remarkable success in poverty reduction
- A new emphasis on rural development

2.1 A GROWING AGRICULTURAL SECTOR

Impressive growth of agriculture during a period of great change.

Any student of agricultural development cannot refrain from being amazed by the performance of Viet Nam over the past decade. The dramatic changes in economic environment that the country has witnessed over this period have affected society and the economy deeply. In particular, agriculture has shown a strong response to the new incentives, policies, and environment. With a sustained growth of 4.4 per cent, Viet Nam compares extremely well with most of developing countries, apart from China (see table 2.1). This growth is even more impressive considering that it has been achieved by millions of smallholding farmers in a country where poverty is widespread and infrastructure is underdeveloped.

Agricultural growth has benefited the poor.

The growth of agriculture has benefited the poor who live mostly in rural areas and are often engaged in farming activities. The growth of rice production has also implied greater food availability and food security, while allowing the remarkable export performance of rice exports. In the span of 10 years, from 1988 to 1998, the country shifted from being a rice importer to the second largest rice exporter in the world with about 4 million tons sold in the world market. Rice, however, has not been the only success story. Other crops have started to grow impressively, most notably some export crops such as coffee, rubber, cashew nuts, and pepper.

Important contribution of agriculture to exports

Agricultural exports have been an important component of total exports. As Viet Nam has opened itself to international trade, exports have provided the link between farmers and international markets. New opportunities offered by international markets have been one main avenue through which agriculture has diversified

resulting in higher commercialization of agriculture and income growth. The share of agricultural exports in total export value has fluctuated around 47 per cent over the period 1990-98, when including fishery (see table 2.2). In the aftermath of the Asian crisis, exports were hit by a reduction of demand from neighboring countries in1997. In 1998 and 1999, there are indications that the agricultural sector has been very dynamic (growth more than 5 per cent) relative to other sectors, and agricultural exports have fared particularly well as some of the Asian economies have recovered. The competitiveness of Viet Nam agriculture in the region has benefited from better exchange rates while the industrial sector has been penalized by reduced demand and competitive pressure of neighboring countries.

Agriculture contributes 24 per cent of total GDP and is the main source of employment in the country.

Agriculture is an important component of the national economy as it contributes about 24 per cent of total gross domestic product (GDP). The growth over the period 1990-99 has been strong (at an annual rate of 4.2 per cent) and has affected all agricultural subsectors (see table 2.3). Even though agriculture's importance in the national economy has declined over time, it is the main source of employment, contributing about 70 per cent to total labor force over the period 1990-98.

Slight diversification of subsectors of agriculture, but more within the crop subsector.

Within agriculture, the structure of its subsectors has changed slightly over the period 1990-98 (see table 2.4). Rice is still the dominant crop, but within crops there is a beginning of a more diversified system, as we will see in later sections. Crops such as coffee, rubber and cashew nuts have grown very rapidly, as the result of a deliberate policy effort. This effort was highly successful, leading to buoyant export growth and improvement in the livelihood of small farmers in the central highlands, earlier one of the country's poorest regions.

The following sections will provide a more detailed view of various agricultural sub-sectors.

2.1.1 Rice subsector

Key role of rice in agriculture, food security and exports.

It is difficult to overstate the importance of rice in the Vietnamese economy. Rice is grown on over half the agricultural land in the country and represents over 60 per cent of the planted area (see table 2.5-2.7). Fully 80 per cent of rural households grow rice and almost half of them produce a surplus for sale. The central role of rice in the Vietnamese diet is highlighted by the fact that 75 per cent of the caloric intake is in the form of rice. Finally, in the past 10 years, Viet Nam has become the second largest rice exporter in the world, with rice contributing 10-12 per cent of the country's export revenue.

Rice production

Rice output growth of 4.6 per cent has been entirely due to increases in rice

Between 1985 and 1998, rice output grew by 74 per cent, representing an average annual growth of 4.6 per cent. Even more impressive is the fact that the rice area has actually declined slightly

increases in rice cropping intensity and yield

(2.3 per cent) over this period (see table 2.5). Rice output growth has been entirely due to increases in rice cropping intensity and yield. As shown in Table 2.8, the rice cropping intensity ratio increased from 1.3 crops per year to 1.7 crops per year, or 2.1 per cent per year. Much of the increase in cropping intensity occurred in the Mekong Delta (see table 2.9). Over 1985-97, rice cropping intensity has increased over 50 per cent in the Mekong Delta and 10-20 per cent in other regions. Improvements in irrigation and drainage in the Mekong Delta have allowed single-rice cropping systems during the rainy season to be converted to double-rice cropping systems, often during the winter-spring and summer-autumn seasons. The areas allocated to low-yielding, single-crop floating rice and deep-water rice have declined dramatically in favor of double- or even triple-rice cropping systems (sub-NIAPP, 1995).

Yield increases account for 54 per cent of the growth of output.

Over the same period, paddy yields have risen from 2.8 to 3.9 mt/ha, or 2.8 per cent per year. For the country as a whole, yield increases account for 54 per cent of the growth in output. The contribution of yield improvements to overall growth varies, however, by region. In the Red River Delta and the North Central Coast, where the cropping intensity is already high (1.8), all of the expansion in output is due to yield increases (see table 2.9). In contrast, yield increases account for less than one third of the paddy expansion in the Mekong and the Southeast. Yield increases are due to improved seed, increased use of fertilizer, investments in water control, and better management.

Improved incentives resulting from market oriented policies are the mainly factor explaining growth in production.

More broadly speaking, the expansion of rice output is the result of improved incentives for Vietnamese farmers. In 1988, Resolution 10 identified the household as the main economic unit for agricultural production, leading to the allocation of collective agricultural land and assets to farm households. Export liberalization and the depreciation of the Vietnamese dong over 1988-1992 created an outlet for surplus rice and prevented the farm-gate price from falling as production expanded. The 1993 Land Law and subsequent distribution of land-use certificates gave farmers some assurance that they would enjoy the benefits of investments in their land.

Further data on production and consumption of rice are provided in tables 2.10 to 2-14.

2.1.2 Other food crop subsectors

Importance of other food for diet and regional diversification.

In addition to rice, Viet Nam produces various other staple food crops including maize, sweet potatoes, cassava, beans, and fruits and vegetables. All together, these crops account for about 15 per cent of the planted area, compared to 63 per cent for rice. Nonetheless, they play an important role in areas less favorable to rice, as well as helping to diversify the diet. Table 2.15 provides trends in non-rice staple foods production and table 2.16 provides similar data for fruits and vegetables.

Major factor explaining trends in food production is demand changes related to rising income.

The main factor driving trends in food production appears to be shifts in consumer demand related to rising incomes (see table 2.17). According to the Vietnamese Living Standards Survey, rural incomes rose about 30 per cent over the period 1993-98, while urban incomes grew 60 per cent. These increases result in a falling share of the budget allocated to food, as well as a change in the composition of food consumption. In particular, we expect households to diversify their diets, consuming more meat, dairy, and vegetables and less of the basic staples. The implications of these shifts are discussed below, with reference to the main food crops other than rice.

Maize

Rapid growth in maize production, due to increasing demand for feed and exports.

Maize is grown on 650 thousand hectares throughout the country, but more than 40 per cent of Viet Nam's maize is grown in the Northern Uplands, particularly in the hilly and mountainous provinces. Other areas of maize production include Dong Nai (Southeast), Dak Lak (Central Highlands), and Thanh Hoa (North Central Coast). Maize is used to supplement rice in the diet, as well as for animal feed and exports (see table 2.18). The demand for maize for human consumption is probably relatively flat, but the demand for maize as animal feed is rising with the demand for meat, particularly pork and chicken. According to Table 2.15, maize production has grown at almost 12 per cent per year since 1990. About half of this growth is due to expansion in maize area, particularly in the Northern Uplands and the Central Highlands. The other half is due to yields, which have increased at close to 6 per cent per year.

Sweet potato

Falling output of sweet potatoes due to diversification toward rice or maize.

Sweet potatoes are produced on about 250 thousand hectares, almost 80 per cent of which are in the north (particularly the North Central Coast). Like maize, sweet potatoes are grown both for human and animal consumption. Unlike maize, however, sweet potato production has declined significantly during the 1990s. Yields are stagnant, while the area allocated to sweet potatoes has declined 2.8 per cent per year over the decade. Two factors help explain the declining production of sweet potatoes. First, as incomes rise, Vietnamese consumers tend to switch from sweet potatoes to other staple foods such as rice or maize. Second, sweet potatoes are more perishable and have a lower value/bulk ratio than maize. This makes sweet potatoes more costly to store and transport for livestock producers, particularly commercial growers.

Cassava

Cassava demand for food is declining while the demand for starch processing is increasing.

The cassava area in Viet Nam is about 230 thousand hectares. Production is roughly equally balanced between the north and the south, with the Northern Uplands and the South Central Coast being the main producers. As in the case of sweet potatoes, cassava output has declined more than 2 per cent per year since

1990. Declining area as well as falling yields has contributed to this trend. Cassava is used for both human consumption, animal feed, and for industrial use such as the manufacture of starch. Recent estimates suggest that about half of cassava output is used as animal feed, 25-30 per cent in starch production, and 20-25 per cent for human consumption (see Goletti and Rich 1998). According to the Viet Nam Living Standards Survey, the demand for cassava for human consumption falls as incomes rise. Although data are not yet readily available, it is suspected that the quantity of cassava used for human consumption has declined over time, while the quantity used in starch production has increased. In addition to starch, also dried chips of cassava are exported (see table 2.19).

Fruits and Vegetables

Fruits is a heterogenous category, so the analysis will focus on few products.

Fruits are a heterogeneous category, including some crops such as bananas that have some of the characteristics of staple foods in the Vietnamese context and others such as citrus that are "luxury" goods whose demand is increasing rapidly. This makes it difficult to generalize about the fruit and vegetable sector. For this reason, we describe only a few of the more important crops in this group (see table 2.16).

Citrus fruit production has grown rapidly, mostly as the result of area expansions.

Citrus fruit (oranges, lemons, and mandarins) are grown on 60-70 thousand hectares, almost two-thirds of which is in the Mekong River Delta. Citrus area has expanded more than three-fold during the 1990s, with most of the growth occurring during the first half of the decade. Since 1995, overall growth has been slower, but almost all of the growth has occurred outside the Mekong Delta. For example, between 1995 and 1998 the citrus area has doubled in the Northern Uplands, Red River Delta, South Central Coast, and Southeast. In contrast, citrus area in the Mekong has been almost constant over this period. Yields have fallen somewhat over the 1990s, but it is difficult to interpret this trend since it may reflect a shift in the composition of citrus production. Citrus production has grown at a remarkable 15 per cent per year, presumably reflecting the diversification of Vietnamese diets.

Longan, rambutan, and litchi has also witnessed an impressive growth.

Similarly, the production of longan, rambutan, and litchi has grown dramatically. Data are not available for 1990, but between 1995 and 1998 area increased from 38 thousand hectares to 93 thousand hectares, resulting in a 78 per cent increase in output. Although two-thirds of the output of these fruits is in the Mekong Delta, output has been growing rapidly in other regions, particularly the Red River Delta and the Northern Uplands. Like citrus, the demand for these fruits has expanded as higher income allows households to consume a more diversified diet.

Banana production stagnant.

In contrast, banana output has grown slowly over the 1990s. Both production and area have increased at a rate of about 1 per cent, less than the population growth. This aggregate figure hides important regional shifts. In the north, output is stagnant in the Red River Delta but has expanded rapidly in the Northern Uplands. In the south, production has fallen in the Southeast but increased in

other southern regions. These trends may reflect rising land values near the two largest cities, resulting in a shift away from bananas toward higher-value crops.

The collapse of CMEA disrupted exports in the 1980s, but liberalization in the 1990s has created new opportunities.

During the 1980s, the Viet Nam Fruit and Vegetable Corporation (Vegetexco) produced a variety of fruits and vegetables on state farms and obtained other supplies from agricultural collectives. Bananas, canned pineapples, and some citrus were exported to the Soviet Union and other members of CMEA as part of government-to-government trade agreements. The collapse of the CMEA disrupted these exports, but the allocation of land to farm household, the development of markets, and the growth of incomes within the country have created new opportunities

Exports of fresh and processed fruits are growing but still constrained by quality, packaging, and food safety.

In 1997, Viet Nam exported about 38 thousand tons of fresh and processed fruit (see table 2.20). The main products are mango, lychee, and longan. Perhaps one quarter of Vietnamese fruit exports are shipped to China, partly because the health, safety, and packaging requirements are less demanding than in other markets. Viet Nam's exports to markets such as Hong Kong, Singapore, and the European Union are constrained by quality, packaging, and food safety issues (FAO, 1988 "Crop diversification and export promotion").

Vegetable production expanded rapidly.

Vegetables are grown on 400 thousand hectares in Viet Nam, more than any other crop other than rice and maize. The Red River Delta is the main producing region, followed by the Mekong Delta. Other important production areas are the Northern Uplands, Ho Chi Minh City, and Lam Dong. Vegetable production has grown by 6 per cent per year since 1990.

As in fruits, vegetable exports were disrupted by the collapse of Soviet Union.

During the 1980s, Viet Nam exported fruits and vegetables to the Soviet Union and eastern Europe. The exports were arranged by government-to-government contracts and executed by the Vegetable Export Company (Vegetexco). Vegetexco obtained the produce through agreements with agricultural cooperatives. The collapse of the Council of Mutual Economic Assistance (CMEA) and the liberalization of exports required drastic adjustment on the part of the fruit and vegetable sector. First, they could no longer count on the Ministry of Agriculture to organize their supplies, but instead had to negotiate with farmers who now had other options. Second, they had to change from merely implementing the agreements reached in government-to-government contracts to actually finding and negotiating contracts with buyers. Third, they had to identify and open new markets, particularly in Asia.

Exports resumed after 1991. Growth has been vigorous, but less than other agricultural products, implying a declining share in total exports.

As a result of these adjustments, exports of fruits and vegetables stagnated in the late 1980s and did not begin to grow again until 1991-92. Since then, growth in fruit and vegetable exports has been rapid. The annual growth in export quantity since 1990 has been close to 6 per cent. As a consequence of the shift from low value exports (bananas and canned pineapples) to higher value products, the value of fruit and vegetable exports has grown even faster, surpassing 15 per cent per year. The growth in total exports,

however, has been even more rapid, so the contribution of fruits and vegetables to total export revenue has fallen from about 2 per cent to 1.6 per cent.

2.1.3 Industrial and perennial crops

Planted area to industrial and perennial crops has increased from 13.3 to 17.3 per cent.

The production of industrial crops has grown significantly during the 1990s. The proportion of planted area allocated to industrial crops has increased from 13.3 to 17.3 per cent. In terms of area, the most important annual industrial crops are sugarcane, peanuts, and soybeans, while the main multi-year industrial crops are rubber, coffee, coconut, and tea (see tables 2.21 and 2.22). Coffee is by far the largest export earner among the industrial crops, followed by rubber, cashew, pepper, tea, and peanuts.

Sugarcane

Growth of production mostly induced by area expansion, with yields still low.

Sugarcane is grown on 283 thousand hectares, more than three-quarters of which are in the south. Production has grown at more than 12 per cent per year since 1990, largely due expansion in cultivated area. Yields of sugarcane in Viet Nam are still relatively low by regional standards. The Vietnamese average yield of 48 tons/ha is significantly lower than the yields of 60-70 tons/ha in India, Philippines, and Thailand.

In year 1998 Viet Nam produced 657 thousand tons of raw sugar and sugar syrup, and 130 thousand tons of raw sugar. Domestic production was supplemented by 130 thousand tons of raw sugar imports and 10 thousand tons of refined sugar imports (see tables 2.23 and 2.24). The conversion ratio from sugarcane to sugar is low by international standards, reflecting the low level of technology that characterizes most sugar processing in Viet Nam.

Sugar production heavily affected by self-sufficiency goal.

The high level of domestic production and relatively small imports (particularly of refined sugar) are mainly the result of government policy to promote sugar self-sufficiency. As part of this policy, farmers are urged to plant sugarcane by local officials and numerous sugar refineries have been built by state enterprises and joint ventures. Furthermore, the importation of refined sugar has been restricted through various means. Under Decree No. 57 of 1998, sugar was placed on the list of commodities whose import is managed administratively by the government.

Consequences of sugar policy are mostly negative.

This policy has had both positive and negative consequences.

- On the positive side, sugar imports have been reduced from US$ 145 million in 1995 to zero in 1999. The expansion in production has created jobs in the refineries, and many farmers now have addition cash income due to the production and sale of sugarcane.
- On the negative side, the promotion of refining capacity and the prospect of import protection has led to a serious problem of excess capacity in sugar refining. In 1998, Vietnamese refineries are forced to import raw sugar at a cost of US$ 32

million for processing into refined sugar. In addition, most of the growth in sugarcane production has been in the north where yields are significantly lower than in the south. For example, the yield in the Northern Uplands is 40 per cent below that of the Mekong Delta. Finally, the import restrictions raise the price of sugar to consumers and sugar-using agro-industrial sectors, particularly the beverage and fruit processing industries. The price of sugar in Viet Nam is equal to US$ 500 per ton, compared to the CIF import value of US$ 350-400 per ton.

The costs of the sugar policy have been quite high.

The net effect is negative, at least in the short run. Goletti and Rich (1998) use a multi-sector agricultural model to simulate the impact of the sugar policy. They estimated that the net cost of the policy (cost to consumers minus the benefits to producers) was about US$ 92 million per year. Indeed, the cost of the policy may be higher today since the import restrictions have been further tightened since their study was published. They also estimate that a 30 per cent increase in sugarcane yields would not be enough to make domestic sugar competitive with imported sugar, nor would a 30 per cent increase in refining efficiency.

AFTA agreements push for a reevaluation of sugar policy.

Since high levels of protection for the sugar industry will not be allowed under the Association of Southeast Asian Nations Free Trade Agreement (AFTA), nor are they likely to be permitted within the World Trade Organization, the goal appears to be to achieve competitiveness and self-sufficiency before these commitments come into force.

Peanuts

Declining exports of peanuts as a result of increasing domestic demand.

The peanut area in Viet Nam is about 270 thousand hectares. Production is concentrated in the Southeast and the North Central Coast. In fact, almost one quarter of national output comes from Tay Ninh province in the Southeast. Peanut output has grown 7.7 per cent annually since 1990, with area expansion and yield improvements contributing equally to the growth. Peanuts are used for human consumption, to make cooking oil, and for export. Exports in recent years have been 80 thousand tons, down from over 110 thousand tons in the mid-1990s. The current value of peanut exports is US$ 40 million, making it a relatively minor agricultural export (see table 2.25).

Soybeans

Modest growth of production and exports in the soybeans sector.

Soybean are planted on about 126 thousand hectares, 60 per cent of which is in the Northern Uplands and Red River Delta. Soybean production has grown 6.3 per cent since 1990, reaching 141 thousand tons. Most of the growth in soybean output is due to higher yields rather than area expansion. In fact, in 1996 and 1997 many farmers became disenchanted with the low prices and withdrew from soybean production. Recently, Viet Nam has been involved with both importing and exporting soybeans. Exports are about 60 thousand tons, a significant share of total output, while

imports are about 10 thousand tons. The value of soybean exports is modest (see table 2.26).

Tobacco

Tobacco production does not satisfy national demand.

In 1998, Viet Nam produced 30 thousand tons of tobacco on roughly 30 thousand hectares of land. Almost half of the planted area is in Dong Nai and Tay Ninh (Southeast) and Lang Son (Northern Uplands). Tobacco production, however, does not satisfy domestic requirements. Viet Nam imports 28 thousand tons at a cost of US$ 408 million dollars (see table 2.27). According to GSO (1997,p.215), Viet Nam imported $97 million of "auxiliary materials for cigarettes" in 1995, while FAO data indicates that the country imports $200-400 million of tabacco products, including cigarettes (FAOstat). Cigarette imports are illegal (CIE, 1999).

Cotton

Rapid expansion of cotton sector contributing to import substitution.

Cotton production has expanded rapidly, though from a small base. Cotton area has increased from 8 to 20 thousand hectares over 1990-98, averaging over 12 per cent growth per year. Yields have increased at a similar rate so that cotton output has expanded almost seven-fold since 1990. Even with this growth, current cotton output of 21 thousand tons represents just one third of domestic requirements. Cotton imports are 40 thousand tons, costing roughly US$ 80 million per year. Cotton imports are higher than in the early 1990s, but still less than the 55-65 thousand tons that were imported during the mid-1980s (see table 2.28).

Rubber

Rubber importance as an export earner is third in crops, after rice and coffee.

Rubber is the third largest agricultural export earner after rice and coffee, and it occupies the largest area among industrial crops. Rubber output has grown rapidly during the 1990, averaging almost 17 per cent per year. This growth is due to increases in producing area (11 per cent annually) and yields (5 per cent). Further growth is likely given the fact that the producing area represents just half of the area planted with rubber trees. Given favorable prices, this area could come into production within a few years. Production in currently concentrated in the Southeast, which accounts for 85 per cent of production. However, production in the Central Highlands will increase significantly when recently planted trees begin to mature.

Rubber exports are strong but penalized by competitive pressure of Malayan rubber.

Almost all rubber is exported (see table 2.29). Rubber exports have grown 12 per cent per year since 1990, while the value of exports has increased 8 per cent per year. In 1998, the world price of rubber dropped sharply as a result of the Asian financial crisis. The depreciation of the Malaysian currency made Malaysian rubber less expensive in dollar terms. This caused the FOB price of Vietnamese rubber to fall about 30 per cent between 1997 and 1998, reaching its lowest level of the past 15 years.

Coffee

Growth of coffee production has been strong after allocation of land use rights to farmers.

Coffee is the second largest agricultural export after rice and the largest by far among industrial crops. It has been grown in Viet Nam since the middle of the 19th century when it was introduced by French missionaries. Production was limited during the war years, but following unification production began to grow, reaching 12 thousand tons in 1980. Production stagnated during the early 1980s due to the lack of incentives for export production. In the late 1980s, the state coffee farms began to allocate plots of land, converting households from cooperative members to renters who were responsible for the production on their plot. Later these farmers were given long-term use rights, further increasing their motivation to invest. The proportion of coffee area under state farm management has fallen from about 75 per cent to 10-20 per cent today. At the same time, the movement toward a market-determined exchange rate created better incentives for exports (see table 2.30).

Coffee output has grown at about 20 per cent per year during the 1990s.

These reforms had a substantial effect on the coffee sector. Producing area grew from 62 to 206 thousand hectares, averaging about 16 per cent per year. Yields have risen as well, though less quickly, so output has grown at over 20 per cent per year. Because almost all output is exported, the quantity and value of exports has also increased at about 20 per cent per year since 1990.

Production concentrated in the Central Highlands and mostly robusta.

Coffee production is concentrated in the Central Highlands (89 per cent) and the Southeast. The province of Dak Lak alone produces 64 per cent of national output. Yields tend to be higher in the main growing areas. For example, the yields in the Central Highlands and Southeast are around 1.9 mt/ha compared to 1.1 mt/ha in other regions. Over 90 per cent of the coffee is robusta, although the government is promoting the expansion of arabica coffee in the Northern Uplands.

90 per cent of production by smallholding farmers.

About 85-90 per cent of the coffee is produced by independent farm households. According to one survey, the average coffee farmer has 0.7 hectares of coffee, implying that there are roughly 300 thousand small-scale coffee growers. At the other extreme are a number of state farms operated by the Viet Nam Coffee Company (Vinacafe), a centrally managed state enterprise and by provincial state enterprises. In some cases, farmers pay a fixed rent for the use of the land and trees. In other cases, the enterprise shares both the costs and the revenue with farm households, in an arrangement that has characteristics similar to both sharecropping and a joint venture.

Most production in the highlands is in the hands of Kinh people.

The coffee boom has significantly raised the average income in Dak Lak and other coffee growing provinces. According to household surveys, per capita expenditure in Dak Lak is not only 60 per cent higher than neighboring Kon Tum and Gia Lai, but it is more than 40 per cent above the national average (GSO, 1999, "Results of the Socio-Economic Survey of Households 1994-1997"). At the same time, it has generated some tensions between the ethnic minorities

that traditionally lived in the region and the migrants who have been attracted to the region. Although government programs attempt to involve ethnic minorities in coffee production, most of the coffee is grown by ethnic Vietnamese (*kinh*) who migrated or were relocated to the region

Coffee contributes to 17 per cent of total agricultural exports.

Because Viet Nam is traditionally a tea-drinking country, domestic demand for coffee is relatively small (see table 2.31). Apparent domestic consumption of green coffee is about 8-10 per cent of annual output. This includes a small amount of green coffee that is processed into soluble (instant) coffee at the Bien Hoa coffee factory in Dong Nai. Since 1990, exports have grown 20 per cent annually, on average, while the coffee export earnings have increased at 26 per cent per year. By 1998, Viet Nam coffee exports reached 382 thousand tons of green coffee, earning US$ 593 million in export revenue. Thus, coffee contributes 6 per cent of Viet Nam's total export revenue and 17 per cent of its agricultural export revenue.

Little effect of the Asian crisis on coffee.

The Asian financial crisis of 1997 had less effect on coffee markets than it did on rubber markets. The reason is that the largest coffee producers, Brazil and Colombia, are outside the region. Nonetheless, world coffee prices are volatile, mainly due to frost-related shortfalls in the Brazilian harvest. For example, the FOB value of Vietnamese coffee exports fell below US$ 800 in 1992 and 1993, only to rise above US$ 2500 in 1995.

Cashew

Increasingly, cashews are exported in a processed form, adding value to production.

Cashews are the fourth largest agricultural export after rice, coffee, and rubber. There are about 200 thousand hectares of cashew trees in Viet Nam, 72 per cent of which have producing trees. Production is concentrated in the Southeast, with two provinces (Dong Nai and Binh Phuoc) accounting for about half of national output. Planted area and cashew output have increased at more than 10 per cent per year since 1990. Export statistics from the GSO indicate that 1998 cashew exports were about 25 thousand tons, roughly equal to the quantity exported in 1990, yet much higher in value because most were exported in processed form (see table 2.32).

Tea

Tea was severely affected by the collapse of the Soviet bloc, but has recovered strongly in the 1990s.

Before *doi moi*, black tea was produced on state farms and processed for export to the east bloc nations, while green tea was grown for domestic consumption. The tea industry faced a difficult adjustment at the end of the 1980s with the collapse of the Council of Mutual Economic Assistance (CMEA), but tea production has been revived in the 1990s by restructuring and better incentives for exporters. The transformation of the tea industry includes the development of a smallholder grower sector, the opening of new markets, and the entrance of private tea exporters. Tea is grown on 79 thousand hectares in Viet Nam, 64 thousand of which are producing. Over 60 per cent of tea area is in the Northern Uplands,

while Lam Dong province accounts for another 21 per cent. Since 1990, output has increased at 6 per cent per year, mostly as a result of increased area.

While domestic demand is rising slowly, export grow at 9 per cent.

Domestic consumption of tea (almost exclusively green tea) accounts for one third of tea output. Apparent domestic consumption is rising slowly. This is consistent with survey data that suggest that tea consumption does not increase as income rises. In fact, the richest 20 per cent of Vietnamese households consume less tea than average. Tea exports (almost exclusively black tea) represent about two-thirds. Exports have expanded rapidly, about 9 per cent per year since 1990, so the share of tea output destined for export has risen from about half in 1990 to 63 per cent in 1998 (see table 2.33).

Most exports are managed by VINATEA, a SOE.

The Viet Nam Tea Company (Vinatea), a centrally-managed state enterprise, accounts for more than half of annual exports. Vinatea uses government-to-government agreements to export tea to Iraq, the United Kingdom, Russia, and other countries. Provincial tea companies and other state enterprises also export tea. Private companies have only recently begun to export tea, but the volumes are still small.

Pepper

Because of its high unit value pepper has become the fifth largest agricultural export.

Pepper is a minor crop in terms of the area allocated to it. Less than 12 thousand hectares are planted with pepper, yielding less than 14 thousand tons. As a result of rapid growth in output (almost 6 per cent per year since 1990) and its high unit value (US$ 500 to 2000 per ton), pepper has become the fifth largest agricultural export (excluding seafood). According to FAO data, pepper earned over US$ 60 million in export revenue in 1997 and 1998 (see table 2.34).

2.1.4 Livestock subsector

The importance of the livestock is highlighted by a change in the pattern of demand and the implications for poverty reduction.

Livestock production accounts for about 14 per cent of the agricultural GDP. Thus, livestock output is about one fifth that of crop production in Viet Nam. Changes in the livestock sector are driven largely by three trends: income, technology, and trade.

- As households become richer, they diversify their diets away from staple foods and toward animal products and other "luxury" foods (see table 2.35). Since per capita gross domestic product has grown at more than 6 per cent per year since 1990, this provides a powerful stimulus to livestock production.
- As demand for animal products increases and the urban population grows, the livestock sector is likely to shift toward larger-scale commercial livestock production
- In the past, imports and exports have played a relatively minor role in the livestock sector. As livestock production becomes more commercialized, the role of trade in either feed markets or

animal product markets is likely to grow.

The livestock is an important source of income for Vietnamese farmers, particularly those in upland areas where poverty rates are highest. Thus, the development of the livestock sector has important implications for poverty reduction. In this section, we briefly review the patterns and trends in livestock production and marketing, as well as the demand for animal products. Given the unique characteristics of each type of livestock, it is convenient to organize the discussion by animal type.

Buffalo

Buffalo herds are falling in the deltas due to mechanization, but rising elsewhere.

Viet Nam has close to 3.0 million buffalo, two-thirds of which are work buffalo. Overall, the number of buffalo has grown 3.7 per cent annually since 1990 (see table 2.36). This figure, however, hides some important regional differences. In the Mekong Delta, the number of buffaloes has declined by more than 60 per cent over 1990-98, falling from 243 thousand head to 90 thousand head. This trend is due to mechanization, as tractors (generally small two-wheeled tractors) replace animal traction in rice production. The number of buffalo in the Red River Delta increased between 1990 and 1995, but has fallen over 20 per cent since then. This is consistent with the fact that mechanization in the Red River Delta is proceeding, but has lagged behind that of the Mekong River Delta due to the smaller farms and lower purchasing power in this region. Apart from the Southeast, where the buffalo herd size has not changed appreciably, the other regions show significant growth. In the Northern Uplands, for example, the number of buffaloes has expanded at 7 per cent annually. A majority (57 per cent) of the Vietnamese buffalo herd is found in the Northern Uplands, many of which are used in animal traction in the Red River Delta during the planting seasons. The North Central Coast has another 23 per cent of the national herd (see table 2.37).

Cattle

Slow growth of cattle, contributing to only 7 per cent of the meat consumption.

There are about 4.0 million cattle in Viet Nam, 40 per cent of which are used for work. Both the herd and the annual offtake (measured in liveweight) have grown at 5-6 per cent per year since 1990. Most of this growth, however, took place in the first half of the decade; since 1995, the annual growth rate of the herd size has slowed to 3 per cent. One measure of productivity is the offtake rate, defined as the annual production (measured by the liveweight of slaughtered animals) per head in the herd[1]. Cattle production shows essentially no change in the offtake rate over the decade. About half of the national herd is in the North and South Central Coast, the Northern

[1] The offtake rate is a measure of both the time it takes to raise the animal and the weight that it achieves in that time. A high offtake rate implies more rapid slaughter and a higher slaughter weight. Regional offtake rates may, however, be distorted by the shipment of animals from one region to another for slaughter. Generally, this effect will increase the apparent offtake rate in urban areas, particularly the Red River Delta and the Southeast.

Uplands contributing another 19 per cent. The cattle are raised in the upland areas of these regions where the climate, forage supply, and low (human) population density favor livestock production. Red meat (mainly from cattle and buffalo) represents just 7 per cent of the meat consumption in the Vietnamese diet.

Pigs

Pork is the most important animal products for Vietnamese consumers. The sector has grown rapidly.

Pigs are the most important source of meat for Vietnamese consumers. Smith (1999) estimates that 77 per cent of the meat production in the country is in the form of pork. The national pig herd is 18 million head and has grown at 5 per cent per year since 1990. Offtake (measured in liveweight) has grown closer to 7 per cent annually. As in the case of cattle, though, the growth rate was faster in the first half of the decade (5.9 per cent) than over 1995-98 (3.5 per cent).

Large variation in the scale and technology of pig production.

The scale and technology used in pig production varies enormously. At one extreme, pig production in the more isolated upland areas takes place on a small scale, with a household typically raising one or two pigs at a time. These are slaughtered and sold locally to generate cash income. Farmers near major urban areas may be involved in medium-scale production in which they grow 10-30 pigs for sale to traders that bring the pigs to the city. Large-scale commercial production of pigs represents a small but growing share of the market. Large growers are more common in the south and typically target urban consumers and export markets.

Productivity in swine production appears to have risen.

Productivity in swine production appears to have risen: the offtake rate has increased from 59 to 68 kg/head, averaging 1.6 per cent annual growth. This trend is due to improved breeds, better feeds, and investment in slaughtering facilities. The offtake rate varies, however, among regions. It is highest (above 80 kg/head) in the Mekong, the Southeast, and the Red River Delta, where production is carried out on a larger scale by commercial operations in order to supply the urban markets. The rate is lower (less than 60 kg/head) in the other regions, where production is more often a "backyard" operation for own or local consumption.

Pig herd concentrated in the Northern Upland and the two deltas.

The two most important areas in terms of pig herd are the Northern Uplands and the Red River Delta, which together account for almost half of the national herd (see table 2.38). The Mekong Delta has 14 per cent of the pig herd. Production in the two deltas, however, is higher due to their higher availability of quality feed (particularly rice by-products) and the proximity to the two largest cities.

Large state slaughterhouses facing increasing competition from small private operations.

The slaughtering industry is marked by a dichotomy between large, relatively modern state-run slaughter-houses and small private operations that often do not meet minimal health and safety standards. The state-run abbatoirs are often not commercially viable. On the one hand, they cannot compete with smaller private slaughterhouses for the domestic market due to their high

overhead. On the other hand, their health and safety standards are not high enough to satisfy most export markets. As a result, many of the provincial slaughterhouses, built before *doi moi,* have closed. (Goletti and Rich, 1998)

Consumption per capita is growing.

Data from the 1993 Viet Nam Living Standards Survey suggest that per capita consumption of pork is 6.5 kg/person. Estimates of apparent consumption suggest that pork consumption is rising at about 5 per cent per year. In addition to changes in the quantity of pork consumption, consumers in the high-income markets are beginning to show a preference for lean pork (Goletti and Rich, 1998).

Poultry

Poultry stocks have grown in the 1990s.

Poultry is the second most important source of meat, representing 16 per cent of the total. There are 168 million fowl in Viet Nam, up from 98 million in 1990. This implies an average annual growth rate of 6.8 per cent. In contrast to the cattle and pig herds, the number of fowl has grown steadily throughout the 1990s, even accelerating somewhat since 1995. Productivity, as measured by the offtake rate, has not increased and may have fallen slightly. Productivity is highest in the Southeast, where large-scale commercial producers grow thousands of animals for the Ho Chi Minh City market. The offtake in this region is 2.1 kg/head, compared to 0.8-1.7 in the other regions.

Large variation in scale and technology.

The scale and technology used in poultry production varies widely. Perhaps 85 per cent of the output is grown by individual households. On average, agricultural households own 10-20 free-range chickens and occasionally sell one or slaughter it for home consumption. In the semi-industrial production system, a specialized grower has 50-200 birds and provides them with some kind of enclosure and feed. Often the chickens are crosses between local and "industrial" breeds. Industrial poultry production involves flocks of 200-1,000 fowl, providing them with shelter and industrial feed. Industrial producers may be specialized in producing breeding chicks or broiler chicks. Generally, industrial poultry farms are owned by state enterprises or joint ventures. In addition, some international companies contract farmers to grow chickens, providing them with feed, chicks, and supplies on credit with marketing agreement. Industrial poultry production is found outside the major cities, particularly Ho Chi Minh City (Nguyen Huu Tinh and Le Thanh Hai, 1999).

More evenly distribution of poultry production than other livestock.

The regional patterns of poultry production is more evenly distributed than the other livestock types. About 46 per cent of the poultry are in the Northern Uplands and Red River Delta, while 32 per cent are in the Mekong and Southeast. One important difference is that the poultry in the north is almost exclusively chicken, while production in the south includes a large number of ducks.

Low consumption per capita and preference for local free-range chicken.

According to the 1993 Viet Nam Living Standards Survey, per capita demand for poultry products (mainly chicken and duck) was 2.8 kg per person. Apparent consumption estimates show annual growth rates of approximately 5 per cent. Vietnamese consumers also show a marked preference for free-range chickens over industrial chickens. In local markets, the former sell at a 20 per cent premium relative to industrial chickens (Goletti and Rich, 1998).

Egg production growing more rapidly than other livestock categories. The rich consume six times more than the poor.

Egg production has increased 7.4 per cent per year since 1990. This growth was achieved primarily by increasing the number of fowl rather than any increase in productivity. The rate of growth is higher than that of any of the other livestock categories. This is consistent with the consumption data from the 1998 Viet Nam Living Standards Survey which indicates that egg consumption rises more strongly with income than meat or dairy consumption. Egg consumption is six times higher in the richest quintile compared to the poorest. By comparison, the corresponding ratio for meat is 4 and for seafood it is 2.

Imports from China raised concern and tariffs.

In the first quarter of 1999, there was a large influx of eggs from China, lowering domestic prices. The government responded by raising the duty on imported eggs from 10 to 20 per cent (Decree 38/1999/QD-BTC).

Role of the state

Poorly funded research and extension and excessive role of the state in commercial activities.

Although household farms and private companies dominate livestock production, the state plays a significant role in certain aspects of the livestock sector. These include livestock research and extension, animal health services, feed mills, slaughterhouses, and trading companies. The functions of livestock research and extension are carried out by numerous state-funded institutes, although they suffer from under-funding, lack of coordination and focus, and insufficient accountability to the livestock producers who are the end-users of the research. The state's role in commercial activities such as feed mills, processing facilities, and slaughterhouses has been criticized for slowing down the development of the sector (Smith, 1999). Although the government is in principle committed to the privatization or equitization of many state-owned commerical enterprises, the process has been slowed by resistance from enterprise officials, concerns about unemployment, and the complexity of the process.

International trade

Meat exports declining substantially because of lack of competitiveness.

Meat exports, consisting primarily of pig carcasses, have declined substantially over the 1990s, falling from 16-20 thousand tons in the early 1990 to just 6 thousand tons in 1998. Problems facing meat exports include unsanitary slaughter facilities, disease problems, and the lack of veterinary protocol agreements with importing countries. In addition, the cost of production in Viet Nam is generally higher than world market prices (Smith, 1999).

Some protectionist tendency evident in recent policy decisions.

In March 1999, Viet Nam announced a revision of import duties on agricultural goods (Decree No. 38/1999/QD-BTC). The duties were increased on chilled and preserved meat, chilled fish, cheese, and eggs. This decree was a reflection of the government's attempt to address trade deficit concerns by restricting the import of consumer goods. A protectionist motive is likely as well, particularly regarding egg imports, as mentioned earlier. On the other hand, the same decree increased the duty on some animal feed ingredients, against the interests of commercial livestock producers (Smith, 1999).

High potential benefits for investment in research and quality control.

The potential benefits of investment in research and quality control to promote exports were illustrated by simulations carried out by Goletti and Rich (1998). Using a multimarket model of the livestock sector, they obtained the following results.

- A 30 per cent increase in livestock productivity would result in significant meat exports and an increase in national income of over US$ 250 million. Two of the poorest regions in Viet Nam, the Northern Uplands and North Central Coast, would be important beneficiaries. Increased demand for feed would reduce maize exports and eliminate small cassava exports.
- If the discount on Vietnamese meat exports (due to low quality) could be reduced 30 per cent by improving processing facilities to meet international standards, the results would be similar to those described above but smaller, raising national income US$ 25 million.

2.1.5 Forestry subsector

Reversal of trend in deforestation

After decades that reduced the forest cover of Viet Nam from 45 per cent of the territory in 1945 to about 26 per cent in 1994, there is a reversal of trend. In the past 10 years, 1.4 million ha of forest has been planted. The main use of forest is for productive purposes. In the case of natural forest and planted forest, 58 per cent and 72 per cent of total area, respectively, are devoted to productive use. However, the importance of protected forest, both in natural and planted forest areas, is increasing (see table 2.39). Natural forest has started to regenerate, particularly due to the presence of protected forest. Between 1995 and 1997, almost all of the half a million hectare increase natural forest was due to protected forest (see table 2.39). For planted forest, the main use is for productive use. Policy guidelines and decisions have recognized the importance of environmental and social effects of deforestation and new programs have been started to tackle the problem (later sections will elaborate more on program 327 and the 5 million ha program).

2.2 AN INCREASING MARKET ORIENTATION

Doi moi, the most famous Vietnamese words known to the outside world.

There is a good reason why doi moi is the most famous Vietnamese word that most foreigners come to learn upon coming to Viet Nam or just reading about the country. In December 1986, the Sixth Congress of the Viet Nam Communist Party announced a new set of policy goals under the name *doi moi* (renovation). The

government affirmed its intention to encourage the development of the private sector; to give greater priority to agriculture, exports, and consumer goods; to reduce inflation by correcting the budget deficits; and to promote international trade. In the 14 years since then, Viet Nam has embarked on an ambitious reform program that changed the structure of the economy and the economy system from one that was centrally planned toward a market orientation. The process has proceeded with numerous obstacles, occasional reversals, and various degrees of speed. However, the overall response of the economy, and particularly of household farmers has been positive and represented a major success for the country. Whether or not Viet Nam will be able to continue along this path depends on several structural and policy constraints that will be examined in the next chapter. In this section, the emphasis will be in understanding the key features of this new market orientation.

Resolution 10 is the beginning mark of renovation in agriculture.

Specific policy changes to achieve the 6th Party Congress goals in agriculture, were not enacted until 1988-1989. On April 5, 1988, the Politburo issued Resolution 10 which recognized the farm household as the basic unit of agricultural production. Farmers were allowed to buy, own, and sell agricultural inputs such as machines, buffaloes, and tools. Cooperative land was assigned to farming households for 10-15 years under different forms of contracts or bidding[2]. Furthermore, farmers were allowed to market 40 per cent of contracted output. Later, compulsory government purchase of farm products was eliminated.

Dramatic positive results in agriculture after doi moi.

The results were dramatic: food production per capita increased from 307 kg of paddy equivalent in 1988 to over 414 kg in paddy equivalent in 1998. Agricultural output has increased 5.1 per cent annually since 1988. The improved incentives resulted in higher yields and more intensive cultivation. In 1989, a new set of reforms were introduced which eliminated direct subsidies and price controls, tightened government spending, legalized trading in gold, set interest rates positive in real terms, unified and devalued the foreign exchange rate, and liberalized international trade (Plummer, 1995; Irwin, 1995; and Doanh and McCarty, 1995).

Reduction of number of staff employed by SOE.

The government forced state-owned enterprises to improve efficiency by exposing them to greater market competition and cutting their subsidies and access to low-interest credit. After a wave of closures and mergers, the number of state-owned enterprises declined from 12 thousand to 6.5 thousand over 1988-1994. Over the same period, employment in state-owned enterprises fell from 2.7 million to 1.7 million. The result, however, was that the state-owned enterprise sector has changed from being a large drain on government resources to a net contributor to the government budget (IMF, 1995: 16-19).

[2] Individual property rights were further strengthened by the Seventh Party Congress in 1993 which approved Resolution 5, allowing farmers to exchange, transfer, lease, inherit, and mortgage land.

Indication of increasing equitization of SOEs in late 1990s.

Even though the process of restructuring and equitization of SOEs has been slow over the past 10 years, there are some indications that for the SOEs under MARD this process may be accelerating in the late 1990s. According to MARD sources, 50 SOEs were equitized in 1999 and other 50s are considered for equitisation in year 2000. Table 2.40 shows some indicators of the process of equitization for year 1999. The most important case in this year was the equitisation of the Lam Son Sugar Company.

Budget deficit has been reduced, trade has grown, saving and investment improved. The all economy has grown between 5 and 10 per cent in the 1990s.

The reduction in state-owned enterprise subsidies combined with revenues from new oil discoveries allowed the government to cut the fiscal deficit and reduce monetary expansion. Inflation fell below 20 per cent in 1992 and has remained in that range since then. External trade has grown at 18 per cent annually and has diversified away from the CMEA countries. Today, two thirds of all trade is with other Asian countries (GSO, 1996a: 255, 259). The positive real interest rates caused a sharp increase in the savings rate, making funds available for increased investment. The real economic growth rate has increased from 2-4 per cent annually in the late 1980s to 5-10 per cent in the 1990s (Kim, 1996: 352) and slowed down to below 5 per cent in the aftermath of the Asian crisis.

The presence of a large agricultural sector is one main explanatory factor for the success of Doi Moi.

In spite of persistent problems (discussed below), Viet Nam has achieved rapid economic growth, food self-sufficiency, and a stable macroeconomic environment much more quickly than most of the former centrally planned economies. Several explanations have been offered for this striking difference. Dollar (1994) attributes Viet Nam's success to a combination of good policies (budget deficit reduction, exchange rate reform, and price decontrol) and good luck (the discovery of oil reserves). Thayer (1995: 46) points out that Viet Nam has enjoyed political stability thanks to the "charisma of Ho Chi Minh and the moral authority gained in the protracted 30 year struggle." Finally, the dominance of agriculture in the Vietnamese economy probably made the process of transition easier than in eastern Europe and Russia. Farmers, suffering under the implicit taxation of the old system, generally embrace reform and respond to the new incentives. In contrast, large industrial enterprises are the beneficiaries of central planning so these enterprises and their workers often resist liberalization. Thus, an agricultural economy such as Viet Nam is likely to face less political resistance to change and is able to respond more quickly to reforms.

The most visible expressions of market liberalization in agriculture have affected three main aspects: land, rice and fertilizer, and agricultural trade.

In February 2000, policy framework for commercial farms has been recognized.

In February 2000 (Resolution 03/2000/NQ-CP), the Government has recognized commercial farms as an important source of growth in rural areas and as a factor in poverty reduction. It is estimated that there are more than 100,000 such farms, characterized by large landholdings, use of permanent hired labor, and integration with markets and agroindustry. The Government provides

incentives related to leasing of land, taxes, access to credit, and use of labor. The legal framework defining the farm economy is still to be defined, but the already existing policy framework allows for farms with hundred of hectares on a scale well beyond the typical household farm in Viet Nam.

2.2.1 Land

Almost revolutionary changes in land tenure since 1988.

The changes that have taken place in the property rights related to land are nothing but short of revolutionary, when looked at from the perspective of the last 15 years of Viet Nam history. From a system of collective farming, the country has evolved to a household-based system where land use rights are given to individuals. Security of land access has been arguably the most important factor behind the strong and sustained growth of agricultural production in Viet Nam over the past 15 years. The Land Law of 1988 (Resolution 10) established the conditions under which farm households, then considered as "autonomous economic units", were allowed to have long-term land-use rights to cropland (10 to 15 years) and tree cropland (longer). The law provided for allocation to cooperatives, state farms, and individuals; it recognized the right to receive land use rights on stable and long term basis, but did not recognize the right to transfer, mortgage, or inherit.

The 1993 Land Law formalized farmers rights to the land.

The Land Law of 1993 moved further and recognized five rights (exchange, transfer, lease, inheritance, and mortgage) and a land value to serve as the basis for tax collection, compensation, and valuation of property whenever land is allocated. Land is allocated for long term use as follows: 20 years for annual crops and aquaculture and 50 years for perennial crops. Over the course of following years, numerous ordinances, decrees, amendments, circulars and other regulations were introduced to clarify the content of the Land Law of 1993.

Efforts toward market orientation were sustained in the 1998 Amendment to the Land Law.

The 1998 Amendment to the Land Law further elaborated three main features: i) flexible ceilings of land allocation were introduced, depending on the particular local conditions, (in the Land Law of 1993, the ceilings on agricultural land were fixed at two hectares in the North and three hectares in the South; ii) farmers were allowed to rent land in excess of local allocation limits; and iii) non-farmers organizations or individuals were allowed to rent land for investment purposes. Further amendments are under preparation by various Government bodies (particularly the GDLA) that will likely introduce new aspects of a more market-oriented approach, particularly the recognition of informal land markets, land classification, and the definition of property rights in relation to forest and communal land.

An official land market is not yet recognized, but informal transactions take place.

An official land market involving transfers of individual property rights is not yet recognized. The political sensitivity to issues such as landlessness and land concentration is understandable in a country where land is still considered property of the state and individual households are only permitted to use land and exchange land user rights. However, there is increasing evidence of informal land markets particularly active in the South and elsewhere in the

country at the commune level (see box 2.1). Most of land transactions take place among households belonging to the same village. Transactions with outsiders also take place but are more rare. This is partly the result of a still underdeveloped market where transactions costs such as information search, enforceability of contracts, and quality assurance are quite high. It is also partly the result of a still confused regulatory framework that is taking time to sort out the implications of recognizing the household as a full economic unit that is responsible for decisions concerning its assets (land, capital, and labor).

Box 2.1. Land markets in North Viet Nam

In Ha Tay province in February 2000 (Nguyen Xuan Nguyen 2000) one sao of two-crop land is rented out for Dong 500,000 over a period of 3 years. Farmers agree orally about this sort of transaction; they do not sign contracts or register these transactions with the cadastral office. After being given land use certificates ("red books"), households find it complicated to go through further formalities related to registration. Moreover, there is an incentive to evade the taxes related to this type of transaction.

In Bac Kan (November 1999), a mountainous region where most agricultural land was already allocated, farmers have also bought and sold land. Price of land varies from commune to commune. A case study on land prices in Cho Don district indicates price variations between Dong 5000 and Dong 11,000 per m2 (see table 2.41).

Allocation of agricultural LUCs

Significant progress made in the allocation of land use certificates. By 1999, over 10 million households had been issued agricultural land use certificates.

To a large degree, agricultural land was already allocated to individual households before the implementation of the 1993 Land Law. Thus, the LUCs merely formalized the rights of households to land they were already farming. The main challenge in implementing the law was the logistical effort to map the property lines and issue certificates for large numbers of farm households. Significant progress has been made in the allocation of land use certificates for agricultural land. In 1995, 3.9 million households had received land-use certificates (LUCs), representing about one third of all agricultural households in Viet Nam. By 1997, close to two-thirds of all households (64 per cent) had received their LUCs. These LUCs represented a little more than one half of the agricultural land. By 1999, over 10 million households had been issued LUCs for agricultural land (see table 2.42), about 87 per cent of the agricultural households). These certificates covered 5.7 million hectares or 78 per cent of the agricultural land in Viet Nam (see table 2.43).

Greatest progress in Mekong Delta.

Looking at the regional patterns, progress has been greatest in the Mekong Delta and in the North Central Coast. This has been true throughout the period for which data are available (1995-1999) and it is true with respect to both the per cent of households receiving

LUCs and the proportion of agricultural land covered by LUCs. Even in the Central Highlands, where the issuance of LUCs has been slowest, over three quarters of the households have been issued LUCs.

Allocation of forest LUCs

Evolving role of State Forest Enterprises: toward commercialization, less logging, program 327.

Prior to 1994, 4.7 million hectares of forest (about half of the total) were managed by 415 state forest enterprises. These enterprises earned revenue from logging and milling operations, but they have been criticized both for unsustainable forestry practices and for making losses. The role of SFEs is evolving under pressure from three forces. First, with Decision 90/TTG of 1994, government policy has moved toward requiring commercial viability from the SFEs. Second, increasing restrictions on logging, particularly in the natural forests, are restricting the traditional sources of revenue of the SFEs. And third, SFEs have been given a major role in the implementation of forestry projects under Programme 327. Indeed, Programme 327 has become a major source of income for many SFEs (Morrison and Dubois, 1998 "Sustainable livelihoods in upland Viet Nam").

Slower progress in the allocation of LUCs for forestry.

The allocation of forest LUCs has made much less progress than that of agricultural LUCs. Only about 10 per cent of the forest land has been allocated, according to GDLA. Moreover, most of this land has been allocated to state enterprises (see table 2.44). There are several reasons for this lack of progress.

- First, most forests are located in hilly terrain where the road density is very low. Lack of easy access complicates the task of cadastral mapping.
- Second, the institutional capacity of local governments in these regions is weak, in part because the remote mountainous areas tend to be the poorest regions of the country.
- Third, there is a lack of clear criteria for the classification of forest land, which is a necessary first step before the land can be allocated. For example, it is not easy to distinguish between "special use" land and "protection" land, nor is the difference between "critical" and "less critical" protection land well defined.
- Fourth, unlike agricultural land, forest land was often not "informally" allocated among households. Thus, the allocation process involves not just mapping and issuing LUCs to existing users, as it does for agricultural land, but also changes in land use right.
- Fifth, the hilly forest areas are much more economically and culturally diverse than the lowland agricultural areas. The presence of dozens of ethnic communities with their own traditional rules regarding the use of forest land. These rules often involve complex mixtures of communal and household use of land (Rambo, 1997 "Development Trends in Viet Nam's Northern Mountain Region").
- Sixth, the lack of clarity on the field concerning the functions of

forestland allocation and issue of LUCs and the respective responsibilities of MARD and GDLA.

- Seventh, bank credit often not available on long term basis and therefore limiting long term investment.

A large share (44 per cent) of the forest land allocated to date has gone to state enterprises. Households have received just 11 per cent of the forest LUCs (see table 2.42).

Land use records

Land use records are not well organized.

Records on the issuance of land use certificates exist at the provincial, district, and communal level. In principle, the transfers of land-use rights are supposed to be recorded at the commune People's Committee, which transmits a record of the transaction to the district authorities, who in turn notify provincial authorities. In practice, however, farmers are very often unwilling to register land transactions. Although data are not available, DOLA (1998) considers the land-use books to reflect the distribution of land at the time of allocation. Three reasons have been cited to explain the reluctance of farmers to register land transactions.

- First, until recently, there was a land transfer tax of 10 per cent of the assessed value of the land. Recently, in recognition of this problem, the land transfer tax was reduced to 2 per cent.
- Second, the time and effort required to register land transaction is probably an impediment. Although the farmer is supposed to be able to complete the paperwork at the communal office, he is often sent to the district office to register there as well. de Mauny and Vu list 11 steps required to register a land transaction and report that the process may take several months.
- Third, the transaction may not be valid for any number of reasons. For example, 1) the seller may not have a valid land use certificate, 2) seller may have changed the type of land use without approval from local authorities, and 3) the buyer may already have more than the allowable area of agricultural land. In such cases, the land transaction cannot be registered.
- Fourth, the buyer and seller may be concerned that the transaction will not be approved. Restrictions on land sales, intended to reduce the incidence of landlessness, have only served to turn the land market into an "informal" one.

A related problem with the land-use records is that, although they are maintained at communal, district, and provincial levels, no one level is considered the authoritative one. In cases of discrepancies, which are inevitable in a three-level paper-based system of record keeping, there is no rule for deciding which one should be considered correct.

Landlessness

Relative equitable distribution of land in Viet Nam.

The distribution of agricultural land is relatively equitable in Viet Nam. This is a consequence of its socialist revolution in which large holdings were converted to state farms or agricultural collectives in the late 1950s in the north and in the late 1970s in the south. Furthermore, the process of decollectivization, in which collective land was allocated to member households, was relatively equitable. A limit of 2 hectares in the Red River Delta and 3 hectares in the south prevented the creation of large private farms. It also allowed the vast majority of farming households to receive some land.

Concern about land concentration and landlessness.

The 1993 Land Law makes it possible for households to sell or mortgage land, leading some to worry about the possibility of land becoming concentrated in the hands of a few land owners. Indeed, there is evidence that the proportion of landless households has increased in recent years, particularly in the Mekong Delta. This region is more affected by landlessness because collectivization was never completed in the south, so land use patterns reflect pre-unification land ownership. In addition, land markets are said to be more active in the Mekong Delta than in the north.

The issue of landlessness is complex. The relation between landlessness and poverty is not clear.

Defining landlessness is not easy. Rural households may not have land for various reasons, including better opportunities in non-farm activities. Data from the 1993 Viet Nam Living Standards Survey reveal that fully 8 per cent of rural household do not have land (see Table 2.45). However, the rates of "landlessness", as defined here, are highest in the Southeast region, the region with the highest average income and the lowest poverty rate. Indeed, the VLSS data reveal that "landless" households in rural areas have, on average, *higher* incomes than do households with agricultural land (see Table 2.46). The explanation is that "landless" households include shop owners, salaried employees, teachers, truck drivers, and others who, while not prosperous, may earn more income than the average farmer. Certainly many of the landless are quite poor and growing landlessness is a problem to be taken seriously, but these numbers suggest that the focus should be on assisting poor households rather than helping households with no land.

Large increase of landlessness in Mekong Delta.

Official statistics presumably count only the poor landless households or only those who earn their living by selling labor. According to the GDLA, the number of landless households in the Mekong Delta has increased from 12,215 households in 1994 to 136,338 households in 1998. This represents a large increase, though from a small base. In percentage terms, landlessness has risen from 0.7 per cent to 5.7 per cent of the agricultural households in the Mekong Delta (GDLA, personal communication).

Two-third of landless households never owned land, according to survey in Tra Vinh.

de Mauny and Vu (1998) studied landlessness in Tra Vinh province, where the problem is particularly acute. According to the provincial Department of Land Management, the number of landless has increased from 770 in 1994 to 16,878 in 1998. The latter figure represents 8.9 per cent of the households in Tra Vinh. de Mauny

and Vu identify several reasons for landlessness (see table 2.47):

- The household never owned agricultural land. According to a survey by the Centre for Agricultural and Rural Development Consultation (CARDC), two-thirds of the landless households fell in this category. This is more common among young, recently-formed families.
- The household loses land due to an illness or accident. This was cited by 16 per cent in the CARDC survey.
- The household loses land when it is claimed by the government or by the pre-1975 owners. Although cited as important by local authorities, the CARDC survey found that these two factors explained 2-3 per cent of the cases.

Other reasons for losing land include natural disasters (in which case the land may simply be abandoned), debt, and failure in farming.

Cultural explanation of landlessness. Not clear evidence about the Kmer.

In interviews with farmers, "failure in farming" was attributed to lack of capital, lack of experience, laziness, and lack of diversification. A common view in Viet Nam is that the Khmer people have less inclination and farming skills, leading them to either lose or sell their land. Although landlessness is more common among the Khmer people, data do not exist to confirm or refute these explanations.

Landless households become wage laborers.

Most landless households rely mainly on the sale of labor for their income. In Tra Vinh, landless households earn money working on fishing boats, classifying seafood at the market, digging fish ponds, and helping farmers with planting or harvest. The wages are generally US$ 1-2 per day, but employment is often seasonal and unstable. Other activities include animal husbandry, fishing, and small-scale trading.

2.2.2 Rice and Fertilizer

Rice and fertilizer are the key output and input of agriculture. Any change taking place in these two sectors affect the overall sector.

Rice and fertilizer are the key agricultural output and input of Viet Nam. A good test of the increasing market orientation of agriculture in Viet Nam is therefore provided by the analysis of these two products. In the centrally planned system, targets for rice production were set by the government and implemented by communes; fertilizer was provided accordingly to input/output coefficient relations without much regard to economic efficiency. In a market-oriented system, supply of paddy production and demand of fertilizer are determined by smallholder households. Over the 1990s, markets for rice and fertilizers have become progressively more liberalized. Not only the distribution systems at the wholesale and retail level are largely controlled by the private sector, but even at the import and export level, the system has become more competitive and private sector is starting to be a recognized participant. The presence of the state is still important, particularly through large SOE that control the gate to international markets. However, some important decisions allowing a more liberalized system have gained momentum in the last three years, as the result

of government decisions and the support of ADB. The following sections provide a more detailed discussion of these two subsectors.

Rice export policy

Rice exports from Viet Nam are not a new phenomenon.

Rice exports are not a new phenomenon in Viet Nam. Tenant farmers in the Mekong Delta produced surpluses allowing Viet Nam to export 1-2 million mt from the 1920s to the end of World War II. These exports, however, coincided with periods of deprivation and famine, contributing to the sensitivity of policymakers today to the food security implications of rice exports. In the 1960s, the north was self-sufficient and the south became a rice importer, partly as a result of the inflow of economic and military aid which supported the overvaluation of the currency. After reunification, attempts to organize farmers in the south into collectives were not successful in stimulating agricultural output. It was not until 1989 that Viet Nam resumed rice exports, shipping 1.8 million tons. In the early 1990s, rice exports remained at around 2 million tons. From 1995 to 1999, rice exports rose from 2.0 million tons to 4.5 million tons (see table 2.48).

Rice exports have moved to a more decentralized system, with only minor participation of private sector.

Throughout the 1990s, the government has regulated rice exports by allocating export quotas to selected exporters. Initially, the Vietnamese Food Corporation (VINAFOOD) was allocated the largest quota. Later, the share allocated to provincial enterprises, particularly those in the Mekong Delta, was increased. In March 1997, the government changed to a system of allocating export quotas to central organizations and to the provincial authorities. The provincial authorities were instructed to allocate the quotas as they saw fit. In general, only state enterprises have received rice export quotas, although in 1998 and 1999 a few private traders have received quotas. In 1999, private traders exported 185 thousand tons out of 4.5 million tons (about 4 per cent).

The quality of rice exports has increased.

In addition to increasing the quantity, Viet Nam has steadily increased the quality of its rice exports. The percentage of 35 per cent broken rice has fallen and the percentage of 5-10 per cent broken has increased. In 1998, according to the MOT, 70 per cent of total rice exports were in the 5-10 per cent category; in 1990, only 16 per cent of total exports of rice were in the same category. This improvement is reflected in the narrowing margin between the FOB prices of Vietnamese rice and Thai rice.

Debate on rice exports has focused on sustainability and effects on the poor.

Viet Nam's rice exports have been the subject of some debate, both within and outside the government. One issue concerns the sustainability of rice exports. In the mid-1990s, some observers argued that rice exports would stagnate or decline below 2 million tons as a result of land constraints and rising domestic demand (Pingali et al, 1999). Others argued that if the export quota were lifted, rice exports would increase significantly (IFPRI, 1996). Another question concerns the impact of export liberalization on the poor. A commonly-held view is that the higher prices associated with export liberalization harm the poor. A study by IFPRI

suggested that the higher rice prices associated with export liberalization would have a neutral or slightly positive impact on poverty because many of the poor are rice farmers (IFPRI, 1996 and Minot and Goletti, 1998).

2.2.3 Fertilizer import policy

Fertilizer is considered a strategic input, which only recently has been considerably liberalized.

Along with water control and modern seed varieties, fertilizer is one of the main factors making it possible for Viet Nam to feed its large population and export rice in spite of its limited agricultural land. The government considers fertilizer to be a strategic industry, partly because of its importance in food and cash crop production and partly because fertilizer is one of Viet Nam's largest imports. Fertilizer imports are generally US$ 400-550 million per year, accounting for 4 per cent of the total value of imports. As a result, the government has been reluctant to fully liberalize the fertilizer market until very recently. At the end of 1999, however, the important decision of eliminating fertilizer quota was taken. This section describes the evolution of fertilizer policy, trends in fertilizer prices, and the pattern of fertilizer use in Viet Nam. It also discusses some the issues concerning current fertilizer policy.

In the 1980s, SOE controlled the importation and distribution of fertilizer.

The market for fertilizer in Viet Nam has changed dramatically over the past decade. In the 1980s, fertilizer was imported through government-to-government trade agreements with the Soviet Union and Eastern European countries. Often the agreements involved the barter of Vietnamese rice in exchange for imported fertilizer, with the ratio being based on the five-year average of world prices. The imports were managed by the Viet Nam General Company for Agricultural Materials (Vigecam) and distributed through provincial state enterprises according to agreements between the Ministry of Agriculture and the State Planning Committee. The provincial companies distributed the fertilizer to the districts, who in turn distributed it to the communes and agricultural collectives based on plans developed by the provincial and district people's committee.

Production of fertilizer was established in the 1960s with Chinese help.

In addition, the government established state enterprises to produce fertilizer. The Ha Bac Nitrogenous Fertilizer and Chemical Company was formed in the early 1960s with assistance from China, but only became fully operational after the war in 1975. It was responsible for producing urea according to production quota. Although the design capacity was 100 thousand tons, problems obtaining raw materials (particularly after the break with China in 1978) kept output to 20-60 thousand per year. The Van Dien phosphate factory and the Lam Thao superphosphate factory were also established with Chinese and Russian assistance, respectively.

Problems with supply and inefficiency of use were common.

This system suffered from a number of problems. The government-to-government contracts to import fertilizer were multi-year agreements, but the timing and composition of the shipments was determined by the availability of fertilizer in the supplying countries more than by Vietnamese demand. Often the shipments arrived at the wrong time of the year, and the types of fertilizer being delivered

varied from year to year. At the local level, farmers had little incentive to use fertilizers efficiently since the subsidized price was very low.

Dramatic changes and unstable market characterized the early 1990s.

The fertilizer sector experienced dramatic changes over the period 1989-92. In 1989, the collapse of the Council for Mutual Economic Assistance (CMEA) disrupted fertilizer imports from the east bloc. In 1990, the Soviet Union was able to supply just one half of the contracted amount, forcing Viet Nam to obtain fertilizer from market economies. This effort was constrained by foreign currency "shortages" associated with the overvalued exchange rate. Fertilizer shortages led to high prices, and inflation contributed unstable prices in 1990.

Fertilizer reforms were initiated in the early 1990s.

In 1991, to improve supplies, the government allowed central and provincial state enterprises that earned export revenue to import fertilizer directly rather than through Vigecam. Twenty-three units imported urea, including 19 provincial enterprises. The bulk of the imports by provincial enterprises were in the Mekong Delta where rice exports were generating foreign currency earnings. Viet Nam also began to import other types of fertilizer such as diammonium phosphate (DAP) and NPK, though the quantities were much smaller. The number of units receiving urea import quotas grew from 39 in 1992 to 65 in 1996, although only state enterprises were allocated quotas. Vigecam's share of the urea import quotas fell from about 70 per cent in 1991 to 40 per cent in 1996.

Over-optimism, reselling of quotas, price fevers were the main problems in the early reform period.

The fertilizer market experienced several problems during the early reform period. First, many companies became importers with little experience and no distribution facilities. Over-optimism was probably fueled by the experience of the late 1980s and early 1990s, when almost any import business was profitable once foreign exchange was secured. As competition increased and the exchange rate reached a market level, profits were no longer guaranteed. Excessive imports in 1991 led to unsold stocks and trading losses reaching tens of millions of US dollars. Second, many enterprises that received quotas found it more profitable to sell them to other firms than to use them. Quotas sold for US$ 1-3/mt. Although this "market" was a predictable and positive response to the quota system, it highlighted the limitations of attempting to manage imports. Third, fertilizer prices were unstable and a number of "price fevers" occurred, in which shortages and high prices would be followed by excess supply and low prices. These were probably due to lack of experience and the uncertainty associated with the quota allocation process.

Transfer of quota from enterprises to provincial authorities.

In March 1997, the government stopped giving allocation directly to provincial enterprises and instead assigned quotas to provincial authorities (Decision 141/TTg of 8 March 1997). The provincial authorities were instructed to distribute the quotas to eligible firms, where eligibility required previous experience in fertilizer importation, a retail distribution network. Sub-contracting imports and selling the fertilizer at the port were prohibited. In 1997, 1998, and 1999, quotas to import urea were allocated to six or seven

central state enterprises and about 20 provinces. Vigecam accounted for about 20-25 per cent of the total, while the provinces received at least half. In 1997, two private companies obtained import quota allocations from provincial authorities.

Abandonment of the quota system in 1999.

In December 1999, the government abandoned the import quota system, although it continues to apply a list of officially approved direct fertilizer importers. It also reaffirms that the importers "are fully responsible for their business results and the Government will not cover losses" (Decision 237/1999/QD-TTg). The government maintains a subsidy on the transport of fertilizer to the remote upland areas. The subsidy is paid to the provincial enterprises in those areas, allowing them to sell fertilizer at prices close to lowland prices.

Fertilizer prices

Volatile fertilizer prices have benefited Viet Nam during the Asian crisis.

The prices of fertilizer are largely determined by three factors: the world price, the marketing costs, and the import policy. World prices of urea are quite volatile. For example, the price fell to US$ 100 per mt in 1993, only to rise above US$ 200 in 1995. As a result of the Asian financial crisis, the devaluation of the Indonesian currency has pushed the dollar price of its fertilizer exports down, depressing the world market price.

Margins between retail and import prices were modest in the 1990s, but have increased in 1998.

As shown in Table 2.49, the average retail price in the Mekong Delta has ranged from 5 to 29 per cent above the CIF import price. Surprisingly, the percentage is highest in 1999 when the government was quite flexible in providing additional quotas to enterprises that needed them. This suggests that the implicit import tariff associated with the quota was modest. Nonetheless, even a small implicit tariff such as 10 per cent, would imply a cost to farmers on the order of US$ 50 million per year. The issue of changes in margins between retail and import prices deserves more study by the TA team.

Falling urea to rice price ratios have benefited farmers.

From the farmer's point of view, the ratio of fertilizer/paddy prices is an important determinant of the incentives to use fertilizer. In the early 1990s, the government attempted to keep the urea/paddy price ratio from rising above 2.0, although these efforts were not always successful, particularly in 1991. An analysis by the Ministry of Trade shows that the urea/paddy price ratio in the Mekong Delta has fallen from about 2.1 in 1991 to 1.1 in mid-1999. Much of this decline occurred during 1997 when the Asian currency crisis reduced the CIF price of urea at the same time that expanding rice exports raised the price of paddy. Although the fall in urea prices adversely affected the Ha Bac factory, it has benefitted Vietnamese farmers, particularly irrigated rice farmers (see table 2.50).

Fertilizer prices tend to be higher in the North.

Looking at regional patterns in fertilizer prices, fertilizer tends to be least expensive in the Mekong Delta and most expensive in the North Central Coast and the Northern Uplands. The difference between the two, however, is just 7 to 13 per cent.

Fertilizer import and production

Strong growth of fertilizer imports and better use of plant nutrients by farmers.

After the initial problems of over-supply when imports were partially liberalized in 1991, fertilizer imports have grown steadily from 1.3 million tons in 1993 to 3.5 million tons in 1999 (see table 2.51). This represents a growth of 167 per cent or 18 per cent per year. In addition to the growth, the table suggests that the types of fertilizer imported are becoming more diversified. Urea accounted for 79 per cent of fertilizer imports in 1993, but the proportion fell to barely half (54 per cent) in 1999. This may reflect the diversification of the agricultural economy away from rice (the main use of urea), as well as the growing sophistication of farmers regarding the nutrient requirements.

Difficulties faced by domestic production.

Urea production grew rapidly in the early to mid 1990s. Production reached 130 thousand tons per year in 1997, 30 per cent above the design capacity of the Ha Bac factory (see table 2.52). The sharp depreciation of the Indonesian currency against the Vietnamese dong, however, has reduced the competitiveness of the Ha Bac factory relative to Indonesian imports. As a result, urea production has fallen to 49 thousand mt in 1999. Officials at the company report that they are currently losing money and cannot continue to produce urea at current prices. The company has diversified into other products (NPK, industrial gas, activated charcoal, and beverages) so that urea accounts for just 55 per cent of gross revenue. Phosphate production has also expanded rapidly during the 1990s, rising from 628 thousand tons in 1989 to 1.39 million tons in 1996.

2.2.4 Agricultural Trade Policy

With the exception of rice, all agricultural export quotas have been eliminated.

Since 1990, quotas, tariffs, non-tariff barriers, and free entry have been the main subject of trade policy. With the exclusion of rice, all agricultural tradable products have been excluded from quota restrictions during last decade. This has allowed farmers to become increasingly export oriented, particularly in some products such as coffee, cashew nuts, pepper, and rubber. While this market orientation has often implied higher income for farmers, it has also increased their vulnerability to the fluctuations of world markets.

However, the rice quota has been substantially released and decentralized.

In the case of rice quota, considerable progress had been obtained in i) increasing its level over time and ii) making the allocation of quota a more decentralized process where different actors including central SOE, local SOE, and private sector have access to it. It is doubtful that quota on rice will be released in the short term. However, as its level has jumped from around 2 million tons over the period 1991 to 1995 to about 4.5 million tons in 2000, its level has become very close to what would result in a fully liberalized economy. In economic terms, the quota is now less “binding” implying that the implicit tax on farmers –namely the price gap between farm price and fob price- has been reducing to quite low level. In 1995, a study by IFPRI calculated the implicit tax associated to quota to be around 24 per cent, which translated in

over $140 million transfer from farmers to SOEs. As indicated in a previous section, quota on fertilizer has been dismantled at the end of 1999. The gap between CIF prices and farmers prices should now entirely reflect the cost of marketing and transportation.

Tariffs and export taxes have been considerably reduced.

Over the period 1989-1994, the exchange rate was devalued, unified, and eventually allowed to float. In 1991, private companies were allowed to participate in international trade. The number of goods requiring import permits was reduced to 15 in 1994 and to six in 1996. Import tariffs replaced foreign exchange allocation as the mechanism for managing most imports, and the maximum tariff was reduced to 80 per cent in 1996 and 60 per cent in 1998. As a member of ASEAN, Viet Nam has committed to follow AFTA scheme to gradually reduce tariffs by year 2006. Tariff rates are expected to vary between 0 and 5 per cent on all imported goods. Export taxes have also been considerably reduced to virtually zero.

The result has been a more open economy.

The impact has been a rapid increase in exports and imports. One measure of openness, the value of imports and exports as a proportion of gross domestic product, rose from 0.46 in 1990 to 0.80 in 1997. In the agricultural sector, Viet Nam has transformed itself from a marginal rice importer to one of the three largest exporters in the world. Rice exports have grown from zero in 1988 to around 2 million tons in the early 1990s to 4.5 million tons on 1998. Other agricultural goods such as coffee and aquatic products have also seen impressive growth over this period.

2.3 A REMARKABLE SUCCESS IN POVERTY REDUCTION

2.3.1 Income and distribution

Rural households have gained from economic growth, but less than urban households.

Evidence from various sources suggests that per capita income has increased for most types of households in Viet Nam, although at different rates. According to the Viet Nam Living Standards Surveys, per capita consumption expenditure grew 41 per cent in real terms between 1993 and 1998 (see Box 2.2). Furthermore, per capita expenditure increased in every region in both urban and rural areas (see Table 2.53). In rural areas, expenditure grew 30 per cent over this period, implying an annual growth rate of over 5 per cent. Even in the slowest growing region, the Central Highlands, saw per capita expenditure rise by 25 per cent over the five-year period. Thus, it is not true that rural households have been “left out” of the benefits associated with economic growth. It is true that urban expenditure grew even more quickly than rural expenditure, confirming the view that the gap between urban and rural households has widened.

Box 2.2: Viet Nam Living Standard Survey

Both Viet Nam Living Standards Surveys were carried out by the Government Statistics Office with financial assistance from the Swedish International Development Agency and the United National Development Programme and with technical assistance from the World Bank. The data collection for the first survey took place between October 1992 and September 1993, using a sample of 4800 households and a questionnaire of over 100 pages. The second survey was implemented from December 1997 to December 1998 with a sample of 6000 households and a similar questionnaire (GDN Working Group, 1999 and GSO, 1999). The primary measure of living standards used in the VLSS is per capita consumption expenditure, defined as the sum of consumption expenditure, the value of home production of food, and the rental equivalent of owner-occupied housing and consumer durables. Per capita expenditure is considered a more reliable measure of living standards than per capita income because income is difficult to measure, subject to under-reporting, and less stable over time.

Inequality has decreased in rural areas and increased in urban areas. The net effect is a slight increase in inequality.

According to various measures, income equality worsened somewhat between 1993 and 1998 (see Table 2.54). Contrary to some expectations, inequality in rural areas has fallen slightly, but inequality in urban areas has risen. Combined with the rising gap between urban and rural incomes, mentioned above, the net effect is a small increase in inequality.

These trends are confirmed by the Multi-Purpose Household Survey, carried out annually by the General Statistics Office since 1994. According to these surveys, between 1994 and 1996 rural per capita expenditure rose 28 per cent, while urban incomes rose 32 per cent (GSO, 1999, p. 81). This implies a slight increase in the urban-rural ratio. The data from these surveys also suggest a small increase in inequality.

2.3.2 Poverty trends

Poverty has declined significantly in the 1990s.

Given that the average income in Viet Nam has risen over the last decade but that inequality appears to have worsened somewhat, the next question is what is the net effect on poverty. There are numerous approaches to measuring poverty (see Box 2.3), but a wide variety of indicators indicate that poverty has declined significantly over the 1990s. This section describes the trends in poverty over the last decade and describes some of the household factors associated with poverty in Viet Nam.

Poverty has declined everywhere, but at different rates.

The VLSS defines poor households as those whose per capita expenditure is below a certain minimum level (see Box 2.3). By this definition, the percentage of households below the poverty line has fallen from 58 per cent in 1993 to 37 per cent (see Table 2.55). The poverty rate has fallen in both urban areas (from 25 to 9 per cent) and in rural areas (from 66 to 45 per cent). The poverty rate has declined in every region of the country, although it has fallen faster in some than others. For example, the poverty rate has declined by

over half in the Southeast and the Red River Delta. The high rates of income growth in the cities of Ho Chi Minh City and Hanoi have undoubtedly contributed to this progress. Poverty in the three poorest regions, the Northern Uplands, the North Central Coast, and the Central Highlands, declined from over 70 per cent to around 50 per cent.

Box 2.3: Poverty lines

The VLSS adopts a "food poverty line" equal to the amount of money needed to purchase 2100 calories of food given the consumption patterns of poor households. The general poverty line is equal to the sum of the food poverty line and an allowance for basic non-food requirements. The non-food portion of the poverty line is based on the average value of non-food spending among households whose food expenditure is near the food poverty line.

Both economic and social indicators show an improvement in poverty reduction.

Improvements in living conditions can also be seen in the various social indicators. As shown in Table 2.56, indicators of health, education, nutrition, and access to infrastructure have improved significantly. Over the five years between 1993 and 1998, secondary school enrollment rates have doubled; stunting among 0-5 year-olds has fallen by almost a third; access to clean water has increased 70 per cent among rural households; and the proportion of households owning televisions has doubled. These figures are not intended to suggest that poverty is no longer a problem. In spite of the progress, rural Vietnamese households are still quite poor: one third of all Vietnamese children are moderately stunted from poor nutrition, more than a quarter of adults are moderately malnourished based on the body mass index, and two-thirds of rural households do not have access to clean water.

2.3.3 Characteristics of poor households

Poor households in Viet Nam tend to be farmers, less educate, and ethnic minorities.

As in most countries, poverty in Viet Nam is closely associated with occupation, education, household size and composition, and ethnicity.

- First, poverty is much more common among farming households than others. Almost half of the households for which agriculture is the main source of income (48 per cent) are poor compared to less than a quarter of the households whose main source of income is outside of agriculture. In fact, farm households have higher poverty rates than unemployed households. The latter are often urban households who can "afford" to be unemployed while looking for work. Almost four fifths of all poor households are farm families.
- Poverty is strongly and negatively correlated with the highest level of schooling achieved by household members. A majority of households with no education are poor, compared to 37 per cent nation-wide.
- Poor households generally have large families and a large proportion of children.

- And poverty rates are higher among most of the ethnic minorities. Language barriers, less favorable land, and lower educational achievement probably contribute to this pattern.

Mixed evidence on the relationship between poverty and gender.

The relationship between gender and poverty is complex. On the one hand, survey data such as the VLSS and the GSO Multipurpose Survey suggest that the per capita expenditure of female-headed households is no lower and possibly somewhat higher than that of male-headed households. On the other hand, female-headed households are often cited by rural communities as some of the poorest and most vulnerable types of households. This discrepancy can be explained in several ways. First, female headed households are more common in urban areas where incomes are higher. Second, female-headed household in rural areas are often widows, whose income-earning capacity and standard of living may be adversely affected not just by gender but also by age and by being without a spouse.

Poverty is concentrated in the upland areas.

Rural poverty is also geographically concentrated. A recent study combined the 1993 VLSS data with data from the 1994 Agricultural Census to estimate poverty rates at the district level (see Box 2.4). The results illustrated the fact that poverty rates are highest in the mountainous areas, including the Northern Uplands, the interior of the North Central Coast, and parts of the Central Highlands. In the Northern Uplands and North Central Coast, poverty was concentrated in the remote inland areas bordering Laos and China. In the Central Highlands, poverty was higher in the north (Gia Lai and Kon Tum) than in the south, where coffee production has expanded rapidly in recent years.

Box 2.4: Poverty Mapping

The district-level poverty map was generated in three steps. First, the 1993 VLSS data were used to estimate econometrically whether a household was poor or not based on 19 household characteristics and 6 regional variables. The household characteristics included household size and composition, housing characteristics, farm size, livestock ownership, and ownership of several consumer durables. The second step was to combine the estimated equation from the first step with district-level averages of the same poverty indicators to calculate an estimated poverty rate for each district. The final step was to map the results using a geographic information system (see Minot, 1998 and 2000).

Vulnerability to unexpected events is also a dimension of poverty.

Poverty can also be the result of unexpected events which reduce the households productive capacity. The central coast is particularly vulnerable to storm-related flooding which damages tens of thousands of hectares of farmland every year. Illness or death of a family member can also significantly reduce the earning capacity and thus the standard of living of a household. The vulnerability of the household to these shocks depends partly on its access to government assistance and partly on its access to informal assistance through its social network of friends and

families. Although these factors are difficult to capture in a formal survey such as the VLSS or the MPS, they are revealed by informal surveys such as those carried out for the Participatory Poverty Assessments (World Bank et al. Voice of the Poor, 1999).

2.4 A NEW EMPHASIS ON RURAL DEVELOPMENT

Agricultural development is linked to rural development.

The success of the renovation policies started in the late 1980s is testified by a series of remarkable achievements: spectacular growth of rice production and exports, accelerated reduction in poverty, and the more than doubling of per capita income. Nevertheless, these achievements were partly the result of quite low basis in material standard of living of the population. Even today, Viet Nam ranks among the poorest countries in the world, poverty is widespread, agricultural labor productivity is low, and rural areas are beset by lack of infrastructure, poor access to social services, environmental problems, and weak institutions. If the country is to achieve a higher standard of living, then growth has to be sustained, if not increased. For the agricultural sector, that implies the identification of strategies that not only accelerate growth but also take into account the needs of different groups such as the poor, women, and ethnic minorities.

The linkage has been increasingly stressed by the Communist Party and provided guidelines for policy.

To achieve these objectives, policy makers in Viet Nam have realized over the course of the 1990s that agricultural development is inextricably linked to rural development. Unless the various constraints limiting the growth of the rural economy are resolved, the scope for agricultural development is rather limited. The Communist Party put forward some important policy guidelines toward the end of the 1990s that reinforce the market orientation initiated by *doi moi* and strenghten the linkages of agriculture with rural development. The challenges presented by the Asian crisis have partly contributed to this new emphasis on rural development and poverty reduction. The two Party resolutions of 1997 and 1998 and previous policy debate have set in motion various programs related to rural development. Many of these programs have important implications for agriculture. The following paragraphs will illustrate some of the most well known programs.

Box 2.5. The role of the Communist Party of Viet Nam in providing a policy framework for rural development.

Resolution 04-NQ/HNTW in 1997 recognized that low productivity and lack of competitiveness after a decade of reforms still constrained the prospects for economic growth of Viet Nam. The challenge of the Asian crisis of July 1997 in other Asian countries contributed to the need of further reforms. The Party identified five measures to accelerated economic development: i) increase investment in agricultural processing and reduce quota on exports; ii) improve business environment and privatize SOE with capital less than one billion Dong; iii) create sustainable financial markets including stock exchange, asset markets, and issuing international bonds; iv) increase employment and reduce poverty; and v) promote agriculture and rural development.

More detailed guidelines for agriculture and rural development included:

- A restructuring of agricultural production in the direction of more tradable agricultural goods, postharvest technology, increased forest coverage up to 40 per cent of national territory, and acceleration of land allocation and reform of agricultural SOE.
- The creation of markets for agricultural products by liberalizing domestic agricultural markets, increasing tax on exports of unprocessed agricultural products, establishing export stabilization fund, and expanding credit services to farmers.
- The enhancement of the role of farm households and private enterprises in production, and the role of cooperative and state enterprises in the provision of services such as water, extension, marketing and trade, electricity to farmers, particularly in rural remote areas.

In 1998, the Party issued another *resolution (06-NQ/TW, 1998) on Agricultural and Rural Development* that influenced all ensuing policy formulation. The resolution stressed the key role of agricultural and rural development to overcome structural weaknesses such as low crop yields, low competitiveness, and underemployment of rural labor. The resolution identified five targets to accelerate rural development and ensure food security and better nutrition.

- Increase cash crop production and non-farm labor in rural areas.
- Eradicate hunger by year 2000, improve rural households' income and rural infrastructure
- Protect the environment and accelerate reforestation up to 43 per cent of national territory by 2010.
- Improve fishery industry and turn Viet Nam into one of the top producers and exporters in the world.
- Sustain rural democratization.

Targets should be met following six guidelines.

- Increase cash crop production, particularly rice for exports. Increase government investment in rural and agricultural sector.
- Promote integrated rural approach by enhancing the contribution of all rural entities, including households, cooperatives, state enterprises, private enterprises, and joint private-public partnerships.
- Recognize land transactions and concentration during the process of rural development. Revise the Land Law by the end of 1998.
- Support technical transfer to promote higher yields and quality in rice, vegetables, and fruits.

- Focus on rural infrastructure investment (road, waterways, electricity, schools, health centers). Increase mid and long-term credit to rural areas, and flexibility of loan terms to meet variety of credit needs.
- Implement national program on poverty alleviation. Priority to be given to 1700 poorest communes. Attention also to be paid to rural education, culture, family planning, and technical vocational training.

2.4.1 Rural infrastructure

Rather modest improvement in rural infrastructure.

There has been some improvement in rural infrastructure, particularly in the case of irrigation (where 1.4 million ha were added to irrigated areas), and access to rural roads, electricity, and telephone. The improvements, however, have been rather modest, partly because of the past emphasis given on the development of infrastructure of the three (most urban) growth triangles. The new emphasis on rural development is expected to boost investment in rural infrastructure.

Road situation still quite constrained.

In 1994, the percentage of paved roads was about 15 per cent of total roads (see table 2.57). Paved roads under management of communes were only 5 per cent. Of a total road network of 177 thousand km, the share of the North was 61 per cent; however, the South had a larger share of waterways (70 per cent), the result of intense water use in the Mekong River Delta (see table 2.58). Rural roads in 1998 have improved slightly. Roads under the commune and village management increased by 8 per cent from 1994 to 1998 (from 122 thousand km in 1994 to 132 thousand km as shown in table 2.59). By the end of 1998, there were 606 communes having no roads to the commune centers. Many communes have roads to commune centers but the roads are in bad condition, particularly during the rainy season.

Most of improvement in rural infrastructure with local resources. Only recently, some donor assistance to rural infrastructure.

During 1996-98, an average of Dong 2,000 billion per year were mobilized to upgrade 20,000 km of road in addition to bridges and sewerage systems. About 60 per cent of these resources came in the form of "voluntary contribution" and the remaining from central and local budgets. Since 1996, several rural transport projects have been implemented with assistance from donors including Japan (building of 29 bridges in the North with a budget of $35 million), World Bank (Phase I upgrade of 5000 km of rural roads with a budget of $60.9 million), ADB (rural infrastructure project of which $66 million went to rural transport system), World Bank (phase 2 of rural infrastructure project implemented in 35 provinces with a budget of $110 million), and British government (rural transport project in 4 provinces with a budget of 10 million British pounds).

2.4.2 Environment

Intensive use of land leads to various environmental issues.

Viet Nam has 11 million farm households attempting to earn a living on just 7.7 million hectares of agricultural land. The high density of the agricultural population (less than one hectare per farm

household) and rapid growth in agricultural production have intensified agricultural production and increased pressure to cultivate marginal land, each of which raises environmental issues. Some of the more important environmental issues affecting agriculture include deforestation, soil salinization, soil acidification, and natural disasters. In this section, we provide a brief overview of environmental issues and identify a number of positive trends and signs that the government of Viet Nam is addressing these issues in a serious manner.

Changes in land use patterns

Agricultural land has expanded 13 per cent since 1985,

Agricultural land in Viet Nam covers 7.8 million hectares, about 25 per cent of the total area of 31.1 million hectares. This represents a 13 per cent increase in agricultural land since 1985, when just 6.9 million hectares was classified as agricultural. Most of this expansion (93 per cent) occurred during the period 1991-97 and reflects the improved incentives for agricultural production under the *doi moi* policies.

most of which occurred in the Central Highlands

The changes in agricultural area show a distinct regional pattern, contracting 7 per cent in the north and expanding 26 per cent in the south. Figure 2.1 shows that agricultural land has more than doubled in the sparsely populated Central Highlands as a result of government programs to relocate people to the New Economic Zones, spontaneous migration, and the coffee boom. Coffee area alone in the Central Highlands has grown from 85 thousand hectares in 1990 to 294 thousand hectares in 1998. Expansion of coffee area in the Central Highlands accounts for roughly half of the growth in agricultural land.

and the Southeast.

In the Southeast, agricultural land has grown by more than 40 per cent over 1985-1997. This expansion is largely due to the growth in commercial agriculture. The Southeast has become a major producer of maize for animal feed, coffee, peanuts, citrus, cashews, rubber, tobacco, and vegetables, both for the growing demand in Ho Chi Minh City and for export, as well as rubber production.

Expansion in the Mekong, contraction in the Red River Delta.

In the Mekong, agricultural land has increased 8 per cent as a result of large projects to "rehabilitate" marsh land and saline coastal land for agricultural production. In contrast, agricultural land in the Red River Delta has declined 17 per cent since 1985, largely due to the expansion of Hanoi and other urban areas. In the Northern Uplands, the area allocated to agriculture has barely changed since 1985.

Forest cover shows recent signs of increase,

Statistics on forest cover are inconsistent due to differences in definitions. The General Statistics Office (GSO) reports that forest land hovered between 9 and 10 million hectares throughout the 1985-1995 period, although the true picture may be less encouraging since the proportion of "bare forest land" increased. Since 1995, forest area is reported to increase to 10.9 million hectares in 1996 and 11.2 million hectares in 1997. This represents an increase of 12.5 per cent in two years after a decade of

stagnation and would bring forest land equivalent to one-third of national land area.

but barren land is 42 per cent of the total.

Larger than either agricultural land or forest land is land classified as "barren land". In 1994, this represented 14.0 million hectares or 42 per cent of the total. Although this category is sometimes described as "unused" or "waste" land, these terms are misleading. This category does include water surfaces and rocky mountain areas, but a large part consists of cleared forest land that is now used for shifting cultivation or livestock grazing.

Forest policy

The uplands are now seen for their natural resource potential.

The upland areas have long been seen as impoverished and "backward," but they are increasingly viewed by the central government as a storehouse of natural resources necessary for national economic development. The last decade has seen a proliferation of policies and programs related to natural resource management, especially regarding forest, watershed and soil (Nguyen, 1998). Although these programs intend to contribute to national wealth and the well-being of those living in the uplands, they risk contributing to natural resource degradation and unsustainable agricultural practices, and therefore an increased income gap between the highlanders and lowlanders.

Environmental policy given more attention in the 1990s.

In the 1990s the GOV developed explicit capacity to manage the national environment. The Ministry of Science, Technology, and Environment (MOSTE) was created in October 1992. In December 1993, the National Assembly passed the National Law on Environmental Protection. MOSTE's National Environment Agency (NEA) was created in 1994 to administer environmental protection. Since upland ethnic minority groups rely on agriculture for their livelihoods, the Ministry of Agriculture and Rural Development (which merged the Ministries of Forestry and Agriculture in the mid 1990s) is a key agency in the policy formulation and implementation for management and protection of the uplands (Nguyen, 1998). MARD coordinates Agricultural and Forestry Extension and houses the Department of Forest Protection. The General Land Administration Department implements the land allocation program. With local stations sometimes reaching to the village level, and in conjunction with district and commune-level party leadership and "mass organizations", these agencies implement most of the government programs to alleviate poverty and restore and sustainably manage remote watershed environments.

Program 327 aimed at reforestation

Program 327 Re-greening the Barren Hills In 1993, the government initiated Program 327 "Re-Greening the Barren Hills". "Barren land" covered 12-13 million hectares, including 60-65 per cent of the hills in the Northern Uplands and 25-33 per cent of the land in the Central Highlands. This program was allocated US$68 million, which was a large share of central government transfers to the provinces. About 40 per cent of these funds were earmarked for interest-free loans to households. The remaining 60 per cent was for government investment in infrastructure, scientific and

technical facilities, public services, reforestation, and initial support to settlers. By the end of 1998, the GOV had invested about US$270 million (VND 2,980 billion) into this program (GOV, 1999). Of this, about 14 per cent was interest-free credit and the remainder was "government direct investment." The achievements of the program are shown in Table 2.60.

based on low-interest credit and payment to households for forest protection.

Under the program, the government planned to grant use rights to parcels of barren land and to protect certain tracts of remaining forest land. Parcels of forest land, usual forest under the control of state-owned forestry enterprises, were to be transferred to households. Forest allocation was to be about 1 hectare per family member and the government planned to pay VND 50,000 annually to households for each hectare of forest they were protecting. As a result of limited resources, however, the implementation was incomplete. In 1998, for example, a survey team led by staff of the Center for Natural Resources and Environmental Studies of Viet Nam National University found that Decree 327 had been implemented in 2 villages out of 16 in Dakto Kan Commune, Dakto District, Kon Tum Province. The forest protection payments had initially been made in 1996 in these villages, but subsequently had not been made in 1997 or 1998. It was not clear whether in the absence of expected payments, the new “owners” of the forest land would feel at liberty to begin mining the resource.

The program was, however, poorly planned, thinly spread, costly, and top-down.

According to the World Bank (1995c, p. 23), some weaknesses of Program 327 included:

- A lack of planning and prioritization on the basis of land use and economic returns
- Virtually all projects were on-going, selected for their readiness for implementation rather than from in-depth assessment of priority needs, constraints and institutional capacity
- Funds were spread over too many projects, and in many cases were not sufficient to achieve their objectives
- High administrative and operating costs (about 23 per cent of the total).
- State-directed approaches in project development and implementation were used with virtually no participation of affected units or households in resource planning

The Five Million Hectare Program succeeds Program 327,

Five Million Hectare Reforestation Program In 1998, the government launched the Five Million Hectare Reforestation Program, absorbing Program 327 into a more ambitious national program. The main objective is to speed up reforestation activities, with the target of raising Viet Nam’s forest cover from 28 per cent to the 43 per cent, the rate at the time of national independence. At the same time, the program hopes to establish areas for production of fuelwood for domestic consumption and raw materials for processing and export, thus raising incomes for people in the mountainous areas

but faces a number of implementation problems.

According to the Ministry of Agriculture and Rural Development (GOV, 1998, p. 5-6), implementation difficulties facing the program include:

- Land use planning: The actual area of land to be forested has not yet been defined, and it is unclear whether the land is available. Some of the land is already being farmed, and even that land under management of enterprises or state forestry organizations is already being put to use.
- Selection of tree species: The results of plantation efforts in Viet Nam are unclear and in some cases not efficient, partly because timber grown in plantation forests has not yet found a market. It is not yet clear whether the processing capacity and the market for forest products is large enough to justify such a large forested area.
- Cost of forest protection: An appropriate incentive policy and functioning mechanisms to achieve reforestation without over-stressing the government budget. The lesson from Program 327 is that uncertainties still exist on how to effectively provide equitable and effective forest protection incentives to local populations.

Some draft recommendations for effective implementation of the program include that land use planning and allocation to different economic sectors should be done quickly; that present forest contracting system should be clearly defined so people can enjoy benefits from protecting forest; and that land for reforestation should be determined based on the requirements of agricultural production; and allow for agroforestry activities and diversified forest products (GOV, 1998, p.7).

Ban of natural forest logging has reduced harvested volumes and increased imports

In 1997, the Prime Minister issued a decree to ban all natural forest logging. As a result, the annual volume of wood harvested has fallen (logging on forestry plantations remain legal). Internal demand for forest products, timber and wood pulp, has been increasing considerably but imports from neighboring Laos and Cambodia could not be a full viable alternative in view of the needs of rural communities and the interests of SFE active in the wood and forest products processing sector. The total amount of 300,000 cubic meters harvested in 1998 was a substantial reduction from a previous level of 1 million cubic meters only a few years before. The gap in demand was partially filled by increasing imports from Cambodia, Laos, and Myanmar.

2.4.3 Population growth

Viet Nam has made good progress in reducing population growth.

Viet Nam's population grew from 49 million in 1976 to almost 65 million in 1989, representing an annual growth rate of 2.2 per cent. Given the already high population density, the government of Viet Nam has given high priority to efforts to reduce population growth rates. These efforts include the provision of family planning services, promoting the education of girls, and strong moral suasion to encourage families to limit the number of children they have.

These efforts, combined with the rapid rate of economic growth since the late 1980s, have contributed to a rapid decline in the birth rate. Preliminary results from the 1999 Population Census suggest that Viet Nam's population is now 76 million, representing a 1.7 per cent growth rate compared to the 1989 Population Census. Slower population growth will almost certainly make it easier to reduce the environmental impact of agriculture and forestry in Viet Nam.

2.4.4 Poverty alleviation programs

Two main programs: HEPR and 1715 Poorest Communes.

Viet Nam has been successful at the task of reducing poverty over the past decades. Figures from the VLSS of 1992-93 and 1997-98 indicate a remarkable reduction of poverty in rural areas from 66 per cent to 45 per cent of the population. However, there are indications that rural areas lag behind urban areas and the urban/rural income gaps is widening. Doi moi has implied increased opportunities and higher living standard of the population, but poverty is still pervasive and its huge size poses serious constraints to sustained and accelerated growth. Two main programs were set up in the late 1990s that tried to address poverty alleviation: the Hunger eradication and poverty reduction program (HEPR, Decree 133/1998) and the 1715 Poorest Communes program (Decree 135/1998). The main differences among the two programs are described in table 2.61. The programs launched in mid-1998 to address poverty in rural areas of Viet Nam are quite ambitious. HEPR program developed from a local initiative into one of the largest national programs. The program has involved almost all of the line ministries, several state general companies and all provinces in the country. The goal of the program is to promote sustainable and equitable growth and social stability. The target for year 2000 is to reduce the poor households (as defined by the government) to less than 10 per cent of total rural population, implying a reduction of 300,000 poor households per year. In the first year of its implementation the program will focus on "hunger" households, the ones considered most affected by chronic poverty. The proposed strategy is to involve the participation of local communities and key stakeholders including government agencies and mass organizations. Each commune will be given an average of Dong 400 million to carry out rural infrastructure projects.

2.4.5 Rural credit

Rural credit in Viet Nam is dominated by VBARD, VBP, and PCF.

Three major banking institutions have been established in the past 10 years to promote rural credit: the Bank for Agricultural and Rural Development in 1989, People's Credit Fund in 1993, and the Bank for the Poor in 1995, in addition to more than 20 national programs (see table 2.62).

Economic and social objectives have often been mixed in credit policy.

Rural credit has been used both for providing financial intermediation and for promoting centrally determined production targets and social programs. Subsidized credit has been the favored approach to promote special programs. VBARD, for example, announced the interest rate applied to mountainous and remote areas to be 30 per cent lower than its commercial

operations. Before 1999, the interest rate charged on forest plantation was 0.4 per cent per month (Decree 264-CT of 1992); it was decided to be 0.81 per cent by Decree 13/QD-TTG of 1999. However, both MARD and the State Forest Enterprises (SFEs) requested to lower the interest to 0.4 per cent. There is indication that above this interest rate the SFEs will not be profitable, partly as the result of high production cost – an estimated Dong 4 to 7 million per hectare, almost twice that of private enterprises or households. Market orientation in rural credit ha progressed, but it still constrained by the fundamental issue of deciding whether the banking system should be mainly a means of providing an intermediation service, facilitating savings and investment in rural areas based on prevailing demand and supply conditions or an instrument of policy to reach social or economic objectives.

Legal framework for rural finance provided by the Civil Code and the Law on Credit Institutions.

The legal framework for rural finance includes two main laws.

a) the *Civil Code*. The Civil Code was approved by the National Assembly in 1995 and it covers civil law issues including credit relations. Articles 467 to 475 regulate the relationships between borrowers and lenders and confirms that:

   i) private lending and private credit market are recognized by public administration agencies. Disputes on civil credit contracts can be taken to the court.

   ii) The interests of lenders are protected. Borrowers have obligations to repay the borrowed loans to lenders. This encourages private lenders to expand their credit services.

   iii) The interests of borrowers are safeguarded. As provided by the Code, the interest which borrowers must pay can be only 50 per cent higher than the officially announced interest rates.

b) The *Law on Credit Institutions*. The law, approved by the National Assembly in 1997, governs the operations of the Central Bank and commercial banks. Among its features, the law

   i) stipulates that the State shall establish banks which operate on a non-profit basis (Article 10), and

   ii) Article 13 confirms that banking activities on non-bank organizations shall be subject to the relevant provisions regarding permitted banking activities.

The Law on Credit Institutions provides for cheap credit to rural areas and the poor.

The law on credit institutions has important implications for rural credit services. First, it implies that the state will continue to provide cheap credit to rural areas and the poor. Second, the law not only covers the operations of formal credit institutions but also banking activities of all informal non-credit institutions. Therefore, informal credit services provided by mass organizations, associations, and international NGOs will be granted legal status when following the law. Otherwise, informal credit will have no legal status and will be

governed by the Civil Code. The rural credit policy framework is consistent with the implementation of various policy decisions, such as the Prime Minister decision 661/QD-TTg of 1998 on Five Million Hectares Reforestation Program and Resolution 28 of MARD and MOF of 1999 the guide the implementation of Decision 66; and the Law on Domestic Investment Promotion of 1998. The rural credit policy demonstrates that the government intends to increase state investment in rural areas by providing concessional credit to rural development projects.

Credit policy has some negative effects on efficiency.

To further promote rural credit, the government stipulated that rural households could borrow up to Dong 10 million without collateral (Decree 67 QD-TTg of 1999). The Prime Minister Decree 13 of QD-TTg of 1999 on Credit Policy confirms that the interest rate for forest projects is 0.81 per cent and maximum credit term is 10 years. SOE continue to have preferential access to credit as no collateral is requested and they can use invested assets as collateral. Credit for national programs such as Clean Water Provision, HEPR, 5 Million Hectares Reforestation Program have similar special credit regulations. In practice, there is no unified rural credit policy in terms of interest rate, loan terms, repayment, and targeted beneficiaries. This has already produced low efficiency in resource allocation and hampered the sustainability and expansion of rural credit schemes. Examples of low efficiency of rural credit that have become a heavy burden on the banking system are the program to achieve 1 million tons of refined sugar by year 2000, the program on off-shore fishing, and the program on pulp and paper tree planting. In all these cases, serious problems of loan repayment have taken place that could have been avoided if a market-based approach were followed in the disbursement of loans.

Financial intermediation in rural areas improved slightly.

Rural credit policy has been partially successful in fostering rural finance intermediation. Private savings in rural areas have improved but are still low and investment in agriculture is primarily based on state financing. The intermediation between savings and investment has made some progress, but much still remains to be done. The experience of the major rural financial institutions gives encouraging signals.

However, VBARD has increased saving mobilization.

The *Viet Nam Bank for Agricultural and Rural Development (VBARD)* is the main rural finance institution in the country. Established in 1989, it has representative offices in all of the 61 provinces, and branches in 527 districts and 604 communes (out of a total of 9801). Total assets of the bank have increased at an annual rate of 76.6 per cent, from Dong 7.6 trillion in 1993 to 3.9 trillion in 1998 (see table 2.63). Interest rates for demand deposits is 0.5 per cent per month and for time deposits and certificate of deposit it ranges from 0.7 per cent to 1.0 per cent per month. Saving mobilization has increased from 42 per cent of total assets in 1993 to 65 per cent in 1998, an indication of the banks becoming a better financial intermediation institution.

Impressive growth of outstanding loans of VBARD, but increasing share of SOEs.

Outstanding loans have more than quadrupled between 1993 and 1998 (see table 2.63). During the same period, the outstanding loans to SOE increased from 20 per cent to 29 per cent of the total, while it has reduced the share of loans to farmers from 77 per cent to 67 per cent of total (see table 2.64). Rural households are still the main customers of the bank, however. VBARD provides credit to about 4 million households, representing about 33 per cent of total rural households.

Some positive aspects of increasing mid-term loans and low delayed repayment risks changing in late 1990s.

Two positive features of loans to households are: a) an increasing share of mid-term loans (more than one year) representing about 33 per cent of the total in 1998; and b) a relatively small percentage of delayed repayment, representing only 4.2 per cent of outstanding loans in 1998. The delayed repayments are increasing however. At the beginning of 1999, however, there were some signals that the overdue loans were increasing, particularly as the result of some non-performing loans to SOE or to other non-commercial programs (see Box 2.6). On average, loan size is about $300. Interest rate of about 1 per cent is collected monthly and collateral is required. In 1999, the government has eased the borrowing conditions of rural households. Farmers can now borrow up to Dong 10 million without collateral.

Constraints on interest rates

Providing small loans to rural households increases the credit service of the bank. However, under the interest rate regulation policy, VBARD cannot increase the interest rate so that the additional service cost be covered. The incentive of bank officers at the local level is to target better-off farmers, more likely to repay loans and also applying for larger loans. This is another instance of credit policy having sent conflicting signals between social objectives and business interest of the Bank.

Box 2.6. VBARD faces difficulty in loan collection in loans for the victim of the hurricane

In the aftermath of hurricane no.5 of November 1997, the Government asked VBARD to provide Dong 1110 billion dong to the victims of the storm. This loan was estimated to amount to about 64 per cent of needed loans. Government gave VBARD 50 per cent of loan to lend out with interest 0.1 per cent per month, and VBARD had to mobilize another 50 per cent of this loan to lend out with interest 0.5 per cent (short term) and 0.6 per cent (long term) per month. At this rate the bank could not be profitable.

By 30 September 1999, Dong 1027 billion were provided, of which Dong 187 billion (18 per cent) was short term (12 months) and Dong 839 billion (82 per cent) was long term (60 months). The outstanding loan is Dong 977 billion (96 per cent of given loan), from which 24 per cent for fishing boat repairing, 50 per cent for rebuilding fishing boat, 5 per cent for purchasing fishing tools, 16 per cent for fishing pond construction and 5 per cent for other investment.

Principal repayment was 21.3 per cent and interest repayment is 44.8 per cent of planned collection due to: (i) borrowers have low capacity of repayment for poor investment (low fishing yield, low productivity of aquaculture); (ii) borrowers do not want to repay because they think it is government preferential loan for them and they could delay repayment; (iii) lack of working capital: fishermen have loan for boat building but have no working capital for purchasing fuel, tools, ice for going fishing then they stay on shore; In Ca Mau province, 20 per cent of newly built boats could go fishing.

This loan has high risk for: (i) fishermen who have insufficient qualification to run big fishing boat; (ii) lack of skilled man power; (iii) they do not buy insurance and insurance company underestimates boat value. To collect loan, VBARD asks the help of local authority to persuade borrowers to repay debts in time, assisting bank staff in loan collection.

(Viet Nam Banking Times, 3 November 1999).

Remarkable growth of PCFs.

People Credit Funds (PCFs) has started operations in 1993 and they have witnessed a spectacular growth. From 1995 to 1998 loans have increased at annual rate of 105 per cent. Deposits represent 74 per cent of loans and 64 per cent of total assets (see table 2.65). In 1998, PCFs were serving about 700,000 rural households (about 6 per cent of total). Their interest rates are generally higher than those of VBARD, partly because of the higher costs associated to serving smallhoders. The funds usually provide only short-term credit.

Operations of VBP highly dependent on concessional rates and lending based on government and donor support.

Viet Nam Bank for the Poor (VBP) was established in 1995 as a national level institution to lend to the poor. As of February 1998, VBP's loan portfolio amounted to Dong 1,200 billion and was providing credit to about 1.2 million poor households at concessional rates (0.8 per cent to 1 per cent per month) with a maximum loan of Dong 2.5 million per borrower. Expansion of VBP is constrained by under emphasis on savings, under estimation of transaction costs and below market interest rates. Therefore, lending is highly dependent upon government or donor support. Moreover, the bank uses the infrastructure and the personnel of VBARD and pays a fee for such services. Any expansion of its operations would therefore imply lending through VBARD.

2.4.6 Education

Strong commitment by the government to education

The government of Viet Nam has traditionally had a strong commitment to education. The people of Viet Nam have enjoyed literacy rates typical of developing countries with much higher per capita gross national products. In 1991, the National Assembly approved the Law on Universal Primary Education. This law emphasizes the joint responsibility of the GOV, civil society, and the family in ensuring that all children from 6-14 year of age complete primary education. Educational status very much affects the ability of farmers and their families to access health, credit and extension

services as well as their ability to become aware of and take advantage of emerging market opportunities.

has led to dramatic improvements.

Education indicators have improved dramatically during the period 1993-1998, as shown by the two Viet Nam Living Standards Surveys (VLSS).

- Primary school enrollment rates were already high for both girls and boys but improved further, from 87 to 91 per cent for girls and from 86 to 92 per cent for boys;
- Lower secondary enrollment rates doubled for both girls and boys, and are now at 61 for girls and 62 for boys. The number of children enrolled in lower secondary school dipped to a low of 2.7 million in 1990, but this has now climbed to 5 million;
- Upper secondary enrollment rates have increased dramatically for both boys and girls, going from 6 to 27 per cent for girls and from 8 to 30 per cent for boys. 1.6 million children were enrolled in upper secondary school in 1998, reversing a downturn in enrollments seen in the late 1980s and early 1990s (World Bank. 15 November 1999. Viet Nam Development Report 2000: Attacking Poverty. Country Economic Memorandum. P. 5).

The government plans to strengthen minority-area education.

In Viet Nam, ensuring a strong base at the primary school level remains a priority. The Ministry of Education and Training (MOET) is planning to phase out an abbreviated, 120-week version of the primary school curriculum, as described below.

Emphasis remains on primary education and literacy.

In 1996, the Central Committee approved a list of objectives for the education sector (CPCC. 1996. Resolutions of the Second Plenum of the Party Central Committee, VIIIth Tenure, Hanoi. Pp. 9-11):

- the enrolment of most 5-year-olds into kindergartens;
- the universalization of primary education in 9 subjects for most children;
- the expansion and improvement of basic secondary education;
- the promotion of literacy to national standard for all 15-35 year-olds, with special;
- attention to mountainous and remote areas;
- the expansion of vocational training;
- the expansion of continuing education especially distance education;
- the eradication of “white spots” (villages without primary schools) in mountainous and remote areas;
- and the expansion of ethnic minority boarding schools and semi-boarding schools in clusters of communes and districts with a view to improving access of ethnic minorities to professional institutions and universities.

2.4.7 Community development and participation

Increasing realization that local participation is necessary to rural development.

The new emphasis on rural development and poverty reduction has highlighted the need of a wider participation of different sectors of society to sustainable and balanced development. At the local level that implies a wider scope of participation. When decisions are implemented in top-down fashion and the scope of redressing local malcontent is limited, there is the danger that even good policy decisions are not effective and conducive to development. Rural malcontent can occasionally be disruptive, as in the case of Thai Binh at the beginning of 1998.

Decree on grass root democracy seeks to increase the empowerment of local communities.

Cognizant of these problems, the GOV has moved forward in support of wider participation. The most important expression is what is known as the Decree on Grass Root Democracy of 1998 (*Decree 29/1998/ND-CP on the exercise of democracy in the commune).* The decree enhances participation of local communities in discussing issues concerning community development. It clarifies the relations between local people and the state and administrative structure at the local level (see table 2.66). It also highlights several community development issues and work involving information, discussion and decision processes by the people, discussion and decision process by the Commune People Councils and Commune People Committee, and work to be supervised and inspected by the people. Some key features of this decree involve the process of setting complaints, land use planning and management, annual commune budgets, investment plans, inspection of cases of corruption, and implementation of social safety programs. Of course, grass-root democracy and participation cannot be only the result of a decree. The process is complex and will take time. It is encouraging, however, that some policy guidelines and legal framework has started to be put in place. It will be necessary in the future to move further and make changes in administration structure and rules to identify mechanism for effective local community participation.

2.4.8 Development of Cooperatives in Viet Nam

Law on Cooperatives established in 1996 created the basis for new voluntary memberships.

In 1996, the National Assembly approved the Law on Cooperatives, providing a framework for the establishment of cooperatives based on voluntary memberships. In contrast to “old” cooperatives under central planning, the “new” cooperatives are receiving dividend payments in proportion to their share of contributed capital. The amount of shares bought by a member should not exceed 30 per cent of the total share of all members. Members are free to leave the cooperative and in such case they are returned their shares. The state does not interfere with the activities of the coops, but provides the legislative and policy environment. While in the past, coops were responsible for various social activities such as kinder garden, crèches, primary health care, collection of taxes and voluntary contributions, in the new system, they deal mainly with economic activities.

Incentives toward the establishment of cooperatives, particularly those in agricultural activities.

Government Decree 15/CP/1997 provided several incentives toward the establishment of cooperatives including:

- waiver of land taxes for coops involved in agricultural activities;
- land tax exceptions for the first five years for coops located in mountainous areas and islands;
- 50 per cent reduction of taxes for first two years for cooperatives with business certificates;
- the possibility of importing and exporting directly for cooperatives producing export goods.

Limited capital available for coops, mostly in the form of fixed assets.

Funding sources of cooperatives originate from membership fees, loans, and income generated from provision of services and business activities. Membership fees vary between Dong 30,000 and Dong 500,000, but for newly established coops members tend to pay more than for previously existing coops that were transformed into new coops. As far as loans are concerned, they originate from program 120, VBARD, commercial banks, and other financial institutions. However, these loans are small, given the limited amount of acceptable collateral that the coops can provide. Data for 1962 transformed coops indicate an average capital varying between 233 to 1134 million Dong in 1998, the major part of which is in the form of fixed assets (see table 2.67).

In the process of implementation of the Cooperatives Law, the number decreases in the North and increases in the South.

By the end of March 1999, there were 8441 agricultural coops of which only 213 were established after the new laws. The total number of transformed coops, however, accounted for about 57 per cent of total agricultural coops. In the South, by the same period, almost half of the agricultural cooperatives (855 out of 1686) were transformed, while almost 40 per cent were in the process of being transformed or dismantled. During the process of implementation of the cooperative law, many changes in the number of cooperatives occurred, because of splitting, merging, dismantling, or formation of new coops. In the North, the total number of cooperatives in March 1999 was reduced by 3002 relatively to two years before. At the same time, in the South, the number of coops increased, albeit by a small number (from about 1689 in 1996 to 1729 in January 1999). The large gap in the number of coops between the north and south is a reflection of the strong cooperative movement in the 1960s and 1970s in the North, whereas collectivization in the South during the 1980s was not successful.

Membership tends to be of larger size in the North than in the South.

Sources from MARD reveal also that the average size of cooperative varies from region to region; in the North, coops tend to have a larger membership than in the South (see table 2.68).

A broad range of activities, but not much involved in production

Generally, agricultural cooperatives are no longer involved in production. Their main activities refer to input supplies (fertilizers, pesticides, seeds, water, and electricity), service provision (land preparation, plant protection, veterinary), credit, technology transfer, and marketing of products (rice, fish, coffee, etc.). So far, the TA team was not able to obtain more precise information on the

distribution of cooperative according to their main type of activity.

Experience in other countries suggest an important role for coops in agriculture dominated by small holder farmers.

In many countries, cooperatives are among the main form of farmers associations that provide marketing, credit, and extension services to their members. As such, they have large memberships and capital, thus compensating for the small size of the members. By exploiting economies of scale, they can provide an effective tool for small farmers to compete with large farmers and agroindustial business in accessing to domestic and international markets. Given the distribution of land in Viet Nam, characterized by an overwhelming majority of small holding farmers (with less than 2 ha), it would seem natural the emergence of well-organized coops of this type. However, the experience with the implementation of the Law on Cooperatives is still too short to draw conclusions on how this process will evolve. Most cooperatives are still very small in size, are under-capitalized, and face problems related to weak capacity of the staff.

2.4.9 Health

The government has always given a high priority to health care

The health sector has undergone considerable change as a result of the implementation of the *doi* moi reforms. The government of Viet Nam has consistently given a high priority to health care. However, the public health sector began to deteriorate following reunification in 1975 and the decline accelerated during the 1980s due in part perhaps to some years of negative economic growth in the 1980s. The break up of the cooperatives in the late 1980s resulted in greatly reduced local financing for communal health centers, which in turn limited their ability to deliver important primary health care. The collapse of the Soviet Union in 1991 resulted in the loss of Viet Nam's imported drug supply system.

but recent reforms have partially privatized health care, limiting access for some.

The *doi moi* reforms in the late 1980s introduced private financing and delivery of health care. In addition, public hospitals and to a much smaller degree health centers began charging patients for consultations and drugs to initiate some cost recovery. Doctors and nurses opened up private practices, often in parallel with their public practice. Private pharmacies sprang up throughout the country and there was inadequate technical supervision of this new drug delivery system. Salaries of medical staff at public facilities fell in real terms during this period. Facilities were unable to recruit and keep qualified medical staff. As the quality of public health facilities fell, out-patient consultations and inpatient admissions fell substantially in the late 1980s. One of the most significant outcomes of the development of this two-track health delivery system was that poor people began to have significantly less access to health care services than did their wealthier neighbors.

Recently, fee exemptions for the poor have been introduced.

In recent years, the government has begun to implement an equity-oriented approach to financing nationwide health-care services. Fees are collected from high-income patients to reduce and exempt fees for the poor (Do, 1999, p.3). In 1998, income from patients provided about 13 per cent of the total budget for health care. At the same time, growth in private medical practices and pharmaceutical companies has added depth to the medical industry.

Impact on health status

Viet Nam s health and nutrition status is quite good for its income level

In spite of the problems associated with the reforms, the health status of the population is relatively good given the low level of income. In 1990, life expectancy in Viet Nam was similar to life expectancy in countries with incomes five to ten times higher such as Malaysia, Philippines, and Thailand. Vietnamese life expectancy was also about 10 years longer than in countries with comparable incomes such as Bangladesh and India. Similarly, Viet Nam's child and infant mortality rates were about half those in countries with similar incomes and close to those in higher income countries. Viet Nam has more doctors per 1000 inhabitants than almost every other country in the region.

as shown by its infant mortality rate.

As shown in table 2.69, infant mortality as fallen steadily through recent decades. According to World Bank statistics, the infant mortality rate is below that of Indonesia, Thailand, and the Philippines, in spite of the fact that these countries have much higher per capita incomes (World Bank Development Report, 2000).

The VLSS also documents health status improvements.

The Viet Nam Living Standards Survey (VLSS) provides some information on recent changes in health status. This survey was carried out in 1993 with a sample of 4800 and again in 1998 with a sample of 6000. The results indicate that child malnutrition has declined by 33 per cent over the five-year period (see table 2.70). Furthermore, the gains are equal for girls and boys. The reduction in adult malnutrition is less (12 per cent), but not negligible.

A series of three nutrition surveys, however, present a mixed story.

A third source of data on health status is a series of three nutrition surveys carried out by the National Institute for Nutrition in 1989, 1994, and 1998. These three surveys provide a mixed story. On the one hand, the prevalence of malnutrition as measuring by stunting and wasting declined over 1989-1994 and over 1994-1998. On the other hand, the proportion of children considered underweight increased over 1988-1994 and then decreased over 1994-1998. In addition, the survey found relatively high rates of malnutrition in the Mekong Delta, a somewhat surprising finding given that this is the rice bowl of Viet Nam. These results will be discussed more in Chapter 3.

2.4.10 Gender and women equality

Women are more economically active in agriculture than in other sectors.

Social equity and equality between men and women have always been priorities of the government. They continue to be one of the main development objective. Women consist of 53 per cent of the labor force and have a high participation of the labor force with 75 per cent of women economically active. The women active labor is concentrated in the agricultural sector, where they represent more than 70 per cent of the total active females, while other economic sectors make up a lower rate. In most productive branches, women carry out manual work or labor-intensive works with low technologies; in return they earn low-incomes.

Feminization of agricultural activities.

In the process of rural employment diversification associated to Doi Moi, it has been observed a tendency toward "feminization of agricultural activities" (Tran Thi Van Anh and LNH, 1996, p. 116) particularly for lowland regions of Viet Nam, which represents a predominant ration of the total population. One of the main causes of the agricultural feminization was the gender differentiated seasonal rural-urban migration which in early 1990s tended to have a male character. The women, especially married ones, usually stay back home in the village and have to carry out the additional work previously undertaken by male members.

Longer working hours in rural areas affect women more than men.

One consequence of market orientation in rural areas is extended working hours (Le Thi, 1998, p.97).

> "In practice, even in female-headed advanced households, the decisive factor of success, in many cases, is the increase working times. The women usually have to wake up earlier, go to be later, working long hours themselves, and also attract to work children and old member. Women have little time to rest…
>
> The average working day of rural women lasts 12.5 hours, with an increase during planting/harvest time and a slight decrease during farming leisure time. The women of the Red River Delta, northern mountains, and northern central coast usually work 14 hours a day. Lonely and poor women in femaly-headed households have the longest working days which usually last 16 hours a day." (Tran Thi Van Anh, p.122).

The heavy workload of the rural women and the fact that much of their labor is tied to the home makes them less mobile and gives them less time to devote to political, social and cultural activities than men. The increased burden of work may make women exhausted, weaker and more vulnerable to diseases (Le Thi, 1990).

Market orientation in agriculture has given opportunities to women.

At the same time, the changes brought out by the market orientation in the economy and rural areas have improved the capacity of rural women to plan and manage family's production and non-farm activities. They have gradually become more active in making decisions. Women can use their time, energy, and mobilize labor of other family members for production in a more flexible way and with higher effectiveness than in the past. They may combine agricultural work with other non-farm activities to increase earning and improve their living.

Implementation of Land Law may hurt the rights of women.

With more opportunities brought out by the market orientation of the economy, there has also been an increasing awareness of some limitations related to access to land, credit, and extension of rural women. Although the Land Law establishes the principle of equal land use rights by all members of the household, titling practice for land use rights certificates provide for only one name, usually the male head of the household. Not having both spouses named on

the deed may effect women's rights related to inheritance of land upon the death of the husband or divorce. Social and cultural customs may also prevent women from exercising their rights over land. Thus, with marriage, daughters may lose land allocated to them. Current practice allows a woman to maintain ownership when she moves in with her husband's family and marries within the same commune. However, if she marries outside the commune, she likely loses control over her land.

Limited access to bank s credit, and agricultural extension and inputs.

According to law, wives share property rights on land, assets, and house with their husbands. As such, they could use the collateral for apply to bank credit. In practice, this is often not recognized by the formal banking system, and credit will not made available without the signature of the husband. Similarly, women's access to extension services, new technologies, and agricultural inputs may be neglected due to the lack of clear ownership rights.

Viet Nam is at the forefront in the implementation of the Beijing World Conference ideas.

One of the more encouraging shifts in policy towards women is the follow up by the GOV to the World Conference on Women (Beijing, 1995). Directive 37 of the Communist Party states that training institutions of the Party, State, and mass organizations should set targets for female enrolment. Decree 37 also urged speeding up the implementation of family planning and decrease of growth rate. In relation to decision making, the decree instructs all levels of the Party and Government to fill at least 20 per cent of positions with women. This has been achieved in Parliament with 26 per cent women elected to the National Assembly in 1997. Training for more than 16,700 women candidates is being conducted in the 1999 People's Council elections. The Prime Minister signed the National Plan of Action for the Advancement of Women to 2000. Other decisions have related to domestic violence, illegal trafficking of Vietnamese women and girls abroad while government agencies have developed a work plan to secure data for monitoring Convention on the Elimination of all forms of Discrimination Against Women.

CHAPTER 3. CONSTRAINTS

The objective of this chapter is to discuss the major constraints to accelerated, balanced, and sustainable agricultural growth.

The previous chapter has reviewed past trends, policies, and programs affecting the agricultural sector in Viet Nam. The review has highlighted the achievements in agricultural and rural development. At the same time, it has suggested that the process of sustainable and equitable growth in Viet Nam is still constrained by various factors. The objective of this chapter is to deepen the discussion of these constraints arising from still poorly developed markets, institutions, policies, and physical and social infrastructure. The discussion does not pretend to be exhaustive, given the limited amount of time the Team had to make such assessment. It is expected, however, to provide a basis for the direction of analysis in future phases of the project.

Discussion of constraints produces long lists. Need of a conceptual framework.

In discussion of constraints, there is always a risk of producing long lists. The major disadvantage of a long list is that it leaves the reader with the uneasiness caused by not being able to identify what constraints are more important. Furthermore, a long list is often not very useful to guide policy debate. A long list requires a conceptual framework to make clear what constraints can be acted upon in the short term, medium term, and long term.

Viet Nam is essentially a rural society likely to remain such in the long term.

The underlying idea of this conceptual framework is that much of Viet Nam is essentially a rural society likely to remain as such in the long term. Since agriculture and agroindustry are the main subsectors of a rural economy, it is important to realize that constraints to agricultural growth will be removed only through a sustained effort over a long period of time. About 70 per cent of the labor force in Viet Nam is engaged in agriculture and about 80 per cent of the population lives in rural areas. To put these figures in regional perspective, it is worthwhile to look at Indonesia and Thailand, two rice economies like Viet Nam that have matured to the status of lower-middle income group. These two economies grew at a remarkable rate of nearly 7 per cent per year over the two decades from 1970 to 1990, but the share of the labor force engaged in agriculture fell only 11-16 per cent during this period. This suggests that Viet Nam will continue to be predominantly a rural economy for a long time and that any long-term growth strategy must take into account rural areas**.**

A large share of the labor force is still in agriculture and is characterized by low labor productivity.

Even though Viet Nam's economy has grown considerably during the 1990s, its GDP/capita is still quite low and the country belong to the low income group as classified by the World Bank. Structural transformation of the economy has implied a lower share of agriculture in economy, declining from 40 in 1990 to 24 in 1998. However, the share of agricultural labor has changed little over this period, remaining at about 70 per cent of total labor force. The share of agricultural labor is larger than the share of agriculture in GDP, an indication of low agricultural labor productivity. Table 3.1 shows that agricultural labor productivity as a share of total labor productivity has declined over the period 1990 to 1998 from 56 per cent to 35 per cent. Given an already low income per capita, the low productivity of agricultural labor is closely associated to

widespread poverty. This low productivity is reflected in rural incomes substantially lower than urban incomes and in a consumption basket that is oriented toward food. In the absence of an urban service and industrial sector able to absorb excess rural labor rapidly, it becomes important to maximize the labor-absorptive capacity of the rural sector by adding labor-intensive farm activities and rural-based industries to traditional agricultural production.

Low agricultural labor productivity results in rural poverty.

Poverty in Viet Nam is still affecting a large share of the population and is concentrated in rural areas. Even though Viet Nam has made remarkable progress in reducing poverty over the five-year period from 1992-93 to 1997-98, poverty is still affecting a large share of the population. The consequence of a large share of agricultural labor coupled with low agricultural labor productivity is widespread poverty. Out of an incidence of poverty of 30-45 per cent, most of it is located in rural areas. Slightly less than half of all agricultural households are poor and it is estimated that these households accounted for 79 per cent of total poverty in the country in 1998. This implies that policies to reduce poverty must be targeted to agricultural households if they are to achieve any further reduction in poverty. Such policies will involve, among other things, improving access to infrastructure, credit, land, markets, and information so that different output mixes (including both farm and non-farm activities) can benefit the poor.

Constraints to agricultural growth are classified in short term (less than 5 years), medium term (5 to 10 years) and long term (more than 10 years).

If the two distinguishing features of the agricultural sector in Viet Nam are a large labor force and low agricultural labor productivity, what kind of policies and strategies can accelerate growth of the sector in a sustainable and balanced fashion so that overall rural and economic development will result? The main purpose of phases 2 and 3 of the TA is to address this question. In phase 1, the TA will identify some of the key constraints that need to be resolved in the short (less than 5 years), medium (between 5 and 10 years), and long term (more than 10 years).

The classification of constraints is based on the perception of what Viet Nam is thought capable to achieve within different time periods.

The classification depends on what it is thought the GOV could achieve in different periods to remove the constraints, given the current status of the economy and rural society, its resource endowments, and its institutional setup. Of course, that will require adequate policies, investments, and programs that target the identified constraints.

3.1 CONSTRAINTS IN THE SHORT TERM

The short term constraints identified in this section are:

- Low investment in agriculture
- Poorly functioning land markets
- Limited access to credit and underdeveloped rural finance
- Lack of focus on post-production systems
- Underdevelopment of agroindustry
- Low investment in agricultural research

- Insufficient agricultural extension
- An underdeveloped seed industry
- An unsustainable irrigation system

3.1.1 Low investment in agriculture

Low total investment in agriculture and fiscal bias against agriculture.

Agriculture contributes only 7 per cent to total investment, in spite of a 24 per cent share in GDP. Of the 7 per cent, most is contributed by the state budget and SOE, leaving only a small share (35 per cent) to the private sector. Moreover, the state investment in agriculture does not reflect the share of agriculture in GDP or the contribution of the sector to employment. While agriculture contributes about a quarter of GDP and employs three quarters of labor force, the state spends only 6 per cent on the sector (see box 3.1). This bias is aggravated by the scarcity of non-state investment in agriculture, originating from the private sector and FDI.

Low investment when compared to PIP. Large share allocated to SOE.

Government planned investment for the five-year period 1996-2000 reflects a strong orientation toward SOE. Of total investment planned in agriculture, 45 per cent was allocated to SOE, 23 per cent was supposed to come from state budget, and only 25 per cent was expected to come from households (the remaining 7 per cent from FDI). In fact, many of the SOE engaged in agriculture (a total of 590 in 1998) are generating losses. Many are engaged in activities such as production, trade, and services that would be best if left to the private sector. Moreover, even the actual state budget investment was much lower than what was planned. For the two years 1997 and 1998 for which data are available, only 12 per cent to 15 per cent of state budget was allocated to agricultural investment versus the initially planned 23 per cent from PIP. The large share of investment going to SOE is aggravated by the fact that SOEs generated relatively little employment. In 1998, 597 SOEs in agriculture hired only 228,000 employees, a figure to be compared with the more than 10 million farming households in the countries.

Bias in favor of SOE conflicts with efficiency and private sector promotion.

The bias in favor of SOE in state budget allocation to agriculture should be reevaluated in light of two key aspects. First, the low level of efficiency of many SOE is well known. Second, several SOE are engaged in activities that do not have what economists call “public good” character. That implies that these activities, such as production, trade, processing, and marketing, would often be better if left to the private sector. By allocating scarce capital to SOEs, the private sector is often crowded out from total investment, something that is highlighted by the extremely low level of private investment in agriculture in Viet Nam (see table 3.2).

New PIP for 2001-2005 might redress some of the past bias against agriculture

MPI is currently preparing a public investment program for 2001-2005 in collaboration with line ministries. It is expected that rural and agricultural development will be given priority in areas such as irrigation and infrastructure, especially in areas suffering from natural calamities and in the central and mountainous areas. The

new plan is likely to devote more resources to rural areas and agriculture.

Box 3.1: Some insights from 1997 and 1998 State Budget

Following the Prime Minister's Decree 225/1998/TTg, the GSO published the State Budget for the first time in June 1999. The decree approved the decision to publish state, provincial and commune budgets every year. This has introduced more transparency in fiscal decision affecting various sectors of the economy and will over time become a vehicle for ensuring accountability of different levels of the state.

i) Inter-sectoral allocation: Agriculture received 5.25- 6.25 per cent of all state expenditures (or 12-15 per cent of total capital expenditures and 2 per cent of current expenditures).

ii) Capital versus current: Agricultural expenditures were divided into 73 per cent capital expenditures, and 27 per cent current expenditures. Current expenditures consist of salaries and wages (15 per cent), subsidies and transfers (15 per cent), and goods and services (70 per cent).

iii) The state has increased capital expenditures in agriculture from 0.3 per cent of GDP in 1990 to 1 per cent in 1999. Capital expenditure makes the largest share. In 1998, for example, of the total capital expenditures of Dong 3,492 billion in agriculture, the state budget for irrigation was Dong 2,307 billion or the equivalent to 67 per cent.

iv) Central versus local: 56 per cent of total agricultural expenditures were spent at the central level.

v) Intra-sectoral allocation: The most important sub-sectors are irrigation (absorbs 50 per cent of which 92 per cent is capital expenditures), two national programs on reforestation and land reclamation (14-17 per cent), and forestry services and forestation (10 per cent).

vi) In the 1996-2000 PIP, agriculture was allocated 23 per cent of state budget investment, almost twice as much as what the sector actually got in capital expenditures from the state in 1997 and 1998 (23 per cent versus 12-15 per cent).

vii) In per capita terms (assuming an agricultural population of 54 million people) and in 1998 nominal prices: public expenditures per person deriving income from agriculture is VND 86,631 (about $6 per person) equivalent to 5 per cent of agricultural GDP per person.

3.1.2 Poorly functioning land markets

Despite clarification and allocation of land use rights, many transfers of land rights are not recorded.

Land is the major productive asset of rural households in Viet Nam. Since 1988, a rich policy debate on land has taken place and has resulted in important policy decisions resulting in the Land Law of 1993 and its related circulars, decisions, amendments, and clarifications. The process of giving land use rights and recognizing

clarifications. The process of giving land use rights and recognizing a price for the land is key to the emergence of a land market. However, the majority of transfers of land use rights are not being recorded with state offices.

As a productive asset land should have a price determined largely by demand and supply in a market system. However, several constraints limit the emergence of a land market,

As a productive asset, land contributes to the food security and income of the majority of rural households in Viet Nam. As any productive asset, land is supposed to have a price that should be determined largely by supply and demand in a market system. However, in Viet Nam the price of land is still not fully reflecting the functioning of a market. Several reasons contribute to this, most important of which are: land ceilings, restrictions on land transfers, use of land as a collateral, restriction in the conversion and transfer of paddy land, and the limited duration of land use rights.

such as Land ceilings appear to retard the process of land consolidation

The Land Law, according to different types of land, currently sets ceilings on the amount of land that may be owned by farm households. By allowing land transfers since 1993, however, the law set in motion a system of exchanges that inevitably has to conflict with current ceilings on the allowed size of land holdings. Even though large landholdings are allowed, provided that the excess land is rented, it is very difficult that in the long term the law can control some form of land concentration in the hands of the most enterprising or rich households. The current policy on land ceilings limits a process of land consolidation that could contribute to bigger investment in rural areas and rapid growth. The recently policy resolution on commercial farms (February 2000) has recognized this situation and set the framework for future legislation.

As households evade land ceiling restrictions. information about landholdings become unrealiable

The result is a very confused situation and lack of reliable information for making policy decision. Many households in rural area in fact have large landholdings, well in excess of the ceilings recognized by the law. These landholdings are not registered either to avoid the penalty of the law or to avoid heavy taxation. The result is a gross underestimation of large landholdings and, obviously, of landlessness.

Land transfers are encumbered by strict regulations that limit the emergence of an active market

The Land Law allows land transfers, but regulations remain strict, the registration cumbersome, and the taxation high. In fact, in 1999 taxes on transfers have been considerably reduced and this might contribute to a more active land market. The other restrictions on land transfer, however, still limit the expansion of the market.

Restrictions on conversion of paddy land limit alternative and more profitable uses.

Land use is also strictly regulated, particularly in the case of paddy land that is often not allowed to be converted to alternative, and often more profitable uses. The logic behind these restrictions is to ensure food security. However, the logic is consistent with a policy of self-sufficiency rather than with a policy of food security. If alternative uses of land are more profitable, they may well be more conducive to higher income and improved food security than paddy. If rural households are recognized as economic units, then they should be recognized as the best decision makers in relation to their productive assets.

Use of land as collateral to access bank credit is limited by the ability of banks to auction land.

Even though land can be used as collateral in accessing bank credit, in practice this is not yet resulting in an expansion of rural credit. Banks limit the collateral to the amount of land rent already paid, implying that only insignificant amounts can be borrowed against collateral. If the borrower cannot repay the debt, banks find themselves in a very difficult position to auction the land. In fact, banks cannot sell the land directly. Only the people communes or other state agencies are allowed to do so. This situation greatly limit the link between credit and land markets and slows down the expansion of rural credit.

Short land use rights limit long term investment.

Terms of land use are also limited by law. Long term investment in land and consolidation of landholdings suffer because of limits on long term use rights. Amendments to the Land Law have increased the duration of land use rights and current debate is about further extensions (50 years or longer).

3.1.3 Limited access to credit and underdeveloped rural finance

Only 30 per cent of rural households are reached by the VBARD.

Any casual interview with rural households and enterprises will confirm the limited access to credit. Even though the three major rural financial institutions in Viet Nam, namely the VBARD, VBP, and PCF have made considerable progress in outstanding loans growth, the needs of rural households are still largely unmet. The largest rural credit institution, VBARD, reaches about one third of rural households and average loans are low (about $300) and mostly short term (less than one year). In addition to the weak link between land and credit market mentioned in the previous section, other major constraints limiting the emergence of a more developed rural finance system include interest rate controls, subsidized credit, favored treatment of SOE, prohibition of foreign bank to enter the land-mortgage market.

Controls on interest rates make more difficult the mobilization of savings and the allocation of credit to the most profitable investments.

Controls of interest rates on loans and deposits prevent the financial system form functioning effectively. When interest rates on deposit are limited, banking institutions find it difficult to mobilize savings. Ceilings on interest rates result in credit rationing, thus making it more difficult for credit to be allocated to the most profitable investments.

Subsidies to interest rates in programs to help the poor might further limit the emergence of commercial banking and the sustainability of rural financial institutions.

The practice of subsidizing credit to the poor that is implicit in the VBP, in various programs of VBARD, and various NGOs and mass organizations may inhibit the development of commercial banking and the emergence of durable financial institutions in remote areas. Experience with microfinance for the poor from other countries suggests that a sustainable system could be developed using market interest rates. The problem of limited access is different from the problems of market interest rates.

Preferential treatment of SOE in credit allocation is based on non-commercial

Favored treatment of SOE in rural credit does not bode well for the expansion of credit to rural households. Credit to SOE is often allocated on the basis of non-commercial motives, such as directives from the central level. This has often caused serious loan

motives. In fact, millions of rural households and SME are excluded.

directives from the central level. This has often caused serious loan recovery problems for the commercial banking system as in the case of the sugar industry. Moreover, by giving a preferential treatment to SOE, millions of rural households and SME are restricted in their access to credit.

Foreign banks are not allowed to enter the land mortgage market.

Limited access to credit is also the result of not allowing foreign banks to be involved in land mortgage markets. This new competition with domestic banks in rural areas would improve overall bank lending.

3.1.4 Lack of focus on post-production systems

Little investment has been devoted to post-production systems in Viet Nam, in spite of the large contribution to value added.

The largest proportion of agricultural investment in Viet Nam has focused on improving production technology, for example through improved irrigation systems. Much less attention has been devoted to the chain through which agricultural commodities and products reach the final consumers within the country and abroad. This lack of attention is reflected in the of state budget to postharvest technology research which in year 1999 was Dong 1.5 billion, equivalent to 5.3 per cent of total research budget for agriculture. Yet, post-production activities offers the opportunity of generating higher value-added than production activities. In some industrialized countries, post-production activities provide 80 per cent of total value added in agricultural products. Even though figures for the contribution of postharvest activities to agricultural GDP are not readily available, it is thought to be at least 30 per cent in Viet Nam.

Post-production activities are important for all agricultural products, particularly for perishables, that tend to be high value products.

Postharvest activities are important for all agricultural commodities. In the case of grains (rice and maize), activities such as drying, storage, milling, grading, and packaging contribute to reduction of losses, increase of labor productivity, and higher prices in international markets. Even though quality of rice exports has increased over the years, still there is room for considerable improvement, particularly related to variety selection, storage, and milling. In the case of perishable commodities such as roots and tubers, fruits and vegetables, and animal products, the scope for improvement is even larger. Perishable products require more sophisticated handling, storage, processing, transportation, and quality assurance systems than grains. For example, according to the Postharvest Technology Research Institute, the lack of appropriate storage facilities in rice is thought to be responsible for 6 to 9 per cent of losses after harvest, while it is 18-19 per cent for maize, and 20-25 per cent for cassava and sweet potatoes.

Some success in postharvest technology generation

Besides storage losses, other aspects of postharvest systems contribute to the final value added of agricultural production. Viet Nam has been quite successful in technology development of the small driers for paddy that now are disseminated in other countries in Asia through IRRI. Quality of rice exports has improved in terms of percentage of broken grains. While in 1989 only 1.8 per cent of total exports was of 5-10 per cent broken type, the percentage rose to 53 per cent in 1998. Furthermore, Viet Nam was the first country

to set quality standards for Dragon fruits, a move that is key to enter foreign markets. Yet, despite these successes, there are many limitations due to technological aspects and a weak link between development of technology and marketing, particularly marketing of products for exports.

Th competitiveness of Viet Nam s food and agricultural exports depend on improving quality.

Quality assurance systems are needed to improve penetration and market share of Vietnamese products abroad. As supermarkets increasingly dominate the global agroindustry at the retail stage, the requirements of high product quality become more and more pressing. Grades and standards imposed by other countries often represent a barrier to trade for those countries such as Viet Nam that cannot meet these quality requirements. This is more the case for perishables such as fruits and vegetables, and animal products, than for grains such as rice.

Organizational problems related to the dependence of research on SOEs.

Postharvest research is still very limited in Viet Nam. The private sector is virtually absent from it, and the public sector is grossly underfunded. Moreover, there are also organizational problems that complicate the development of postharvest research, such as the dependence of some research institutes (for example the Postharvest Technology Research Institute, the Research Institute for Tea, the Research Institute for Vegetables and Fruits, etc.) on SOEs.

A poorly developed postharvest system will limit competitiveness and constrain domestic demand.

Under-funding and organizational problems contribute to the weak capacity of researchers to contribute to the development of postharvest systems. Not only this will have negative effects on the competitiveness of Vietnamese agriculture abroad, but also it will constrain domestic demand for products that are safe, high value-added, and convenient.

3.1.5 Underdevelopment of agroindustry

Agroindustry units represent about 80 per cent of total rural industry.

According to a study by UNIDO (Rural Industrial Development in Viet Nam, 1999), food and foodstuff manufacturing in rural areas dominate with 36 per cent of all manufacturing units followed by other agro-processing (16 per cent), wood processing (15 per cent), and textiles and garment (13 per cent). In total about 80 per cent of all rural industries are based on domestic natural resources related to agriculture.

Public expenditures and total credit is biased toward SOEs

Private sector agroindustry is the major source of employment and income generation in rural industry. Less than 4 per cent of total employment in rural industry is generated by SOEs (see UNIDO 1999). Yet, the allocation of state budget and credit is heavily biased in favor of agroindustrial SOEs.

in spite of poor economic performance

The bias towards SOEs does not seem to be based on economic performance. SOEs in agroprocessing in the north of Viet Nam are running at a loss equivalent to 13.8 per cent of turnover, or a negative return on equity before tax of –23 per cent. Non-state enterprises in agroprocessing on average are running at a profit before tax equivalent to 5.1 per cent of the turnover or a return on

equity before tax of +27 per cent, which is quite acceptable by international comparison (see UNIDO 1999).

and low contribution to employment in rural areas.

Not only are SOEs not performing well, but also they are not contributing to employment generation in rural areas. A study by Minot (1998) shows that 88 per cent of employment in the food processing sector is generated by enterprises with less than 500 workers. Moreover, 98 per cent of all enterprises in the sector are companies with less than 10 workers (see Minot 1998).

Food processing is a major source of agricultural growth in many developing countries.

Much agricultural growth in developing countries is linked to food processing. On average, in high-income countries, processing of food, beverages and tobacco accounts for 13 per cent of value added from manufacturing activities, while it accounts for 30 per cent in developing countries (see World Bank 1995). In most developing countries, agroindustrial products are the major products exported, frequently accounting for half of the exports (see Austin 1992).

In Viet Nam, food processing is a dynamic industrial sub-sector.

Evidence for food processing in Viet Nam, where it is a large and growing industry, seems to confirm these general statements. In 1997, value added in this sector was estimated at about US$ 2.0 billion. As shown in Table 3.3, this represents about 8.8 per cent of GDP and 35.5 per cent of industrial value added. Moreover, the sector's contribution to GDP appears to be growing. In 1991, it represented just 6.7 per cent of GDP, but over the period 1991-1997, value added in food processing grew 14.0 per cent annually, while GDP grew only 8.9 per cent annually. Growth in the food processing has even outpaced, by a small margin, the industrial sector in general (see Minot 1998).

Outdated machinery is not always the key constraint in the food processing sector.

Food processing enterprises have less fixed capital than other enterprises in Viet Nam (see Minot 1998) and they are generally more profitable. In fact, the food processing sector is large, profitable, and growing. This illustrates some of the risks in assessing the potential of an economic sector based on its level of capital-intensity. It is striking that successful enterprises are not necessarily those with the most modern and technologically advanced equipment. Rather, the successful ones are those that are skilled at finding new and better ways to do something: the coffee producer who realizes he can save money on transportation by filling the truck for the return trip to HCMC, the seafood processor who works to develop relationships directly with fish traders instead of wholesalers, or the vegetable exporter who accepts a loss on one shipment in order to maintain his reputation for reliability with the importer. "Modern" machinery is almost always more efficient from a technical point of view, but to be efficient from an economic point of view it must justify higher costs. Certainly, additional equipment is needed in many cases, but it will do little to improve the economic performance without strong management, responsive marketing skills, adequate training, and a good incentive structure.

The distribution of agroindustry characterized by a dichotomy between micro and large enterprises suggest the existence of constraints for the private sector to mature from one stage of firm size to the next one.

The distribution of firm size in food processing and agroindustry in general, suggests that there is a dichotomy between large enterprises, usually SOEs and the vast majority of private micro and small enterprises (see figure 3.1). Such distribution indicates the existence of constraints that the private sector in rural areas face in maturing from the stage of micro enterprise to the stage of medium and large enterprises, mostly because of limited access to credit, technology, and markets.

The bias against SME in credit allocation has negative effects in terms of income and employment growth of the entire economy, not just the rural areas.

Probably the most binding constraint is limited access to credit for small and medium enterprises. This has been documented elsewhere (see UNIDO 1999). The consequences of this bias against SME in the rural agroindustry are perhaps less understood. The allocation of credit to large and inefficient enterprises has not only negative effects on efficiency, but also on employment generation and on the growth of agriculture. Because of its close links with agriculture, agroindustry development can contribute to the growth in production and income of farmers. In a study of the starch processing industry of Viet Nam Goletti and Rich 1998 show that the injection of credit to small and large enterprises has markedly different effects. Income growth of the overall sector, as well as farmers' income and processors' income would be higher if the credit were given to the small rather than to the large enterprises (see table 3.4). The main reason behind this striking result is the higher output-capital ratio of small enterprises. With limited amounts of capital equipment, small enterprises can employ their labor more efficiently than larger enterprises, find market niches, and adapt more flexibly to new environments.

A broad-based approach to agroindustry development might actually make small and medium enterprises more conducive to growth than large enterprises.

Given the conditions of Viet Nam rural economy, with a land distribution characterized by small farms, an underdeveloped infrastructure, and a distribution of industry dominated by small enterprises, a broad-based approach to agroindustry development (see Goletti and Samman 1999) may be more adequate than a large-enterprise model to respond to the challenges or rural poverty. The broad-based approach recognizes the scope for economies of scale in the long-run, but it is also aware that in the short and medium term transaction costs, niche markets, and intra-industry linkages might actually make small and medium enterprises more conducive to growth than larger enterprises.

The absence of SME belonging to the corporate sector (limited liability and joint-stock companies) is a missed opportunity for Viet Nam.

The limited importance of SME in Viet Nam is highlighted by the small size of the private corporate sector, consisting of the limited liability and joint-stock companies (Riedel and Tran 1997). In manufacturing (the part of industry that includes agroindustry), in 1995 only 1.7 per cent of all companies belonged to the corporate sector. The proportion might be slightly higher in the agroindustry subsector but the TA team was not able to obtain data. The contribution of the corporate sector to GDP is about one per cent. Between the million household enterprises and the large SOE, there is a gap. This is the gap of the SME belonging to the

corporate sector, a sector that is still largely underdeveloped in Viet Nam, despite its high potential to become an engine of growth.

3.1.6 Low investment in Agricultural Research

Fragmented structure of the agricultural research system.

The agricultural research system in Viet Nam is characterized by a very fragmented structure. There are about 30 agricultural research institutions, 18 of which are under the control of MARD. The rest are owned by commodity SOEs (rubber, tea, coffee, sugar, etc.) or are semi-independent institutions that receive government support but are also dependent on external sources of finance. Each institution has small budgets and staff, and little coordination with other research centers.

Reorganization of the research system is encountering difficulties.

In 1996, the GOV had decided to re-organize the national agricultural research system as follows: (i) keep or merge some institutions but continue their full state funding (both salary and research funds); (ii) move some institutions or centers to SOEs and gradually reduce direct state funding to these centers; and (iii) spin-off some institutes to become independent self-financing organizations within 5 years (if unable to become independent, these would be dissolved.) However, the implementation of the re-organization scheme has run into several difficulties related mainly to problems in identifying which centers to merge, the resistance of some centers to be cut-off from state funding, and the resistance of some SOEs to be stuck with an under-funded research center.

Very low levels of budgetary support for agriculture, even when compared to other countries in the region.

The evidence indicates very low levels of state contribution to agricultural research. Total public expenditures for agricultural research in 1998 and 1999 were about VND 80 billion (see table 3.5). This is equivalent to 1.7 per cent of public expenditures in agriculture and 0.08 per cent of agricultural GDP. In comparison, China spends about 6 per cent of its agricultural expenditures on research, while Malaysia, Pakistan and Thailand invest about 10 per cent; other Asian countries spend at least 3 per cent (Fan and Pardey 1998, Table 16, p. 70). Therefore, by any standards, the amounts in Viet Nam are very low and cannot sustain an effective research program to develop improved crop varieties and increase the quality and marketability of Viet Nam's export crops.

Most of budget allocated to research is spent to pay salaries leaving very little for research activities.

In 1999, the number of scientific research staff was about 4,874, however, only 4,114 were approved for funding by the MOF. More than half of agricultural research expenditures are used to cover salaries and current expenditures on research equipment and machinery (see Table 3.6a and 3.6b). Spending on salaries and current expenditures for research staff for 1999 was VND 43 billion or the equivalent of VND 10.5 million per staff per year ($750). There was also very little change in the budget between 1998 and 1999. The planned budget for 2000 has been approved by MARD and includes about 10 per cent increase and salaries and current expenditures.

Major institutional and budgetary reforms are necessary for Viet Nam to realize the potential of its agriculture.

The agricultural research system in Viet Nam needs both institutional and budgetary reform. Returns to investment in agricultural research are known to be very high worldwide. For example, Fan and Pardey (1998) show that public investment in agricultural research has contributed to about 20 to 40 per cent of the agricultural production growth of 9 Asian countries. Investing in research is crucial if the GOV wants to achieve its stated goal of raising agricultural productivity and enhancing its competitiveness in world agricultural markets. In 1996 for example, average paddy yields in Viet Nam were still smaller than those in China or Indonesia (3.6 tons/ha versus 6.1 and 4.5 respectively). Therefore, the country still has a lot of potential to increase its crop productivity, but it has not invested an adequate amount of funds to support this research. Increased public funding needs to be accompanied by more rapid implementation of the re-organization program that the GOV decided in 1996 to undertake.

3.1.7 Insufficient Agricultural Extension

Despite a long history of agricultural extension in Viet Nam, the national agricultural extension service was only created in 1993

Agricultural extension in Viet Nam has a long history. King Le Hoan 979-1009) ploughed in the Farming Ceremony in order to encourage peasants to produce. King Quang Trung (1888-1792) proclaimed the royal decree of Agricultural Extension. President Ho Chi Minh reminded officials of the key role of agricultural extension in eliminating starvation in the early years of Viet Nam's independence. During the first 30 years of agricultural policy in independent Viet Nam, however, the emphasis has been on use or the cooperative system as the preferred mode of agricultural extension. After the decollectivization of agriculture and the adjustment of public institutions in the late 1980's, the Government created a national agricultural extension service in 1993. Under the responsibility of the Ministry of Agriculture and Rural Development (MARD), a Steering Committee for Extension evaluates, formulates, and supervises projects, and allocates funds for extension projects. At the provincial level, District Extension Stations are created in each district and provide training and demonstrations and support clubs of successful farmers. At the commune level, village extension agents from the ex-cooperative technical groups are hired on a contractual basis for various extension projects.

Voluntary extension organizations complement the national system.

In addition to the national network from the central to the grassroots levels, there are voluntary extension organizations. These are independent sections of institutes, schools, mass organizations, or even individuals who are engaged in highly profitable extension functions, often closely related to product sales or services such as provision of seeds of new varieties, sale of fertilizers, chemicals, fruit tree seedlings, breeding animals and seedlings of high value. These organizations are usually highly competitive among themselves and are run as business enterprises.

There is evidence of successful extension activities.

Examples of successful extension activities during the recent years include the project on seasonal crop changes and hybrid rice cultivation. The seasonal crop project was implemented in the Central Coastal Region. Demonstration units were established to

convert three uncertain rice crops to two stable rice crops (spring-winter and summer-autumn) or two rice crops and one alternative crop. The extension project on hybrid rice cultivation was activated in the 1993-1994 spring-winter rice crop, when hybrid rice varieties were planted on 51,000 ha and additional gross production was 75,000 tons. Area under hybrid rice varieties of 1994-1995 spring-winter Crop was 75,000 ha and 100,000 ha for 1995-1996. The yield of hybrid rice varieties is 1,0 - 1,5 ton/ha higher than that of local varieties.

Small number of extension worker to serve a huge farming population.

However, the work to be done is much more. The national extension service is in fact burdened by a scarcity of staff (including well-trained extensionists) and limited resources. Only 70 per cent of districts have an extension station and only 30 per cent of communes have an extension unit. A total of 2757 extension workers at the province and district level have to serve a farming population of 10 millions households (see table 3.7).

Low budget devoted to extension and allocated with a bias towards more dynamic subsectors.

State budget contribution to agricultural extension in 1999 was Dong 26.7 billion. The allocation among different subsectors shows more emphasis on the more dynamic subsectors of agriculture such as livestock, industrial crops and aquaculture (see table 3.8). It does not reflect closely the respective shares on these subsectors in agricultural GDP, perhaps an indication of a strategy that gives priorities to those subsectors with higher potential.

Other problems of the extension service.

Noteworthy is the limited amount of resources devoted to training. Also, virtually absent is extension to promote marketing of agricultural activities. The relatively recent institutionalization of a national extension service means there is an ongoing need to strengthen the capacity of its staff with skills adequate to carry out transfer of new technologies to farmers. The link with research institutes appears weak and often competitive rather than cooperative.

3.1.8 An underdeveloped seed industry

The formal seed industry provides only a small share of the required seeds for a modern agriculture.

Given the importance of the crop subsectors in agriculture (contributing about two thirds of the agricultural GDP), an efficient seed industry is central to the growth of agriculture. In the case of paddy, it is estimated that only between 4 and 8 per cent of cultivated area is supplied by the formal seed industry. Most farmers utilize seeds saved from own production. Each year the required seeds for paddy are about 1.1 million tons. Preliminary estimates indicated that only 54,000 tons of seeds are produced by seed organizations including National Seed Companies, Provincial Seed Agencies (PSA), universities, research organizations, and private seed companies. Assuming a recommendation of using new rice seeds once every five years, that implies that the formal seed sector for rice provides only one fourth of the required seed. The situation for other crops may be similar.

The presence of private sector in the seed industry is still very limited. Imports are small, in spite of the high needs.

Even though private companies have started to operate in Viet Nam, their market share is still small in size. Import of rice and maize seed is regulated by the National Center for Variety Evaluation and Certification. Information about seed commerce is very scanty. Some sources revealed that imports of hybrid rice grew from 450 tons in 1992 to about 3,000 tons in 1998, mostly from China. In the case of hybrid maize and cotton, the imported quantities were 1,300 tons and 68 tons respectively. For vegetable seeds, comparable figures are in the range 150 to 200 tons. One large company exported 900 tons of vegetable seeds in 1995.

Lack of enforcement and accepted standards for quality controls hampers improvement of the industry.

Various decrees regulate the seed industry (regulation 07/CP/1996 on seed management, order 02/NN-KNKL/TT/1997 on implementation of regulation 07/CP, regulation 86/CP/1995 on quality control, order 72/QD-BNN-KHCN/1998 on implementation of regulation 07/CP, regulation 08/CTN/1993 on plant protection and plant quarantine, order 257/NN-CSQL-QD/1992 on national variety testing). However, the present lack of accepted standards for seed certification and quality control and the week enforcement of existing rules hampers further improvement of seed quality at the PSA level.

Several problems affect the seed industry, but limited progress so far.

In addition to a still confused regulatory framework and limited capacity to enforce existing rules, limited budget for seed production, poor facilities, insufficiently qualified staff and limited land for seed production are some of the key problems facing PSAs. There is a strong need to establish a National Seed Board that allows to improve coordination within the seed chain.

Indication of constraints of farmers to access hybrid seeds of maize from foreign companies.

In spite of the willingness of farmers to pay higher prices for good seeds provided by the private sector, there are indications that there is not a level playing field. Sources indicate that hybrid seeds of maize from foreign companies have a much higher yield than comparable seeds provided by local state agencies (8 tons versus 4 tons per hectare). In spite of the higher costs of "foreign" seeds and higher costs in production (fertilizer and harvesting labor), it seems that the return to farmers would be much higher. This issue should be studied more in detail by the TA team.

3.1.9 Unsustainable irrigation system

Irrigation absorbs the largest share of state budget to agriculture; 90 per cent of these expenditures are capital expenditures.

About 80 per cent of the 7 million hectares of cultivated land area in Viet Nam are equipped with some sort of irrigation, the majority of which is dedicated to rice. The central level (MARD) is usually responsible for primary irrigation infrastructure, while local governments (provinces, districts and communes) are responsible for secondary and tertiary infrastructure. Large and medium scale irrigation works are managed by 174 Irrigation Management Companies (IMCs), 3 of which are under the control of MARD and 171 are under local government control. Together, they employ a total of 20,000 staff. Irrigation absorbs 50 to 55 per cent of the agricultural state budget, more than 90 per cent of which is dedicated to capital expenditures.

Huge losses by IMCs results in under-funded O&M, deterioration of the current irrigation system, and a drag on state budget.

Only 50 per cent of estimated O&M cost needs of the existing irrigation system is covered by irrigation fees. The remaining is partially covered by the state budget. As a result, the IMCs represent a drag on the public funds available for agriculture and the irrigation system suffers because under funding of O&M costs results in deterioration and poor maintenance of the current system.

Water fees are not based on water use and both their level and collection vary from place to place.

Decree #112 of 1984 provided the framework for irrigation fees. The fees were determined in terms of paddy yields (or equivalent cash) and vary between 3 and 8 per cent of paddy yield, and they depend on the type of irrigation system (gravity or pumping), season, and quality of service delivery. They are not based on use of water so they do not provide an incentive for efficient utilization by farmers. The actual rates charged and fee collection by each province and district depends on contracts made between IMC, People's Committes, and farmers associations. So both the level of fees and the collection of fees vary substantially from place to place. What is common is that the total fees collected by IMCs are not sufficient to cover cots to maintain the current system.

Poor service delivery can sometimes result in the unwillingness of farmers to pay for irrigation fees.

Some farmers are unwilling to pay the irrigation fees because they complain about the quality of the service and the unreliability of water delivery. In fact, some IMCs are hesitant to sign contracts with farmers because they are afraid they cannot provide the service required by the farmers. The improvement of quality and reliability of service is complicated by the presence of small and fragmented land holdings.

Inefficiency of a fee structure based on irrigation system rather than on use and on paddy yields rather than on cash.

The system of establishing fees based on the irrigation system and not on water use results in inefficiency. However, the TA team was not able to quantify this type of inefficiency. Moreover, the method of expressing the fees in terms of paddy yields add additional uncertainty concerning the collection of revenues by IMCs.

Need to consider the experience of water use associations.

The current system does not provide incentives either to farmers to pay their full fees according to use or to IMCs to cover all their O&M costs. It would be useful to consider the experience of water use irrigations where farmers are responsible for financing, operating, and maintaining the systems and where the benefits from the schemes accrue in direct relation to their use. Pilot projects of water use associations undertaken in Viet Nam with funding of ADB show promising results.

3.2. CONSTRAINTS IN THE MEDIUM TERM

The medium term constraints identified in this section are:

- a poorly diversified agricultural system; and
- low access to social services (education, health).

3.2.1 A poorly diversified agricultural system

The subsectoral composition of agriculture has changed slightly in the past 10 years; however, within crops the strong growth of some industrial crops has signaled the emergence of a more diversified system.

Chapter 2 has shown that the subsector contribution to agricultural growth has changed sligthly over the past decade. The two largest subsectors, crops and livestock have hardly changed their shares. Crops contribute about 68 per cent to the sectoral GDP, livestock about 14 per cent. On the other hand, forestry has declined slightly and fishery has increased also slightly (see table 2.4). The structure of crops and livestock has not changed much over the period 1990 to 1998, in spite of considerable increase of total GDP and structural change of the economy that has seen the contribution of agriculture shrinking from 32 per cent to 24 per cent of GDP. However, within crops, the strong growth of industrial crops such as coffee, rubber, and sugarcane has signaled the emergence of a slightly more diversified system.

The stress toward agricultural diversification currently pursued echoes similar strategies pursued by other Asian rice economies in the 1970s and 1980s.

The GOV has increasingly stressed the importance of a more diversified agriculture to achieve its goals of modernization and rural industrialization. This is consistent with similar strategies followed by other Asian rice economies during the 1970s and 1980s, where agricultural diversification was seen as a desirable response to changes in supply (the success of the green revolution resulted in food self-sufficiency and declining real rice prices) and demand (rising income and urbanization increased the demand for non-rice food products). Some of these economies have been successful at diversifying the agricultural and rural economy. However, it was also realized that agricultural diversification was a much more complex process than changing the output mix.

3.2.2 Concept of Diversification

Narrow concept of diversification: increase the variety of agricultural products produced at the farm level.

Agricultural diversification, considered narrowly, involves increasing the variety of agricultural commodities produced at the farm level. From this perspective, Southeast Asia was remarkably successful in agricultural diversification in the nineteenth and early twentieth centuries (Hayami, 1991) when, in response to growing demand from the West for tropical products, new lands were cultivated with cash crops such as sugar, coffee, tea, and rubber. Agricultural diversification in this narrow sense may also be the response of subsistence farmers to risks arising from climatic, biotic, or seasonal factors. Indeed, this response is typical of subsistence farmers in Africa (see Delgado 1997, and IFPRI 1998a) and in non-irrigated Asia.

Broad concept of diversification: a complex process of change, involving crop mix changes, technological change, and commercialization.

A broader outlook suggests that agricultural diversification is a process accompanying economic growth, characterized by a gradual movement away from subsistence food crops (mostly rice in Viet Nam) to a diversified, market-oriented production system, triggered by improved rural infrastructure, rapid technological change in agricultural production, particularly food staple production, and diversification in food demand patterns (see Rosegrant and Hazell 1999).

As such, diversification involves the entire rural economy, the development of agroindustry, the improvement in infrastructure and institutions.

From this broader view, agricultural diversification goes beyond merely growing crops other than rice to involve the entire rural economy. As such, it is linked to both increasing commercialization and the structural transformation of the economy, where the agricultural share of GDP contracts. The process involves not only cropping but also new marketing and agrofood based industrial activities that affect the overall rural economy. Effective diversification requires key investments in infrastructure and institutional changes to promote the private sector, particularly in rural areas. Eventually, the process of structural transformation of agriculture will lead to the exit of a significant proportion of the rural work force from agriculture, though not necessarily from rural areas. Thus, rural income diversification encompasses both agricultural diversification and the stimulation of rural non-farm sources of income (see Goletti 1999).

Diversification at the micro, regional, and macro level.

Diversification can occur at the micro, regional, and macro level (see Taylor 1994). At the micro level, the individual household diversifies in order to strengthen and broaden its sources of farm and non-farm income. This process may involve horizontal diversification toward new agricultural commodities and/or vertical diversification into non-farm activities such as marketing, storage, and processing. At the regional level, regions tend to pursue agricultural activities in which they have comparative advantage. For both households and regions, diversification may involve specialization, as for example rainfed rice farmers becoming specialized coffee producers. At the macro level, diversification implies the structural change from agriculture into non-farm activities, either in rural or urban areas, or in rural towns (see Otsuka 1998).

Diversification is not an objective, but rather a process that characterizes the response to changed market and technological conditions.

Diversification is a process accompanying the structural transformation of agriculture rather than an objective of agricultural development (see Kasryno, et al. 1992). It is what individual producers, rural households and enterprises, regions, and nations do to pursue their various objectives in response to changed market and technological conditions. The objective of a well-diversified agricultural system is to gain sufficient flexibility to adjust to the changed conditions smoothly (see Taylor 1994).

3.2.3 Rationale for Diversification

Why should policy be involved in diversification?

If diversification is part of the rural economy's adjustment to changed market and technological conditions that accompany economic development, why should policy be involved in such a process? One argument is that policy might help to minimize the costs of adjustment in the rural economy during this process. Five reasons help make this case in the case Viet Nam.

1. Success of modern rice technology

The success of rice is accompanied by declining real prices and diminished

Over the past two decades the spread of high yielding varieties of rice in Viet Nam has increased rice self-sufficiency. Productivity growth has been accompanied by declining real prices of rice and

and diminished incentives for farmers.

corresponding lower incentives for farmers to cultivate rice (see Pingali et al. 1997, and IFPRI 1996). Increasingly, rice has been perceived as an income maintenance and food security crop, rather than as an income-augmenting crop. Further increases in rice yields would benefit consumers more than farmers (see Dillon 1992). Faced with the options of subsidizing rice farmers, letting rice farmers' income decline, and developing policies to enhance alternative sources of income through additional agricultural practices and non-farm activities, most governments have embraced the latter option (see Taylor 1992).

2. Contraction of agricultural sector

Contraction of agricultural sector at a more rapid pace than contraction of agricultural labor makes a large surplus of labor available in rural areas.

Rapid economic growth in Viet Nam was accompanied by a declining share of agriculture in total output. Such a process of growth, however, was not smoothly mirrored by a corresponding decline in the share of the agricultural labor force (see Rosegrant and Hazell 1999). The gap between agricultural and non-agricultural income has increased, thus penalizing many of the rural population engaged in agriculture. The active labor force is so large in rural Viet Nam that the country is unable to absorb this labor in other productive activities in the short run. The adjustment process is therefore painful (see Timmer 1992) for the rural population and could result in social tension and rural disturbances. In order to smooth this transition process, the government has looked at alternative ways of creating productive employment in rural areas. China has been particularly successful in fostering rural town and village enterprises (see Huang 1997), whereby non-farm activities have been developed in rural areas thus helping retain the labor force and benefiting the population. Moreover, rural industrialization is often based on agrofood industry and the processing of agricultural commodities and is therefore closely linked to a variety of agricultural activities besides rice production.

3. A changed pattern of demand

Changed pattern of demand from staple to other foods, both domestically and abroad.

The changed pattern of demand induced by urbanization and rapid growth in Asian economies is well documented (see Huang and Bouis 1996, Kumar 1998, Lin 1998). It has involved a shift away from staple foods towards fruits, vegetables and animal products that are characterized by higher income elasticities of demand and higher value-added. During this process, governments have emphasized the role of policy in promoting the production shift from a rice monoculture to a more diversified production system able to exploit new market opportunities.

The change in the source of demand is also important. In the context of a globalized economy, international demand for a varied range of agricultural commodities and products is growing. Owing to a relatively more open international system and the pursuit of liberalized policies in a number of countries, new opportunities have arisen for integrating small farmers within the international economy. Competitiveness of agricultural and agroindustrial products requires investments in infrastructure, marketing systems

and human resources, all activities that are considered part of a diversification policy.

4. Reduction of risk

Diversification as a strategy for reducing risk arising from a more open economy.

A more globalized trade system offers new opportunities but also presents several challenges. Unless the various participants in the system are able to adapt to new changes, their economic survival is in danger. Price shocks, rapid changes in demand, and accelerated technological change provide strong incentives for a country to diversify. Excessive dependence on only one tradable commodity could create painful adjustment when favorable conditions end. Farmers in Thailand have been extremely skillful in adapting to various changes in international demand (for example in shifting from cassava-feed to cassava-starch exports). A less flexible economy such as Viet Nam has benefited greatly from expanded rice exports, reflecting its strong comparative advantage. But, unless alternative sources of export earnings are found, vulnerability to world demand and supply is likely to need to be reduced through inefficient mechanisms such as trade restrictions or stabilization funds.

5. Environmental concerns

Diversification might also contribute to ease pressures on scarce natural resources.

The predominance of rice in Viet Nam agriculture might pose a threat to the environment, through pressure on scarce water resources, excessive use of chemicals, and loss of genetic diversity (see Rosegrant and Hazell 1999 for a review in Asian rice economies). Agricultural diversification is one way to stem further environmental degradation through an economically-sound multi-commodity production system. Crop rotations based on legumes, intercropping, and relay cropping could help to reduce the need for nitrogen fertilizer whose manufacture requires much non-renewable fossil fuel energy. Through diversification into livestock, farmers can often make efficient use of forages, crops residues, and manure, thus improving soil organic matter, tilth, and other dimensions of soil fertility (see Taylor 1992).

The constraints to agricultural diversification are in effect constraints to the development of a modern and flexible rural economy. It will take huge investment, good policies and time.

Agricultural diversification and rural industrialization as a strategy for rural income growth and poverty reduction in Viet Nam will require enormous investment and will take time. The constraints are of staggering complexity: the presence of a large population in rural areas characterized by widespread poverty; low productivity of agricultural labor; low level of infrastructure development; poorly integrated markets; poorly functioning factor markets such as land and credit; and an underdeveloped rural industry characterized by a dichotomy between micro enterprises and large (usually SOEs) enterprises. These constraints are aggravated by a still incomplete process of liberalization in the transition from a centrally-planned to a market-oriented system.

3.2.4 Low access to social service: education

Poverty is closely linked to lack of education.

The importance of education in poverty reduction is clear from the 1998 VLSS data. As shown in Figure 3.2, 57 per cent of the sample who had no education were poor, while only 4 per cent of those with university education were poor. About a third of the population was found to have only primary school education, while another third stopped school after gaining secondary school education. Eight per cent of the sample reported having no education and only 3 per cent reported having university-level educations.

Poor households have less access to education...

Access to education is affected by poverty. To help finance direct costs, the GOV now permits public educational institutions to charge fees at all but the primary level. Private financing is estimated to be above 40 per cent of the total educational direct costs.

partly because households pay a significant share of the total costs.

This reform, unless amended by financial aid to poor households, will make it more difficult for children from poor households to access schooling at the secondary and higher levels. Even at the primary level, a recent comparative study of the share of the total cost of public primary education, including direct and indirect costs (such as uniforms, school supplies, transportation, and food) in nine countries in eastern Asia, indicates that the household's share was second highest in Viet Nam (Bray, 1996).

Scholarships have had little impact.

While the GOV has made legislative provisions for such scholarships and fee reductions for students from poor families, the VLSS of 1993 reveals that such scholarship programs had, as of 1993, done little to improve the access of poor students to schooling at the secondary and tertiary levels.

Non-government provision of education is important, but the poor must be protected.

Another trend in education policy is to encourage non-governmental providers to play a larger role in the education and training sector. Development bank analysts (Prescott, 1997; World Bank, 1997) suggest that shifts from public sector to private sector responsibilities in the service sector are appropriate and necessary for transition economies to become secure robust economies. At the same time, these analysts maintain that more must be done to protect the poor from adverse consequences of structural reform.

Access to education is affected by gender.

Access to education is also affected by gender, especially in upland areas, although improvements are being made. In the Central Highlands region, female literacy rate improved from 56 per cent in 1992-3 to 70 per cent in 1997-98. Similarly, the Mekong Delta region, the region with the next lowest female literacy, saw female literacy increase from 77 per cent in 1992-93 to 83 per cent in 1997-98.

Present MOET policy is to promote the “child-friendly school.” A key premise of this approach is that boys and girls will enjoy equal access to resources and will receive equal amounts of encouragement in their work and classroom participation.

and geography. Upland areas are still less well served, in spite of government efforts.

Access to education is also affected by geography. Despite increased expenditures (between 1991 and 1993, GOV nearly quadrupled spending on highland education) educational advances have been slower in the uplands (Quy, 1995). Since national independence, many thousands of teachers were sent from the lowlands to remote communes to establish schools, organize cadres, and train local leaders (Tran,1995). More recently, boarding schools have become a key feature of education for remote areas, where students come from the commune to district or provincial level schools that prepare them for university, college and vocational institutes. In 1994, 140 district schools; 38 provincial and 5 central boarding schools were teaching a total of 35,000 ethnic minority students (GOV. Ministry of Education and Training, in: Tran, 1995).

Government policy provides for assistance to ethnic minorities,

Education policy indicates that ethnic minority students are entitled to either full or partial exemptions from school fees at the secondary and tertiary levels. As of at least 1993, the GOV has had a number of school fee exemptions or discounts available to ethnic minorities, orphans, and other disadvantaged students. Ethnic minority students; those boarding in minority areas; living in high mountainous or remote areas; and children of families who are poor or face difficult circumstances (as certified by local authorities) are exempt from fees in grades 6-12 (Prescott, 1997, p. 47). Ethnic minority students; ethnic minority students with parents living in mountainous areas or remote islands; Kinh students with parents in high mountainous areas; and children of families who are poor or face difficult circumstances are exempt from fees in tertiary schools (college, vocational training) (Prescott, 1997, p. 47).

but literacy rates among these households is still low.

Despite the progress shown, literacy rates are still extremely low in the uplands. While the illiteracy rate among lowland Vietnamese is currently between 5 and 10 per cent, among midland Tay and Nung minorities, it ranges between 18 and 24 per cent, and among high mountain Hmong people it reaches between 90 and 95 per cent (Tran, 1995). Illiteracy, including first-language illiteracy, is targeted for eradication in the upland areas by the year 2000 (Quy, 1995).

Attendance is low in remote upland areas.

In remote areas, school attendance rates are low, and dropout rates high. For example, in Cao Bang Province only 5.7 per cent of upland Hmong children between the ages of six and fourteen were enrolled in school in 1992 (Tran, 1995). And in Son La Province, primary school dropout rates were 22 per cent in 1992 (an improvement from the 1972 rate of 28 per cent) (Tran, 1995). The primary school curriculum, developed for ethnic Vietnamese, is not particularly relevant to the lives of many minority children. Minority children are particularly disadvantaged by the fact that Kinh (the language spoken by the ethnic majority group, or Vietnamese) is the medium of education, and many children in remote regions do not speak Kinh until they are taught it in school.

Bi-lingual education may be a promising approach.

Many educators see literacy in one's mother tongue as an important stepping-stone to literacy in a national language (Australasian Legal Information Institute, 1997). Of Viet Nam's 54 languages, only 9,

besides Chinese, Khmer, and Vietnamese, have their own scripts. In the early 90s the Ministry of Education and Training began an experiment to introduce teaching in minority languages in the fourth grade. More recently, two schools in Pleiku, Gialai province, are now teaching grades 1-5 using the Bahnar language. Vietnamese is taught as a subject.

being tested by a World Bank/UNICEF project.

This experiment, which has support from World Bank and UNICEF, may demonstrate that minority children make much more rapid educational progress when they begin primary school taught in their mother tongue. The skills and confidence built during this period may result in a much higher achievement in Vietnamese language during primary and secondary school than if Vietnamese language had been the medium of instruction from grade 1. UNICEF and World Bank are also giving support to four bilingual production centers where educators are being supported to produce textbooks in local languages. At present there is a Hmong center in Lao Cai province, a Bahnar center in Kontum, a Cham center in Ninh Thuan province, and a Khmer center in Cantho.

Technical and vocational training.

In addition to formal education, technical and vocational training for rural youth is increasingly recognized as key to improve adoption of technology and improve technical and managerial skills. Mass organizations, management colleges, NGOs, and private sector are already playing an important role in this area, yet much remains to be done.

The government is strengthening the educational system in upland areas and is planning to phase out the 120-week curriculum.

In an attempt to expand outreach of primary education to remote areas, MOET some years ago developed a shorter and more narrow 120-week curriculum to be taught in ethnic minority areas in contrast to the standard 165-week curriculum taught in most lowland areas (see table 3.9). MOET now plans to phase out this 120-week curriculum by year 2002. There is also a 100-week curriculum aimed at older children and young adults who may have previously dropped out of regular primary school. And more recently a more participatory “education technology” curriculum has begun to be piloted in 39 provinces to better serve the needs of well-motivated, faster-learning students (Turk,1998, and UN,1999).

Consensus seems to have been achieved that the minority 120-week curriculum has out-lived its usefulness and that many urban and lowland school children needed a more challenging curriculum and intensive program than offered under the standard 165-week curriculum. In contrast with existing schools in Danang, Hanoi, Ho Chi Minh City, and Haiphong, which often teach three shifts of students per day, the pilot “education technology” schools in these cities are semi-boarding schools where students spend six hours a day learning and have lunch at the school (conversation with Mr. Hoang Sit, education expert, UNICEF Hanoi, 14 February 2000).

3.2.5 Low access to social services: health

In spite of progress, serious problems remain.

Even though maternal and infant mortality are low in Viet Nam, both maternal and young child malnutrition remain serious problems. The most recent population-based survey, undertaken in 1998, estimated that 39 per cent of children under five were underweight, 34 per cent were stunted, and 10.5 per cent were wasted. Furthermore, almost a third (32 per cent) of the mothers of pre-school children suffer from chronic energy deficiency (CED), as measured by low body mass index (Table 3.10). Maternal CED is normally 3 to 5 per cent in a healthy population.

Malnutrition varies widely by region, being roughly correlated with poverty,

Furthermore, there are sharp regional differences in health status, access to health care, and nutritional status. Figure 3.3 shows the proportion of underweight children by region, according to the three surveys carried out by the National Institute for Nutrition. Malnutrition is highest in the North Central Coast and the Central Highlands. Malnutrition is lowest in the Southeast, followed by the Mekong River Delta. These regional patterns correspond closely to the poverty rates for each region. For example, according to the 1998 VLSS the poverty rates are highest in the Northern Uplands, Central Highlands, and North Central Coast. Poverty rates are lowest in the Southeast, followed by the South Central Coast and the Mekong River Delta.

but not with rice deficits.

At the same time, it is worth noting that malnutrition is not closely related to rice deficits. For example, the Southeast is a rice deficit area, yet malnutrition is lower than in the two delta regions.

Various health problems affect upland families. Vicious circle of poor health and poverty.

In the uplands, food security is a major contributing factor to ill health, and contributes to childhood diseases such as dysentery and acute respiratory infection. Goiter is still common, and malaria is present in some parts of the uplands. Mother and child welfare is poor, and women's health is stressed by high fertility rates. A vicious cycle may set in whereby poorly-nourished people are less productive workers and are more prone to falling sick. Cash needed for medicines or for medical treatment my result in poor families selling livestock or borrowing money to buy medicine or pay for medical treatments. Debt and the issuance of land use rights certificates make small farmers more vulnerable to selling or losing their land and thus becoming even more food insecure.

Why does the 1988 survey show such low malnutrition?

The nutrition data present two anomalies: the increase in malnutrition from 1988 to 1994 and the relatively high level of malnutrition in the Mekong River Delta by some measures. Regarding the negative trend between 1988 and 1994, several hypotheses can be advanced:

Perhaps because this was before rice was exported, (though the evidence is mixed.)

- In 1988, Viet Nam was not a net exporter of rice, while in 1994 the country exported close to two million tons. It may be that the exports reduced the availability of rice and/or increased the domestic price of rice, thus exacerbating poverty. This hypothesis is not supported by data on rice consumption, however. As shown in Chapter 2, apparent rice consumption

(production minus exports) increased between the late 1980s and the mid-1990s. Furthermore, if this were so, we would expect the doubling of rice exports since 1994 to further increase malnutrition, yet malnutrition has fallen since 1994.

Perhaps the 1988 survey was not reliable.

- The authors of the report presenting the results of the 1994 and 1998 surveys argued that the 1988 results may not have been reliable due to sampling problems (Dibley *et* al, 1999). The authors were not able to find any documentation of the sampling method and thus hold reservations about the comparability of the 1988 results. For example, in the absence of a rigorous sampling method, the tendency is often to select more accessible households who are often less malnourished than those in remote areas.

And perhaps it reflected the pre-reform health system.

- Perhaps the deterioration of the public health care system affected nutritional status in 1994, but rising income and attempts to reduce fees for poor households have since improved health status. While plausible, it is difficult to find evidence to confirm or refute this hypothesis.

Why is malnutrition high in the Mekong?

The second anomaly is the relatively high rate of malnutrition as measured by the incidence of underweight children and women's body mass index. Again, we can propose a number of hypotheses:

Perhaps rice exports did not raise income,

- Perhaps the increase in rice exports has not had the positive effect on incomes and nutrition that many expected. The 1998 VLSS found that rural incomes in the Mekong Delta increased just 10 per cent over 1993-1998, compared to 25 to 59 per cent increases in the rural areas of other regions.

perhaps access to water and land were problems,

- Alternatively, the incomes of rice farmers may have increased, but malnutrition has risen as a result of other problems such as access to clean water and access to land. As discussed earlier, landlessness has increased in the Mekong River Delta since land transfers were legalized under the 1993 Land Law. According to the VLSS, the share of landless rural households in the Mekong Delta has risen from 17 per cent in 1993 to 21 per cent in 1998.

and perhaps it reflected a one-year effect.

- A third possibility is that the nutrition measure, under-weight, is overly sensitive to short-term effects such as a poor harvest. Other measures of child malnutrition such as the incidence of stunting do not show high rates in the Mekong River Delta.

More evidence is needed to resolve these questions.

At this time, it is not possible to confirm or refute these hypotheses. They do, however, suggest that the relationship between rice output, income, and nutritional status is not a simple one. The effect of landlessness, health care services, access to clean water, and other factors intervene.

3.3 CONSTRAINTS IN THE LONG TERM

The long term constraints identified in this section are:

- A low level of infrastructure development
- Management of natural resources under stress

3.3.1 A low level of infrastructure development

A low level of infrastructure development limits the growth opportunities of rural areas.

A low level of infrastructure development limits the opportunities of rural economy to develop a well-diversified agriculture and rural industry. In spite of the major efforts of the government to improve the transport, water, and energy sector over the years, most of rural households have low access to infrastructure. About 75 per cent of the rural population does not have access year-round access to all-weather roads and markets; only 35 per cent of the rural population has access to the national electricity grid; and less than 40 per cent of rural households have access to clean drinkable water.

Past national programs have focused on three growth triangles and less on rural areas.

Past programs of the government seem to have put more priority on the three growth triangles in the north, center, and south in order to support the economic growth of these areas. As a consequence, rural areas have benefited from general economic growth to a lower extent and their infrastructure has improved only moderately. The planned allocation for rural transport infrastructure between 1996-2000 was 5 per cent of the total planned allocation for all transport infrastructure (WB, Rising to the challenge, 1998).

Reorientation of policies and programs towards rural infratructure.

Recently, there has been a reorientation of policy towards rural development and the need of improving rural infrastructure has received more consideration in the design of programs and planned budgets. In 1999, Dong 2,570 billion were invested in rural roads; 32 per cent financed by central and provincial budget, 50 per cent from voluntary contributions (mostly working days of rural households), and the remaining 18 per cent from other sources. Under the poverty alleviation programs embedded in Decree 133 and 135 of 1998, 1735 poor communes were selected for an ambitious program of improving rural infrastructure. On average, each commune is supposed to receive Dong 400 million to build facilities related to schools, health centers, markets, roads, electricity stations, and water supply systems. Also, the planned expenditures for rural infrastructure is expected to increase considerably in the next PIP for year 2001-2005.

It will take huge investments and more than a decade to bring rural infrastructure to an adequate level.

The magnitude of investment necessary to bring infrastructure to an adequate level of development is huge. Even though both government and donors are considering this area high priority, it will take more than a decade before infrastructure is brought to such a level. A master plan consisting of about 100 projects in seven priority sectors was submitted by the Asian Development Bank and endorsed by the participating countries. The plan calls for a $9 billion investment in priority projects in transport and telecommunications for the Greater Mekong Subregion alone.

The magnitude of the investment implies a need to prioritize, a need for participation of the private sector, and a need for a stable macroeconomic environment promoting growth.

The magnitude of the infrastructure needs sends three important messages to policy makers in the region. First, there is a need to prioritize areas and sectors for investment, to maximize growth potential and reduce poverty, while at the same time conserving valuable resources which are often allocated to ambitious, even though sometimes not sound, rural industrialization projects. Second, unless private sector participation (domestic and multinational) is secured for such an ambitious plan, implementation will be considerably delayed. Third, the need to create a stable macroeconomic environment in which growth potential can be realized is critical to generating domestic saving. Unless such stability is achieved, domestic savings to finance the investment will not be available (because of low deposit rates), and both foreign investors and international financial institutions will not be interested in contributing.

In the short and medium terms there is scope for alternative measures such as better cost recovery mechanisms, improved efficiency of commercial operations, and a clear infrastructure strategy.

Given that the under-funding of rural infrastructure will be a persistent problem in the long run, there is a further need to improve the current system through additional measures. First, cost recovery systems that are transparent and linked to the performance of the infrastructure network may help to alleviate budget constraints of the government. One example is provided by road use charges that could help to improve the maintenance of roads. Second, there is scope for improving the operational efficiency of commercial activities and involvement of the private sector in building rural infrastructure or in operating facilities such as sea ports and air ports. Third, a clearer strategy for rural infrastructure might help both the GOV and donors to improve the coordination of planned investments and programs.

3.3.2 Management of natural resources under stress

Deforestation causes

Upland land use combines agriculture, livestock, and forestry.

The uplands of Viet Nam cover three-fourths of the national territory and include one-third of the nation's people (Quy, 1994). Environmental conditions and livelihood strategies vary widely across the uplands. As a rule, commercial agricultural production is less important, while livestock and staple food crop production are more important. Methods of maize and rice cultivation range from shifting cultivation in a pioneer or rotating fallow system, to permanent cultivation on rainfed hillside terraces, to irrigated paddy cultivation in the valleys and on terraced slopes with sufficient water for irrigation. Ethnic and linguistic diversity is also much greater in the uplands.

Deforestation is caused by multiple factors.

The uplands are characterized by sloping lands prone to erosion with low natural soil fertility. Forest cover overall is rapidly declining, from 45 per cent in 1945 to about 26 per cent in 1994 (Quy, 1994). Deforestation is most serious in the northern uplands where forest cover is only 13 per cent, and less serious (but worsening) in the central highlands at 61 per cent (Sam, 1994). Several factors contributed to the continued degradation of forest areas, including logging, fuelwood demand, shifting cultivation, and expansion of

sedentary agriculture (particularly tree crops). The latter three factors are, in turn, exacerbated by population growth and in-migration. Each of these is described briefly below.

Logging

Logging by state forest enterprises has declined due to changes in policy.

Much of the forest area in Viet Nam is managed by state forest enterprises. In the 1980s, they were responsible for meeting quotas of forest products for domestic use and for export. Since the *doi moi* policies were introduced, the SFEs have been under pressure from different directions. On the one hand, they are increasingly responsible for covering their costs and avoiding financial losses. On the other hand, their ability to generate income has been limited by the designation of large areas as "protection forest" and added responsibilities for reforestation and forest management. Many SFEs have increasingly relied on funds from Program 327 for forest management. Some view this as reorienting existing enterprises from extraction to conservation, while others see it as means of extending the life of inefficient state enterprises. In any case, the volume of wood production has declined by almost two thirds during the 1990s, falling from 3.4 million m^3 in 1990 to 2.2 million m^3 in 1998 (GSO, 1999, p. 230). It is not clear if this is due to increasing protection of forest land or reduced subsidies to loss-making state forest enterprises.

Fuelwood demand

Fuelwood demand, particularly in the Northern Uplands, also contributes.

The harvesting of fuelwood occurs throughout the country, particularly in upland areas. According to GSO (1996, p 232), fuelwood cutting has fallen almost 20 per cent since 1990, from 32 thousand ste in 1990 to 26 thousand ste in 1998. Although data are difficult to find, it is likely that this trend is the result of the increasing availability of coal and electricity, rising rural incomes, and decreasing availability of fuelwood. About 46 per cent of the fuelwood use occurs in the Northern Uplands, where wood is more available and cool weather contributes to greater use.

Shifting agriculture

Shifting agriculture has become unsustainable with population growth.

Upland shifting cultivation plots are estimated to supply all or part of the food needs of nearly 3 million farmers in Viet Nam, and the area under shifting cultivation is about 3.5 million ha. (Sam, 1994). However, as population pressure increases land is becoming less available, fallow periods are necessarily shortened, and little or no space is left in the agricultural cycle for the regeneration of natural vegetation and restoration of soil fertility. The result is erosion, degradation of land, and reduction of agricultural productivity.

Government programs have attempted to settle slash-and burn farmers

Since 1968, the government has attempted to settle "slash and burn" farmers and help them switch to sedentary farming. The Fixed Cultivation and Settlement Program operates in 200 mountainous districts in 34 provinces with staff averaging about four people per district. The program staff are attached to the Agriculture and Forestry Departments at the district level, but the organization

as a whole implements CEMMA programs (Gilmour, 1993). The goal of the program is to increase the participation of ethnic minorities in reforestation; assist in the transition from shifting cultivation to stable production strategies; and promote the development and modernization of mountainous areas (Hung, 1995). Since the inception of the program, as many as 660,000 people in 378 communes have ceased practicing shifting cultivation and taken up fixed cultivation. However, progress in remote localities has been limited (Hung, 1995).

but these farmers are generally not nomadic,

This program was based on the perception of upland communities as nomadic. Some upland communities are traditionally "pioneer shifting cultivators" who tend to relocate their villages every 10 to 20 years, but most upland minority communities in Viet Nam occupy fixed village sites within or close to forested areas and move their swidden fields every two or three years but not their villages. Fields move over the landscape, but the people are not nomadic and often have developed considerable location-specific indigenous knowledge on how to manage swiddens and forest resources in a sustainable manner, such as allowing certain beneficial forest plants to remain in their swiddens.

and some attempts to limit shifting agriculture have not been effective.

Sedentarization strategies that tried to restrict shifting cultivation to smaller areas of forest tended to shorten the cycle. This, in turn, led to soil degradation and consequently impoverishment of village communities. Upland communities better able to take advantage of agricultural extension services were those such as the Tay in northwestern Viet Nam who already practiced a composite swiddening agroecosystem. Such a system was a mix of swidden fields, paddy fields, home gardens, fish ponds, livestock, and tree gardens (Rambo, 1996). These composite systems tended to diversify and reduce risk. If, for example, a flood destroyed paddy fields and fish ponds, the harvest from upland crops would likely still be available.

Expansion of sedentary agriculture

Expansion of sedentary agriculture also contributes to deforestation, particularly in the Central Highlands.

As discussed earlier, agricultural land in the Central Highlands has more than doubled, increasing from 376 thousand hectares in 1985 to 847 thousand hectares in 1997. The Land Law of 1993, planned migration, spontaneous resettlement, and large scale plantation projects have all had a role in this dramatic expansion. Resettlement of the population in New Economic Zones, particularly in the Central Highlands, was seen as a solution to over-population and poverty in other regions. Reluctance on the part of minority communities to abandon their communal approach to land use and slash and burn agriculture may have led some provincial committees to favor the allocation of land use certificates to migrants from other areas who agreed to produce cash crops such as coffee as part of their resettlement agreement. Over half of the increase in agricultural land (55 per cent) can be attributed to the increase in coffee area, which grew from 32 thousand hectares in 1985 to 294 thousand hectares in 1998. Spontaneous migration has also played a role in minority communities either being

displaced or selling land to migrants and then themselves moving further into the forest. Deforestation and migration appear to be clearly linked in the Central Highlands.

The soils of the Central Highlands, especially when still recently cleared, are known to be fertile. But they are also susceptible to both erosion and rapid oxidation of soil organic matter once native forest cover has been removed. If the resultant soil degradation processes persist, the changes in soil nutrient reserves, soil structure, and microclimate may make it difficult or impossible to re-establish quality forest in these areas.

Deforestation Effects

Deforestation affects water and soil characteristics

In general, deforestation is known to have the following direct effects:

- reduced evapotranspiration rates;
- increased releases of methane and carbon dioxide into the atmosphere;
- the loss of the buffering effects of natural forests on maximum and minimum air temperatures;
- the loss of dense wind breaks provided by natural forests;
- increased levels of dry-season smog due to burning of crop residues and forest litter.

that increase rainfall runoff

We are not aware of any studies on the interactions between land use and watershed function from Viet Nam. However, studies in other countries suggest that changes from forest to agriculture in upland areas can contribute to flooding and erosion downstream. This may occur through one of several paths. First, the conversion from forest cover to agriculture generally reduces the rate of water infiltration, leading to faster runoff of rain water. This may exacerbate downstream flooding and erosion problems.

and may increase the intensity of local rainfall,

Second, clearing forests for agriculture may change rainfall patterns. Long-term research in Malaysia has found that the conversion from natural forest canopy to plantation forest canopy (largely rubber and oil palm) resulted in annual rainfall remaining about the same, but becoming concentrated into fewer, more intense rainfall events. One hypothesis is that a cooler forest microclimate triggers rainfall from incoming monsoons more frequently. Alternatively, the evapotranspiration from natural forests result in local cloud buildup which then releases daily brief afternoon showers. In either case, deforestation may contribute to more intense rainfall and thus to flooding and erosion.

both of which could exacerbate flooding.

Clearly, more research is needed on the interaction between upland land use patterns and downstream flooding, particularly in light of widespread flooding problems along the central coast in 1999. While coastal flooding regularly imposes losses on the order of US$ 50 million per year, the floods in 1999 cost an estimated US$250 million in flood damage.

Implications of intensive agricultural production

In the lowlands, intensification is the main issue.

In the lowland areas, the main environmental issue is the impact of intensification of agriculture, responding to population pressure, improved incentives (particularly for rice cultivation), and the introduction of more fertilizer-responsive varieties. Intensification may take the form of increasing the number of crops grown during the year or increasing applications of inputs, particularly labor and agricultural chemicals.

Conversion to irrigated rice

Conversion of Mekong marshland may have been a poor investment,

The Mekong Delta region registered an increase of agricultural land on the order of 8 per cent over 1985-1997. Part of this increase was through the conversion of marsh habitat into irrigated paddy land begun in the 1980s. Thousands of hectares of marshland in the Plain of Reeds area of Dong Thap province have been progressively converted into irrigated paddy rice lands as part of a resettlement project for migrants from the north. In a cost-benefit analysis of the pre- and post-conversion land uses, Professor Le Dien Duc of Hanoi National University concluded that if subsidies for construction of dikes, irrigation canals, and land conversion were factored in, the pre-conversion land use system, based on one extensive crop of floating rice combined with livestock production, was actually more economic, than the highly-subsidized system of canals created to enable two crops of irrigated rice.

as well as having adverse environmental consequences.

However, it is the longer-term downstream effects that have not yet been sufficiently studied or impact valuations assigned. It is known that the natural marshlands on either side of the Mekong River in both Cambodia and Viet Nam are critical to maintaining the recharge of the freshwater aquifer that underlies the entire delta. Environmental researchers suspect that as more and more marshland in Dong Thap province is converted to irrigated paddy land, aquifer recharge is diminished and more farmland is lost to salinity intrusion in the more coastal areas of the Delta. As much of the Dong Thap region is characterized by acid sulfate soils, the conversion of the marshlands for paddy agriculture also has the effect of releasing large volumes of highly acidic water into the downstream waterways and aquatic ecosystems.

Subsidized irrigation schemes deserve closer scrutiny.

Another example of heavily-subsidized investment in the construction of irrigated rice infrastructure has taken place in the southernmost provinces of Ca Mau and Bac Lieu. There an area of about 40,000 hectares which previously supported a single crop of saline-tolerant rice and shrimp production has been converted to double-cropping of normal, freshwater rice without any shrimp production. The impetus for this transition was the construction of a canal system to drain excess flood waters from the Mekong River over to the Gulf of Thailand. Provincial insistence on diverting fresh water from the Mekong during the dry season as well is possibly increasing annual losses of rice land to salinity intrusion closer to the mouth of the Mekong Delta hectare (Vo-Tung Xuan, personal communication).

In another example, an estimated 480 billion VND has been invested in a project to create 4500 hectares of irrigated rice land between Dac Lac and Pleiku (Vo-Tung Xuan, personal communication). This translates to an estimated development cost of about US$ 7,600 per hectare.

Sustainability of rice yields

High rice yields may not be sustainable due to pest problems and soil degradation.

Rice agriculture researchers in Asia have for some years been concerned about research station evidence that protracted intensification of rice production eventually results in intractable environmental degradation that can not be corrected by release of new rice cultivars or more sophisticated application of soil amendments (Pingali et al.,1996.) Long-term declines in production at experiment stations when input levels and crop management practices are held constant suggest that either 1) the genetic potential of later generation varieties is lower than earlier varieties or 2) the productive potential of the paddy resource base is itself declining over time. Researchers at IRRI have concluded that under intense cultivation conditions, "the rate of degradation of the paddy environment is greater than the rate of growth in yield potential, hence the observed long-term declining trend in the highest experiment station yields" (Pingali et al.,1996,p.69.)

Pingali et al. (1997,p.79) summarize the ecological consequences of paddy intensification as follows:

- changes in soil nutrient status: nutrient deficiencies and increased incidence of soil toxicities
- increased pest buildup and pest-related yield losses
- formation of a hard pan (subsoil compaction)
- buildup of water-logging and salinity.

Rice yields continue to grow, but more slowly.

Environmental degradation in paddy systems is less readily detected at the farm level because inputs are rarely held constant. In the case of Viet Nam, policy reforms since the mid-80s have unleashed a very significant burst in farm productivity (Pingali and Xuan,1992). Although rice yields continue to rise, there is some evidence that yield growth has slowed. Rice yields grew at 2.8 per cent annually from 1985 to 1990, 3.0 per cent from 1990 to 1995, but only 2.4 per cent since 1995.

The impact of rice on soil conditions needs attention.

As the use of chemical fertilizer and cropping intensity increases, it is important to monitor whether soil capacity is being managed in a sustainable manner. The government's practice of classifying farm land based on nutrient status has resulted in the wide-spread gathering of soil analysis data. Analysis of long-term trends in nutrient status using these data would be useful.

One study found high yields over a long time, but adverse trends in soil condition.

The Center for Natural Resources and Environment Studies (CRES) has monitored changes in yield and soil conditions in lowland (Nguyen Xa Study, Thai Binh) and upland (Hoa Binh) sites in 1985 and 1992. In the lowland area, annual rice yields were 7-11 mt/ha, five-fold higher than in the 1930s (Dau et al.,1996 and Patanothai and Yost, 1996, p. 72). By contrast, upland yields in a Tay village in Hoa Binh were 1.1 mt/ha the first year of cultivation, declining to 0.6 mt/ha by the third year. On the other hand, intensification in lowland paddy fields in Thai Binh has led to three adverse effects on soil conditions: increases in soil acidity, reduction in available phosphorus, and likely decreases in exchangeable potassium. One positive change was an increase in organic matter (Dau et al.,1996). While is it not possible to say whether soil acidification was due to fertilizer application or acid sulfate soils, it is clear that soil acidity poses a constraint on future use of chemical fertilizers and may also limit farmers' options to diversify away from paddy rice.

In summary, intensive rice cultivation over a long period may well result in declining yields for a given level of fertilizer input. This may be due to the cumulative degradation of soil conditions or lack of long-term resistance to pests and disease associated with lack of genetic diversity.

Loss of coastal mangrove habitat

Aquaculture has contributed to the loss of mangrove habitat,

The area of land devoted to aquaculture increased during 1990-1998 from 296,000 ha to 508,000 ha or by 72 per cent. Shrimp farms account for slightly less than half this total. Perhaps 250,000 ha of mangrove forest or more than half of the pre-war national total may have been destroyed to create shrimp farms. The standard method of export-oriented shrimp production is to clear mangrove forests and replace them with shrimp farms. Tiger prawns, the highest-value shrimp for the export market require salt water. Commercial shrimp farms are often abandoned after about five years due to the building up of disease. Unfortunately, in those ponds where salt water has been pumped from the ocean, the soil becomes too saline to allow either a return to mangrove production or use for agriculture.

but research shows co-existence is possible.

CRES is promoting a new form of eco-friendly shrimp farm that contains mangroves and therefore attracts waterfowl whose droppings become food for shrimp. This form of "sustainable shrimp farming" may eventually become viable in the many areas of abandoned shrimp farms and might also be an attractive economic alternative for paddy lands that have become abandoned as a result of salinity intrusion.

Soil salinization

Soil salinization is a problem along the coast,

Soil salinization is generally a problem in low lying agricultural areas along the coast, where soils are contaminated by sea water. The total area of saline soils is estimated to be about 991 thousand hectares or nearly 3 per cent of national land area. These soils are

concentrated in the Mekong Delta (70.9 per cent) and in the Red River Delta (9.1 per cent) (Cao,2000). Just 2 per cent of this area (18 thousand hectares) has been abandoned, but salinity reduces the productivity and value of soil still in production.

and treatment is difficult in the best case,

The process of salinization can be reversed, but it typically requires repeated applications of fresh water to the soil and the ability to drain the effluent water containing the excess salt from the area. It is costly and, of course, only makes sense if the farmer has the ability to prevent the field from being rapidly re-contaminated. In areas where the underground water itself has become saline, this can be difficult or impossible.

and impossible if the groundwater is saline.

Reclamation work typically starts by building some sort of dike to block further access to an area by encroaching saline soils. If the saline water is moving up a canal or natural waterway to the sea, this can be difficult to accomplish. Recently reclaimed soils are first planted with salt-tolerant varieties of rice or other crops. In Kienthuy District of Haiphong Province, for example, it has been possible to achieve 6-7 MT/ha paddy yields on reclaimed saline soils. In some areas, however, the ground water has become contaminated by salt water and reclamation is no longer an option. Shrimp and mangrove combinations do seem to offer a sustainable option for some of these saline areas. Reclamation projects are currently underway in the Travinh, Soctrang, Baclieu, Camau, and Longxuyen quadrangle in the Mekong Delta and with support from the World Bank and the Mekong River Commission. Reclamation in the Red River Delta regions has no foreign funding.

Dam construction might reduce salinity intrusion if dry-season stream flows increase.

In theory the construction of main stream dams on the Mekong and Da Rivers could help to minimize salinity intrusion by increasing dry-season flows of fresh water. In practice, however, some of the wet season flow held over in hydropower reservoirs is lost to evaporation and extractions for irrigation. It is unclear what percentage of dry-season reservoir releases will actually reach delta areas where salinity intrusion is a problem.

Natural disasters

The impact of flooding is becoming increasingly severe,

Floods rank as the primary natural disaster occurring in Viet Nam. Monsoon rainfall and flooding have caused loss of life, crop failure, and property damage along Viet Nam's central coast for centuries. Every year a series of typhoons strike the coast, particularly in the northern and central regions. Floods are generally caused by heavy rains brought in by off-shore monsoon winds, storm surges associated with typhoons, or a combination of the two. But, increasingly, larger wet-season flows from the upper Mekong Basin and Viet Nam's other rivers are also a problem. It is likely that the severity of the impact of these storms has increased in recent years due to climate change, increased population density, and changes in land use.

leading some to question if they are entirely natural disasters.

The damage caused by floods is becoming more and more serious and frequent. In the Mekong River Delta the most recent floods were also the worst. The proportion of forest cover in upper watersheds is at its lowest level ever. Monsoon rainfall runoff is increasing dramatically and reaches peak levels higher and sooner than before. The rapid destruction of mangroves is making the coastal areas more vulnerable to typhoons. Futhermore, due to the "green-house" effect and global warming, it is anticipated that the number of heavy storms and typhoons to hit Viet Nam will increase both in number and intensity. Unless strategies for flood disaster management are developed and implemented, flood damage in Viet Nam will continue to increase. (Gov. of Viet Nam. 1992. p.12).

Viet Nam has a long tradition of disaster management,

Viet Nam has a strong tradition of rallying its people against these disasters. Over 5,000 km of river dikes and 2,000 kms of sea dikes have been constructed. These are vigilantly maintained and monitored during the flood season. A strong flood disaster management culture exists and communities living behind dikes are well-educated in evacuation procedures in the event that dike should break.

and donors have assisted in this area,

Donor assistance has been involved in assisting the government to enhance its capacity for effective disaster response. The Viet Nam Disaster Management Unit (DMU) is a mechanism established in 1994 with some donor assistance. It is based at the Ministry of Agriculture and Rural Development and has as its primary task to develop and implement the country's capacity to respond to natural disasters. This unit includes a computer based emergency warning and disaster damage reporting system (DMUnet); a GIS based information system of disaster management and relief needs data (DMUgis); a Web based public information system (DMUweb); and modern strategies for decision making to better deliver emergency relief and to better allocate scarce resources for rehabilitation.

but greater attention needs to be paid to possible links with human activity.

As discussed earlier, the progressive loss of indigenous forest cover in Central Viet Nam may be correlated to an increasing failure to modulate storm events, that is to prevent them from reaching the extremes seen in the storms linked to the flooding of November-December 1999. The expansion of paddy rice agriculture (with its annual wetting and drying of soil profile cycles) and the progressive loss of carbon sinks from forest degradation and forest loss not only contributes greenhouse gases to the "global atmosphere" but might also be involved in inducing greater swings in climate parameters at the level of the immediate region.

In other words, the policy response to "natural" disasters should include some recognition of the role of human activity in altering rainfall patterns and in increasing runoff. Comprehensive policy response to disasters should include not only disaster monitoring and response, but efforts to alleviate some of the conditions that exacerbate their impact, particularly watershed management.

CHAPTER 4. THE CHALLENGES AHEAD

Objective of the chapter: global trends and general issues for strategy formulation.

There are enormous challenges in pursuing the goal of accelerating agricultural growth in a sustainable and equitable way. Chapter 3 highlighted the major constraints that any strategy for agricultural and rural development will have to face. Change in policy, investment allocation, and institutional development will have to create the conditions to implement such a strategy. However, it is important to put Viet Nam's current situation within a global perspective. The objective of this chapter is to highlight first some global trends that to a certain degree affect the formulation of such a strategy. After highlighting these global trends, the chapter will also consider some emerging principles that might be considered in greater depth in the following phases of the TA.

4.1 GLOBAL TRENDS AFFECTING AGRICULTURE

Viet Nam will have to compete with many other countries facing similar global trends.

The global trends highlighted in this section affect global agriculture. Viet Nam will also be affected by these trends as it tries to develop and pursue its own development strategy. As (i) agriculture contracts in many countries; (ii) urbanization increases; (iii) international trade becomes more liberalized; (iv) the interest in redressing inequities grows; (v) the concern for the environment is more widespread; (vi) the global agroindustry becomes more concentrated; and (vii) agricultural market structure is increasingly dominated by various forms of vertical integration, Viet Nam will have to compete with many other countries in similar situation. Reflection about these trends will contribute to develop a more suitable strategy for the specific conditions of Viet Nam.

First trend: contraction of the agricultural sector.

The first trend is the *contraction of the agricultural sector*, measured both by a declining portion of the labor force engaged in agriculture and a declining share of agriculture in the gross domestic product (GDP). Moreover, the share of agriculture in GDP tends to contract more rapidly than its share in the labor force, implying a growing surplus of labor in rural areas. In low-income countries in 1980, agriculture accounted for 73 per cent of the labor force and 34 per cent of GDP. In 1990, agriculture's share of the labor force had fallen to 69 per cent, while in 1995 it only accounted for 25 per cent of GDP. In high-income countries, in contrast, agriculture accounted for only about 5 per cent of employment and 2 per cent of the GDP in 1995 (World Bank, 1997). Labor displaced by shrinking agricultural employment usually migrates to the slums of the big cities in search of more remunerative opportunities. High migration rates coupled with the inability of urban areas to absorb this influx suggest the need for policy to boost productive rural employment. Policies, institutions, and technologies to develop rural agro-enterprise would directly strengthen the rural economy despite agricultural contraction. They would also promote increased agricultural production to provide the raw materials for processing.

Second trend: urbanization.

A second and related trend is *urbanization*. The share of the urban population in developing countries has grown 3.3 per cent annually since 1980, and about 40 per cent of the population of low- and middle-income countries was urban in 1995. In high-income economies, the urban population has become stable at 75 per cent of total population, indicating that urbanization in developing countries is likely to continue (see World Bank 1997 and FAO Fact-File, internet). As people live further from where food is produced, they increasingly rely on transport, storage, processing, and marketing systems to ensure a secure and safe food supply. Reduced time for food preparation (see Kennedy and Reardon 1994) and rising demand for processed food (see Jaffee and Gordon 1993) increase the need to develop healthy, affordable food products and appropriate processing systems. Moreover, urbanization and the related income growth affect dietary composition. As peoples' incomes increase, the share of calories they derive from starchy staples declines while consumption of higher value foods increases (Poleman, 1994). These higher value foods include fresh and processed fruits and vegetables, meats, fish, dairy products and vegetable oils. They tend to have shorter shelf lives than traditional staples, and require a well-organized postharvest chain to ensure freshness.

Third trend: more liberalized international trade system.

The third trend is toward *a more liberalized international trade system* and an increasing orientation of developing countries toward export markets as a source of economic growth. This orientation is attributable both to increased surpluses, arising from the introduction of green revolution technology, and to policy changes wrought by structural adjustment programs (SAPs) in much of the developing world. One tenet of SAPs is the promotion of exports through such incentives as currency devaluation and deregulation of trade. Participation in international markets requires relatively sophisticated marketing, information, and transportation networks. Successful competition requires quality control and product standardization, and improved storage and trade facilities (see Johnson 1998; Jaffee and Gordon 1993).

Fourth trend: growing interest in redressing inequities related to gender and minority status.

The fourth trend is *a growing interest in redressing gender and minority groups inequity* (see Fleischer, Waibel, and Dirksmeyer 1996). Women have traditionally played an important role in production, processing, handling and preparing food. In West African countries, for example, the role of women in marketing agricultural products is well known (see Jaffee and Morton 1995). A large part of women's work in post-production is often times in the informal sector including such tasks as the preparation of traditional foods, and small-scale production of fish, palm oil, cassava, and dairy products (Petritisch 1985). Similarly, minority groups have traditional systems of production and social organization that are consistent with a sustainable environment. The development of agricultural and rural industry can play an important role in providing further economic opportunities for these groups and in channeling their incorporation into formal sector employment. This, of course, requires that such development explicitly take into account the role of women and minority groups and their comparative advantage in

agriculture and agroindustry (op. cit., 1995).

Fifth trend: rising concern with environmental issues and sustainable development.

The fifth trend is *a rising concern with environmental issues and sustainable development*. Consumers are demanding organic food products, biodegradable packaging, and a reduction in pesticide use, and these demands will increase along with rising income. In the United States for example, demand for organic produce rose 14 per cent yearly between 1988 and 1992 (Thrupp 1995). These concerns present opportunities and challenges for postharvest research, to develop alternative technologies for storage pest and disease control, waste treatment from processing plants, aquaculture, and livestock feedlotting, and improved food safety (see Johnson 1998, Arnold 1996, Austin 1995). To date, traditional agricultural research has focused upon the role of technology as the catalyst for improvement in production. However, this narrow emphasis should be broadened to incorporate institutional and policy dimensions of the pre and post-production system that are often critical in allowing the dissemination of technological improvements and in expanding their reach to the most disadvantaged. For instance, in many countries smallholder farmers face missing or incomplete markets for inputs and outputs. Institutions such as contract farming can overcome this gap by linking processors with smallholder farmers, guaranteeing a stable supply of raw materials to the former, and steady markets and prices to the latter. They thus allow smallholders to gain reliable access to markets and prices where otherwise transaction costs would be too high or price outcomes too unpredictable, such as markets for perishables and high-value items in tradable sectors (Delgado 1998, Minot 1986).

Sixth trend: consolidation and increasing concentration of the global agroindustry.

The sixth trend is towards *the globalization of agroindustry* over the past decade that has been accompanied by consolidation and increasing concentration of market shares. This is particularly evident in industrialized countries and is also becoming widespread in developing countries, as a consequence of a more liberalized world trade system and increasing FDI in agroindustry. In the EU, Viaene and Gellynck (1995) report that the food, drink and tobacco industries have become increasingly concentrated since the early 1980s, while Giles (1999) foresees their further concentration so that as few as 20 major groups will dominate by about 2010. In the UK, Dolan et. al. (1999) describe a dramatic concentration of food retailing in the last three decades, with four retailers accounting for nearly 75 per cent of food sales in 1998. Turning to the US, Koontz et. al. (1993) find a large increase in concentration of meat packing; this is echoed for lamb (Brester and Musick 1995), beef (Azzam 1998) and pork (Hayenga 1998). Evidence for this trend is growing in developing countries too. In Brazil, Janks et. al. (1999) count 143 mergers and acquisitions in the food, beverage and tobacco industry in the three years following the 1994 Real Plan. In South Africa, Kaplinky and Manning (1998) report that the Gini coefficient for industry rose from .78 in 1972 to .84 in 1988. In both Kenya and Zimbabwe, 5 exporters have come to control over 75 per cent of all fresh vegetable exports (Dolan et. al. 1999). The Asian Productivity Organization (1992) describes the growing prevalence of large

industry in Indonesia from the mid 1970s onward.

Seventh trend: shift from spot markets to vertical integration.

The seventh trend is towards *a shift from spot markets to contract farming and vertical integration* (see FAO 1997, Schejtman 1998). Notable examples are palm oil production in Malaysia (see Kajisa and Meredia 1997) and fruit production in Latin America (see e.g. Key and Runsten 1999). This shift is partly a result of the higher quality standards that large retailers and supermarkets are requiring from their suppliers in developing countries (Dolan et.al. 1999). The shift is particularly important for many countries where the transition from traditional agriculture to commercial agriculture is still at its beginning. While a big effort is made in moving from informal market to spot markets (for example, assembly, wholesale, and retail), there are already indications that new structures (such as contracts and various forms of vertical integration) are becoming even more important.

4.1.1 Concerns about the globalization of agroindustry

Broad-based development as an option to globalization of agroindustry.

Even though the globalization of agroindustry could lead to higher growth and improved efficiency, there is concern that it might induce a type of development that is neither broad-based nor employment generating in rural areas, and that therefore it might not contribute significantly to rural development and poverty alleviation. Evidence of the effects of the globalization of agroindustry on rural areas and small enterprise development in developing countries is very scarce. However, these issue have important implications for development policy. As the agricultural sector contracts in many developing countries, the labor force in rural areas does not decrease at the same rate. An increasing number of rural households are engaged in activities with low productivity, and rural-urban migration does not seem a solution in the medium term. Therefore, the priority for many developing countries is to generate rural economic activities that increase the income of the rural population. Agroindustry is an obvious candidate for this type of activity, because of its linkages with agriculture and rural development. However, if the development of globalized agroindustry is dominated by a small number of large and capital-intensive enterprises, in the short and medium term, it does not augur well for rural households or small enterprises. Within this context, there is a need to explore alternative policy options to promote broad-based agroindustrial development, without compromising efficiency and the opportunities for growth presented by the global economy (see Goletti and Samman 1999).

In the long-term consolidation might be efficient, but in the short and medium-term a broad-based approach will be more favorable to growth.

In many developing countries, a multitude of households, and small and medium enterprises dominate farm production, postharvest systems and agroindustry. Under the pressure of changing demand patterns and competition from large domestic or foreign enterprises, there are serious concerns about the ability of small and medium enterprises to survive in the small and medium term. In the long term the distribution of firms might well be dominated by large enterprises. As the economy moves from a predominantly rural to a predominantly industrial structure, the consolidation of

farm production and agroindustry might be optimal on both growth and efficiency grounds. However, in the medium term, there could be important reasons why the promotion of a broad-based approach including small, medium, and large enterprises might be more favorable to growth than a bias towards large enterprises.

Factors against SME

Several facets of globalization tend to discriminate against small and medium enterprises. In the case of fruits and vegetables, for example, the need to control for high perishability requires specialized production, packing techniques and refrigerated transport. Computer-controlled deep irrigation systems in production, the intensive use of fertilizer and pesticides, sophisticated packing plants that resemble large modern factories, and temperature and atmospherically controlled storage and transportation all contribute to "cool chain" supply systems which allow fresh produce to be supplied to major supermarkets around the world. More generally, marketing products requires highly sophisticated and well-integrated information and transportation networks. The need to comply with aesthetic, hygiene, and health requirements involves investment in research, development, and marketing that small and medium enterprises cannot easily afford.

Yet, evidence that SMEs have an important role to play.

However, there are also countervailing trends that suggest a new role for SMEs, in such areas as niche markets that stress product differentiation over cost. Reardon et. al. (1999) give examples of product differentiation according to domestic/export, refined/coarse or rich/poor consumer, and give the examples of wheat and coffee in Brazil, maize in urban Mali and milk products in Latin American. Several small European companies have successfully marketed products on the basis of region of origin (see OECD 1995). Niche markets in developed countries more appropriate to suppliers based in developing countries could include organic fruit (Dolan et. al. 1999), traditional foods sought by immigrant communities, and other specialized food for which demand is likely to increase as income distribution – and consequent consumption patterns – become more fragmented in the coming years (see Giles 1999). For instance, Giles (1999) projects that in the UK the food distribution system will become much more fragmented by 2010, because of a fall in the market share of supermarkets, and increases in food eaten away from home, bought from discounters, and delivered to the home.

Factors favorable to SMEs.

An emerging body of work suggests small-scale firms may be able to compete with their larger counterparts by exploiting two factors. The first is a reliance on external rather than internal economies of scale achieved through some form of networking (e.g. Schmitz 1995). The second is based on the premise that in certain industries mass production is becoming inefficient and being replaced by more efficient production techniques suited to small-scale production (e.g. see *World Development* 1999). Both factors may apply to the processing industry though more case studies are needed to substantiate this view.

Arguments supporting SME:

i) adaptation to shocks;

ii) absence of economies of scale;

iii) flexibility in production;

iv) small market size;

v) effective management;

v) diseconomies of scale.

Nonetheless, there is also evidence to support the argument that in some rural environments, small enterprises might even be more competitive than large enterprises because

i) they have greater flexibility in adapting to disruptive circumstances and in responding to frequent interruptions in the supply of inputs (e.g. see Sandee 1999 on Indonesia);

ii) they have an input supply that is insufficient to permit substantial economies of scale (e.g. large fish plants are operating below capacity in Tanzania, McCormick 1998)

iii) they have better labor flexibility either in the utilization of labor or by combining several business activities that can be frozen or expanded according to market fluctuations[3].

iv) markets are not large or constant enough to absorb the output of a large plant running at full capacity (e.g. demand for rattan furniture in Indonesia, Smyth 1992). Local production costs will often exceed world prices, militating against exports;

v) managerial problems involved in large scale production can be very complex and lack of effective coordination can result in input loss;

vi) there may be diseconomies of scale in large scale plants, especially those which are outside of the plant itself – e.g. if adequate infrastructure is lacking, new roads my be needed, large concentrations of estate workers may require housing, and poor industrial linkages may make the maintenance of sophisticated large scale plant difficult.[4]

Kaplinsky (1990) shows how these problems have led to large scale sugar processing plants being supplanted by smaller scale models in China, India and Kenya, where production at levels originally envisioned would have doubled sugar production costs.

In conclusion, while long-term trends seem to promote increasing concentration in the agroprocessing industry, there are several factors, at least in the short to medium term, that argue for continued small firm involvement. These arguments suggest that a broad based approach to agroindustrial development might be possible not only on the grounds of equity, but also of efficiency.

4.2 EMERGING PRINCIPLES

Thee key issues:

1. increase agricultural labor productivity;

2. improve management of natural resources;

The global principles mentioned in the previous section have some relevance to the formulation of a strategy for agricultural development in Viet Nam. Together with the analysis of past performance and current status (chapter 2) and constraints (chapter 3), they provide the basis for looking at three sets of issues that any such strategy will have to consider, namely:

[3] These first three arguments are adapted from Rasmussen et. al. 1992.
[4] These last four arguments are taken from Kaplinsky 1990.

3. integrated agricultural and rural development.

- Increase agricultural labor productivity
- Improve management of natural resources
- Integrate agricultural with rural development

The following sections will elaborate these issues.

4.2.1 Increase agricultural labor productivity

Sustain increase in rice productivity

Increased rice productivity is the basis for diversification of agriculture.

Diversification should not imply the abandonment of active support to increase rice productivity, particularly in those areas that have a high potential and comparative advantage in rice production. Rice is and will continue to be the main staple of the population, providing income to the majority of agricultural households and a major source of foreign exchange. As rice productivity grows, however, the emphasis shifts from an almost complete focus on rice in agricultural policy (as reflected in resources allocated to research, extension, and irrigation) to a more diverse approach. Increased rice production in Viet Nam is the basic underlying condition for significant diversification of agricultural production to be profitable (see Hayami 1992). In order to solve the trade-off between food security and the development of high value-added agricultural commodities or agroindustrial activities, market integration between high-potential areas for rice and areas more suitable for non-rice activities will have to be promoted

Promote broad linkages and market-oriented diversification

Policies to promote diversification should not be based on pick the winner approach, but provide the incentives and conditions for broad linkages within the rural economy to take place.

While cash crops such as coffee, rubber, or cashews make an important contribution to the income of the population living in the specific areas where they are grown, their impact on total agricultural income, employment, and rural industrialization is likely to remain small. That is not to say that they should not be pursued. The successful case of coffee in central Viet Nam had important poverty reduction effects that should not be minimized. The success of rice, on the other hand, has much more relevance on a macro level. By involving a large share of the rural population in terms of labor and income, its growth was a powerful engine of growth and poverty reduction. Similarly, sectors such as livestock, fishery, horticultural products, pulses, agroforestry, and roots and tubers processing cover different regions and have broader linkages with the rural economy. That does not imply a strategy of picking the commodity with the highest potential and subsidizing production. The strategy is rather to assess the feasibility of these sectors based on economic and technical criteria, and to promote investments or mechanisms to lower the transactions costs for smallholder farmers and small-scale enterprises to be involved in such activities. Improved infrastructure, appropriate research and extension, access to land and credit markets, information, support to institutional building (market information systems, standards and grades, trade associations) are all different ways to lower transaction costs. It is a different approach than trying to actively

subsidize a subsector (for example sugar) through trade protection or by building large factories that face bottlenecks in procuring raw materials and are not labor intensive.

Promote development of SME

SMEs can contribute to higher income and employment generation in rural areas.

Successful diversification will imply not only a shift in the agricultural output mix, but also the growing importance of rural non-farm activities such as agrofood industry. The linkages between agricultural production and the rest of the economy are enhanced through agroindustry's role in providing inputs and procuring raw materials. For labor productivity in agriculture and rural areas to increase, new job opportunities have to be created. The challenge of creating productive employment is enormous given the size of the rural population. It will be quite difficult for such challenge to be met only by state owned or large commercial enterprises. A large pool of expertise and human resources are available already in Viet Nam for small and medium enterprises to emerge in a more dynamic and sustainable way. One such a pool is the vast number of micro-enterprises, usually family-based, that exist in rural areas of the IMR (see Minot 1996). The development of micro-enterprises into small and medium enterprises in rural Viet Nam is currently hampered by several constraints related to access to credit, distorted land markets, limited business and technical knowledge, confused legislation, and lack of participation at the local level. In the case of Viet Nam, small and medium scale enterprises constitute over three quarters of the food processing industry. Sometimes the presence of small and medium enterprise is considered inefficient on the basis of economies of scale in agroindustrial activities. However, technical arguments based on economies of scale do not take into account the agrarian structure and the infrastructure development of the economy. In the presence of an agrarian structure characterized by smallholder farmers and a poor level of infrastructure, procurement of raw materials for large enterprises is too costly. The low capacity utilization of large agrofood factories in developing countries is a common experience that nullifies economies of scale. The development of small and medium scale enterprises in the case of rice and starch in Viet Nam is an example of how transaction costs involved in the procurement of raw materials are minimized through intra-industry trade in semi-processed goods transferred along the marketing chain from small-scale to large-scale enterprises (see IFPRI 1996 and Goletti, Rich, and Wheatley 1998).

Develop post-production systems

A large proportion of the resources devoted to meeting the demand for agricultural products in Viet Nam has been spent to improve production technology and productivity. Much less attention has been devoted to the chain through which agricultural commodities and products reach final consumers within the country and abroad. This neglect is particularly serious given the enormous value added produced along the marketing chain between producers and consumers. Moreover, if the marketing chain does not function

properly, investment in production becomes more costly and more risky, and ends up being wasted. Postharvest losses as well as inadequate handling and transportation facilities are responsible for the wastage of inputs and the expensive investments needed to produce these commodities. This is particularly true in the case of perishables such as fruits, vegetables, and roots and tubers. Moreover, an efficient postharvest chain can be environmentally friendly by avoiding unnecessary production (not required by final consumers) that utilizes scarce water resources and requires heavy application of chemicals toxic to the health and the soil. When food resources are threatened, as in the case of fish stocks, inefficiency and loss in the distribution chain can exacerbate an already difficult situation (FAO 1996).

Better interface between smallhoders and global agroindustry

Small holders and small enterprises are increasingly cut off from the development of global agroindustry. Improving the interface between small and large through institutional innovations such as contracts, associations, and networks can benefit the rural economy.

Over the past two decades, global changes in the agrofood industry have affected agriculture dramatically. As the structure of the industry has become more concentrated, demand patterns have shifted towards higher value added products, and supermarkets are increasingly the major actors in the farmer to consumer chain. Yet, in Viet Nam, postharvest systems and agroindustry are still largely characterized by a dichotomy between a multitude of small enterprises, often household businesses with little capital, limited access to modern technology, and poor integration with urban and international markets, and a few large SOEs often inefficient and not well prepared to face the competition from global agroindustry. Under the process of globalization, both small enterprises and SOEs are put under pressure by the entry of large domestic and international agribusinesses. The impacts of agroindustry globalization on rural livelihoods and small enterprises remain unclear. However, there are indications that globalization is compatible with a broad-based approach to agroindustrial development. A broad-based approach implies a balanced structure of expanding small, medium, and large enterprises that can capture different scale economies, niche markets, linkages with urban and international markets, and intra-industry linkages. Institutional arrangements such as contracts between smallholders and large enterprises, farmers and trade associations, and supply chain networks offer promising avenues for reaping the benefits of a dynamic global agroindustry.

Develop supporting institutions and the software of development.

The software of development (research, extension, market information, cooperatives, business associations) is often neglected even though it is as important as the hardware (roads, electrification, irrigation,

Inevitably, the development of a well diversified rural economy will require massive investment in physical infrastructure, such a roads, electrification, irrigation systems, ports, and communication systems (the hardware). However, most of these investments are expensive, take a long time to be implemented, and risk being inadequate, environmentally damaging, and unsustainable, especially when carried out without adequate study and evaluation by policy makers, researchers, and representatives of civil society. In the context of limited resources, it would be more appropriate to shift investment emphasis to capacity building, research, extension,

communication, ports).

and policy and project analysis (the software). These types of investments are not only less expensive, but also have the potential to identify more suitable and less expensive investment options. The complexity of agricultural diversification and rural industrialization strategy in Viet Nam entails policies and measures that affect not only agriculture but also several other aspects of rural society including infrastructure, credit, health, education, and rural institutions. Within the context of a market economy, rural development is not directed from above, as in the former centrally managed system. The state, however, still has an important role to play in providing public goods in which the private sector does not have incentive to invest and in facilitating the creation of market institutions such as voluntary business associations and cooperatives. This process entails an enormous amount of information gathering, processing, and evaluation. Currently, in Viet Nam, many line ministries provide this information function, often in an uncoordinated manner and sometimes without appropriate technical expertise. Policy design and implementation are often conducted without adequate monitoring of markets and without the support of analytical methods that could improve the decision and implementation process. Policy units have already started to organize this complex information. Nonetheless, much more work remains to be done, both in terms of expanding the current staff and in upgrading the capacity for policy analysis.

4.2.2 Improve the management of natural resources

Growing awareness of environmental constraints reflected in policy making. Implementation still slow.

There is a growing awareness that environmental constraints affect the sustainability of growth of the agricultural sector. The trade off between short term and long term benefits and costs is becoming more clear, particularly in the management of natural resources such as forests, water, soils, and air. Policymaking has reflected this growing awareness. In 1991, the National Plan for Environment and Sustainable Development was published; the National Environment Agency was established in 1993, and the Environment Protection Law was approved in 1994. In 1998, the Party issued a directive on Strengthening Environmental Protection in the Period of Industrialization and Modernization (no. 36/NT-TW). The implementation of these laws, however, does not yet seem to have significantly improved management of the environment (see UNDP 1999, Looking ahead).

Choices between short-term benefits that are often unsustainable and long-term gains often result in environmentally destructive practices.

In all countries the management of natural resources is a complex process, taking considerable time and resources. In a country like Viet Nam, the process is even more difficult in light of the scarcity of financial and human resources available to carry out the various tasks required to ensure sustainable use of natural resources. Faced with the choice between food security in the very short term and income growth in the long term, rural households in forest areas will not hesitate to involve themselves in practices such as shifting cultivation and unsustainable harvesting of forest products to provide for the immediate needs of their families. Faced with the choice of reaping yields in the short term versus making land improvement investments and following soil nutrient management

practices that keep soil fertility high, farmers of marginal lands often opt to mine the soils. Faced with choice of operating a profitable shrimp farm for the next five years or preserving mangrove forests, rural households often opt to destroy natural habitats. Similar choices are numerous, and the adoption of environmentally sound practices and sustainable activities depends on the identification of the economic, social, institutional and technological constraints that rural households and enterprises face.

There is a dearth of reliable benchmark data on the environment, making the task of understanding the extent of the problems difficult.

The challenges ahead are numerous, but their solution will require an understanding of the current situation that is based on reliable information and sound analysis. The paucity of environmental data can result either in a benign neglect or in an alarmist tendency to identify "dangerous trends". High-quality baseline data are lacking. Even in cases such as the estimation of deforestation and forestation rates there is a lot of disagreement because of the definition of what constitutes forest. Similar problems are present in the definition and measurement of "barren lands", soil mining, pollution, urban wastes, depletion of fisheries, loss of biodiversity, and water use. A useful approach would be not to deny that serious problems exist and that there are long-term costs in following environmentally damaging practices, but to have a better appreciation of the extent of these problems.

Secure property rights facilitate the adoption of sustainable practices.

In the case of natural resources such as land, forest, and water, the definition of property rights at the local level may help to slow or resolve degradation of the environment. Provided that viable technological options are made available, the adoption of sustainable practices will be faster when property rights are well defined. In theory, whenever rural communities and rural households are given secure property rights, they will take steps to conserve "their" resources. On the other hand, when SOEs or other "outside' organizations become involved in the management and extraction of forest products, a competitive and often negative environment of "pre-emptive extraction" may be triggered in which competing stakeholders try to strip the resources before the other stakeholders can remove the timber or other assets.

Revision to forest resources tenure regulations are likely to be accompanied by new rounds of harvesting of forest resources.

Experience in the region over the past 15-20 years suggest that traditional community tenure of sloping forest lands is a more sustainable approach than granting of good quality land to individual households. In Yunnan, China, it was found that each major revision to laws governing the ownership and control of forest lands resulted in a fresh round of harvesting and deforestation, even though each revision vested increasing responsibility and/or ownership at the household level (e.g. see Xu, Jianchu et al. 1995&1999).

Community control of forest land may be more sustainable and more equitable than household allocation.

The much-debated "community forestry law" in Thailand probably comes closest to the most effective melding of livelihood and sustainability/conservation issues. As the term "community forestry" suggests, cutting-edge forestry law places much less control at the household level than is currently being done in China or Viet Nam. The slowness of forest land allocation in Viet Nam may be in part

due to the reluctance of SFEs to release assets in their control and to the perception by many upland commune leaders that communal management of forest resources is indeed more sustainable and more equitable than the granting of forest use rights at the household level.

Market-solutions to externalities can be part of the solution.

It is well known that when externalities are present, the market mechanism will also fail in generating outcomes that are socially and environmentally efficient. However, it is also known that there are several market-solutions to the externality problem. Taxes, for example, can be used to change the structure of prices to better reflect social costs. Possible candidates for this approach are air pollution, water contamination, unsustainable logging, dumping of industrial residues, and urban wastes.

4.2.3 Integrate agricultural and rural development

Participation of all stakeholders is key to promote integration of agricultural and rural development.

The link between agricultural and rural development has been already recognized by GOV and is embedded in policy guidelines, decisions, and programs. One major challenge in the future will be to effectively promote these linkages in a financially sustainable way. That will require the participation of all stakeholders (rural households, private corporate sector, SOEs, NGOs, and civil service) in order to ensure better coordination.

Strengthening of market mechanisms and participation of private sector are necessary to promote rural development.

Effective participation of all stakeholders should result in a mobilization of human and economic resources to attain the goals of rural development. By itself, the state will not be able to attain these goals, given the limited amount of resources available and institutional weaknesses. In fact, the strengthening of the orientation toward the market already offers the opportunity to tap the resources of the country. The state can facilitate this process, but cannot expect to do better than the private sector in the conduct of business. In collaboration with private sector, however, the state should have a leading role in promoting policies and investment in the key areas of:

- Rural infrastructure
- Rural financial system
- Poverty reduction
- Social services provision

Effective participation requires incentives related not only to prices, but also to governance, transparency, and accountability.

Effective participation has to be based on incentives of different stakeholders to contribute to meeting the challenges ahead. The system of incentives largely depends on prices in a market system. However, there are also important incentives deriving from improving governance, transparency, and the accountability of different stakeholders. Whenever these other incentives are neglected, then even the market mechanism will not operate efficiently.

CHAPTER 5. IMPACT OF ADB PROGRAM ON AGRICULTURAL SECTOR (1995-98)

First Agricultural Sector Program for Viet Nam funded by external agency.

The Loan and Technical Assistance for the Agricultural Sector Program was the first such program that Asian Development Bank (ADB) conducted in Viet Nam. The loan period was between April 1995 and June 1998 and involved a disbursement of US$ 79.28 million in two tranches of US$ 41.39 million and US$37.89million. The loan carried a service charge of 1 per cent per annum, and had a maturity of 40 years, including a 10-year grace period.

Objectives

The principal objective of the Program was to create a favorable environment for sustained growth, increased efficiency and investment in the agricultural sector, including agricultural production, processing and trade, and to promote socioeconomic equity and reduce poverty through improving farmers' access to credit and improving farmers' rights to long-term land use.

Scope

The scope of the Program included three main areas of policy reform:

i) market orientation and efficiency;
ii) rural financial intermediation; and
iii) land tenure

Measures for Market orientation and efficiency

The scope of the area on market orientation and efficiency included several measures such as liberalizing trade in rice and fertilizer; promoting competition; removing restrictions on private sector participation; maintaining stability of agricultural markets; establishing the legal and regulatory framework for the formation and growth of commercial enterprises and voluntary trade associations; and improving the efficiency of agricultural support services through reform of farmers' organizations.

Measures for Rural financial intermediation

The area of rural financial intermediation included the following measures to strengthen VBARD: introduce a portfolio classification; improve the provision for bad debts; establish a sound accounting system with financial statements audited by external auditors; improve the cost-efficiency of credit operations; strengthen the mobilization of funds; encourage medium-term savings and lending; and settle the bad debts assumed by VBARD from the Government's lending program prior to VBARD becoming a commercial bank.

Measures for Land tenure

The area of land tenure included measures aimed at key aspects of the 1993 Land Law such as determining the rights of individuals, providing for arbitration in the settlement of disputes, providing for compensation and resettlement in case of repossession of land use rights by the State; issuing land tenure certificates to 3.6 million farm households over the period covered by the program, and determining the agricultural tax obligations of farm households.

5.1 ACHIEVEMENTS OF LOAN AND IMPACT

Impact on markets has been positive, yet problems remain in participation of private sector, treatment of SOEs vis a vis private sector, participation of farmers in associations and cooperatives, and financial intermediation.

The measures to be implemented under the loan were expressed in terms of 45 commitments included in the agreement. Overall, most of the commitments have been implemented. Some, most notably the ones related to quotas, interest rate regulations, and land registration were delayed, or only partly implemented. Over the period of the loan (around 3.5 years), several decrees and policy decisions were approved by the Prime Minister and the National Assembly that were consistent with the scope of the Loan. In the case of fertilizer, the quota was eliminated in 1999, one year after completion of the loan agreement (see discussion in chapter 2). In the case of rice, even though policy decision 141/TTg of 1997 allowed different enterprises to participate in trade, only later did private companies actually participate in trade, and only to a very limited extent (see discussion in the section below related to the TA on rice). The promotion of rural financial intermediation has made some progress in terms of larger access of rural households to credit served by organizations such as the Viet Nam Bank for Agriculture and Rural Development (VBARD), the People's Credit Funds (PCF), and the Viet Nam Bank for the Poor (VBP) (see chapter 2). However, the interest rate structure regulations of the State Bank of Viet Nam (SBV) still put some limit to the expansion of savings mobilization in rural areas (see discussion on chapter 3). The process related to the formation of new cooperatives and farmers associations has benefited from a new regulatory framework provided by the Law on Cooperatives of 1997. However, the formation of new cooperatives so far has been slow, the main reason being that rural households do not yet perceive the benefits of joining the organizations (see chapter 2). There is some evidence that domestic marketing of agricultural products has become more efficient during this period, particularly in reducing price margins among different regions (see below section on TA on rice).

The commitments implied in the area of land tenure have been largely met.

The impact on land tenure has overall been positive. Land allocation has proceeded relatively quickly in the case of agricultural land. For example, the commitment of distributing land tenure certificates to 4.8 million households by 1997 was largely met; by 1997, land tenure certificates were distributed to 7 million households according to the Ministry of Finance (MOF). Progress in allocating land has been much slower in the case of forestland. Information systems for registration purposes have been established by GDLA, and several policy decisions have been added to clarify various aspects of the Land Law and taxation issues. Land markets are still in an embryonic stage (see chapter 3) and are constrained by various factors. Yet, these issues were largely beyond the TOR of the agreement.

Benefits of policy changes in rice policy have been estimated to amount to $220 million over 1995-2000 and a reduction of about 700,000 poor people. The benefits would have been even higher if implemented earlier.

The quantitative evaluation of the program is complex, as the policy changes that have been implemented during the period of the agreement could have taken place anyway. It is important to realize, however, that the program was successful in supporting a process of policy reform that would have taken a longer time to occur without the support of ADB. The time "saved" in the adoption of some policies contributed to higher income growth and poverty alleviation. When quantitative evaluation is possible, as in the case of rice policy, the present value of the policy changes over the period 1995-2000 has been estimated at $220 million[5] (see Ryan 1999). If these changes are sustained until 2020, the benefits to Viet Nam will be of the order of $ 1 billion. There are also benefits to the rest of the world, since Viet Nam has become an important actor in world rice markets, implying that expansion of rice exports from Viet Nam will benefit consumers in other countries. Were the policy changes to take place faster, the benefits to Viet Nam and the rest of the world would have been even higher.

Recent estimates on the impact on poverty indicate that, contrary to conventional wisdom, the increase in rice prices resulting from relaxing the rice export quota had beneficial effects. Rather than increasing, the number of the poor declined slightly, in fact by about one per cent, which is equivalent to about 700,000 people (see Minot and Goletti 2000). The main reason is that most of the poor are located in rural areas, are engaged in rice production, and benefit from higher rice prices.

Similar benefits on income growth and poverty reduction are likely to result from the improvements in rural credit and land allocation process that the program supported. Even though precise estimates are not available, the tremendous progress made in access to rural credit by rural households made possible by VBARD, partly with support of ADB, is an important impact of the agricultural sector program. Over the period 1995-98, loans to customers increased by 84 per cent and VBARD reached about 4 million rural households. Agricultural land use certificates were distributed to 10 million households, thus improving security of land tenure and contributing to long-term investment. The benefits of these policies will exercise their full impact in the medium term.

5.1.1 Problems of Implementation

Various problems in implementation related to short duration of the loan, coordination problems, and capacity of execution agency.

Given that this was the first agricultural sector loan for Viet Nam, it is not surprising that several problems were encountered during its implementation, partly related to the capacity for implementation, partly due to the short duration of the loan in relation to the numerous commitments of the agreement, and partly due to various discrepancies between the ADB and the government in the

[5] These benefits have been evaluated with the use of a simulation model developed by IFPRI in the implementation of the TA on rice (see IFPRI 1996). The model is a spatial equilibrium model of food crops in Viet Nam and allows the comparison of the impacts of alternative policies. The benefits have been estimated by comparing the actual situation with liberalization with what would have occurred if the policy changes had not taken place.

interpretation of the wording of several articles of the agreement (for example the commitment related to allowing all enterprises, regardless of economic organization, to participate equally and directly in the export of rice). One of the major challenges for the program was the timely implementation of its various commitments. That has put enormous pressures on MOF as the execution agency particularly since it was responsible for coordination between various line ministries.

5.1.2 Use of Loan Proceeds

Even though the loan was not tied to specific projects, its proceeds were used in sugarcane, civil works, and forestry.

Because of the design of the program, the loan proceeds were not linked to specific expenditures. The program allowed the use of funds to promote the objectives and commitments specified in the agreement without the requirement of implementing specific projects. As such, the proceeds of the loan became part of the state budget. In fact, the loan was used by the GOV to finance some specific activities. The three main uses of the loan were:

- to promote sugarcane project (US$ 49 million)
- investment in civil works (US 27 million)
- forestry development (US$ 3 million)

The biggest user of the loan proceeds was the troubled sugar industry.

The proceeds of the loan were used mostly in the agricultural sector (sugar and forestry). The investment in civil works was part of the public capital expenditure and was not used for current expenditures. The biggest share of the loan (62 per cent) was used in promoting the sugarcane and sugar sector. This part of the proceeds from the loan was given by MOF as a loan to VBARD, which, in turn, disbursed loans to various SOEs involved in sugar production. Currently, the sugar sector is mired with difficulties in repayment of the loans, and has required special assistance and extension of repayment terms with the VBARD. The support of the sugar industry was part of a national program to produce one million tons of refined sugar by year 2000. It is doubtful this target will be reached, but, even more importantly, it does not seem an efficient use of scarce resources. These difficulties were already observed in 1997, when international consultants evaluated the annual economic cost to Viet Nam of the sugar policy to be around US$ 92 million (Goletti and Rich 1998) per year. The intended goal of the sugar program was to promote rural industrialization and rural employment. Unfortunately, this goal did not take into account of the high cost of protection of sugar industry that such a policy would imply. As a consequence, not only are many sugar factories facing difficulties, but also sugarcane farmers are in the same situation, given less demand of their product for processing and the difficulty in sustaining subsidies of the program.

5.1.3 Impact of the ADB rice marketing study

Design and objectives

Rice Market Monitoring and Policy Options

The Asian Development Bank designed a technical assistance project called the “Rice Market Monitoring and Policy Option Study”

Study

(TA No. 2224-VIE). It was put out for competitive bid in early 1995. A joint proposal was submitted by the International Food Policy Research Institute (IFPRI) and Development Alternatives Incorporated (DAI). The project began in September 1995 and the final results were presented in October 1996. The project formally ended in March 1997..

Goal

The goal of the project was to work with the Ministry of Agriculture and Rural Development (MARD) to improve understanding of the impact of recent economic reforms on the rice sector and to examine the impact of alternative rice policies. The specific objectives of the project were the following:

Objectives

- Carry out an in-depth study of rice marketing, processing, storage, and trade.
- Analyze the incentives for rice production and marketing, including the effect of policy measures.
- Evaluate the impact of economic reforms on farmers, processors, traders, exporters, and consumers.
- Examine the potential impact of various policy options in rice marketing.
- Develop a data-base on key indicators of the performance of rice markets.
- Provide training to government analysts in the areas of sampling, survey design, data processing, and policy analysis.

Implementation

Between September and November 1995, the technical assistance team organized a planning methodology workshop in Hanoi, designed a series of questionnaires, and trained two teams of enumerators, one in the north and one in the south.

The project carried out four surveys,

Over the period November 1995 to June 1996, surveys were conducted of different types of participants in the rice sector. The surveys included 1,388 farmers, 850 rice traders, 852 rice millers, and 36 state-owned enterprises, covering 17 of the 53 provinces in all seven regions of the country. The involvement of DAI was concluded in April 1996, so the data analysis and modeling was carried out by IFPRI in collaboration with the Department of Planning of MARD.

gathered secondary data,

The project also assembled an extensive database of secondary data including 1) monthly agricultural prices at farmgate, wholesale, and retail level for 21 districts, 2) area, yield, and production data over 12 years for various commodities, and 3) seasonal data on rice exports including volume, prices, and destinations.

developed a simulation model,

In addition, the project developed a computer model of four food markets (rice, maize, cassava, and sweet potato) in the seven regions of Viet Nam. The Viet Nam Agricultural Spatial Equilibrium

Model (VASEM) was used to examine the impact of alternative export policies, internal trade policy, changes in processing efficiency, and the impact of long-term trends in rice consumption.

and provided training.

The project also provided formal and in-service training in various areas. Technical training was provided to ten trainees in questionnaire design, data entry and analysis, database management, and computer graphics. Five training modules on economic policy analysis were conducted with 22 participants from MARD, the Ministry of Trade, Ministry of Finance, Ministry of Planning and Investment, General Statistics Office, and the Government Price Committee. With FAO assistance, a study tour of Thailand was organized for senior government officials. Three Vietnamese researchers came to IFPRI in 1996 to participate in the preparation of the final report. And in January and March 1997, a training course was offered to 18 participants in policy analysis and computer modeling, with the specific goal of transferring capacity to use the VASEM model.

The results were disseminated in various ways.

The results of the study were disseminated in various ways. The project organized a conference in October 1996 with 100 participants, 10 seminars with different Vietnamese institutions, six seminars outside Viet Nam (3 in Southeast Asia, one in Japan, and two in the United States), and more than 23 reports, papers, and training manuals. The final report, completed in December 1996, consisted of 535 pages. It was translated into Vietnamese in March 1997.

Results and recommendations

The findings highlight the role of private traders,

The surveys of farmers and traders provided new information on how the marketing system has adapted to market liberalization, rapid growth in output, and the emergence of Viet Nam as a major rice exporter. The surveys highlighted the high level of commercialization of rice farmers, particularly in the two deltas. Contrary to conventional wisdom, state owned enterprises (SOEs) play a negligible role in buying paddy from farmers. Private traders dominate assembly, local wholesaling, and retail sales, although SOEs are important in long-distance trade and they monopolize exports.

the importance of macroeconomic trends,

Real rice prices have fallen steadily over the 1990s in spite of rising exports, largely because depreciation of the exchange rate has not kept pace with inflation. Rice price variability has decreased with market liberalization, but north-south margins are still higher than can be explained by transport costs. Rice export prices are lower than those in Thailand for reasons of quality, reliability of contracts, and port-related deficiencies. The quality of Vietnamese exports has increased, however, and the Vietnamese price discount has narrowed.

and the impact of the rice export quota

Simulations with the VASEM model indicated that removing the rice export quota could increase rice exports from 2.5 million tons (in 1995) to 4-5 million tons depending on the elasticity of world

demand. Rice prices would rise, benefitting rice farmers (particularly in the deltas) and hurting urban consumers and other net buyers. The study found that higher rice prices would have a neutral or slightly beneficial effect on poverty because many of the poor are rice farmers and the largest rice buyers are urban households, relatively few of whom are poor. This finding contradicted conventional wisdom that higher rice prices would exacerbate poverty. The study also measured the annual "rent" that SOEs obtain from the rice export quotas, estimated to be US$ 128 million.

in raising income and reducing poverty.

The simulations also indicated that eliminating restrictions on the movement of rice from south to north would reduce north-south price margins. National income would rise by US$ 62 million per year and about half a million of the rural population would move above the poverty line.

Six conclusions, leading to

The study offered six overall conclusions:

- Growth in the rice sector relies on export growth, since local demand is limited.
- Viet Nam has considerable export potential, but it is constrained by the quota, poor infrastructure, low quality rice, and unreliability.
- Export growth depends on an effective and flexible marketing system, which in turn depends on the development of the private sector.
- The efficiency of domestic markets is reduced by restrictions on internal movement of rice, barriers to entry in the export sector, and limited credit.
- Targeting and income growth are the best ways to address food security. Rice policy is a blunt instrument for achieving these goals.
- Macroeconomic policy can reverse all the gains achieved by investment in agriculture and good agricultural policies.

five recommendations for rice policy.

Following from these conclusions, five recommendations were made:

- The government should phase out restrictions on internal and external trade, including the rice export quota, the barriers that prevent private sector rice exports, and restrictions on south-north trade.
- The government should promote rice marketing through credit, infrastructure development, and measures to improve competition and transparency.
- Macroeconomic trends should be monitored, keeping in mind the adverse effects of an overvalued exchange rate on rice farmers.
- Poverty should be addressed with targeted programs rather than through the rice policy.

- Agricultural research would generate large benefits and should be strengthened.

Impact of the project

The impact of the project can be divided into four components: export policy, internal trade restrictions, targeted poverty assistance, and training and capacity building. Each will be discussed in turn.

Export policy

Study findings contribute to policy debate

Between 1992 and 1995, the export quota ranged between 1.6 and 2.0 million tons. In 1995, the export quota was 2.0 million tons, but the conventional wisdom (supported by food balance estimates) was that about 0.5 million tons were exported illegally to China.

In 1996, the export quota was initially set at 2.0 million tons. In May-June 1996, low paddy prices became a political issue, with farmers complaining to provincial authorities and the Minister of Agriculture and Rural Development visiting the south to assess the situation. The results of the IFPRI study were presented in October 1996. In December, there were inter-Ministerial debates regarding rice policy, with MARD supporting some export liberalization and citing the IFPRI study (Ryan, 1999). Exports for the year totaled 2.6 million tons (although the quota was set at 2.0 million tons at the beginning of the year, it had been adjusted upward during the year).

leading to rice sector reforms.

In March 1997, the government issued Decree No. 140/TTg with several provisions:

- The export quota was raised to 3.5 million tons for 1997.
- A large portion of the export quota was assigned to provincial authorities to be allocated as they saw fit.
- The quota was allocated for the whole year rather than for a part of the year, as had been done in the past.

The export quota has been relaxed since 1996,

In 1998, the quota was raised to 4.0 million tons and private-sector participation in rice exports was allowed. Exports permits were suspended during the second half of the year in response to below average harvest in the north. In 1999, the quota was increased to 4.5 million tons. Preliminary statistics suggest that this export volume was reached by December of that year. Some observers believe that the rice export quota is no longer binding, that Viet Nam could not export more than 4.5 million tons even without a quota.

resulting in smaller margins between domestic and world prices.

As shown in Table 5.1, the retail price of rice in various regions has declined since 1995, contrary to the expected effect of export liberalization. The model simulates the effect of export liberalization on domestic prices holding other factors equal, but other factors have not remained equal. In particular, international prices have fallen. A better measure of the impact of rice policy is to look at the margin between domestic and international prices. For domestic

prices, we use the average retail price of rice in the Mekong Delta, the main surplus region. For international prices, we use the Vietnamese and Thai export prices (FOB) for 25 per cent broken rice. As shown, in Table 5.2, domestic prices have risen as a proportion of international prices. Mekong prices have increased from 99 to 110 per cent of the Vietnamese FOB price and from 83 to 105 per cent of Thai FOB prices (they exceed world prices because of domestic marketing costs).

Private exporters now play a (small) role.

In addition to relaxing the export quota, the government has begun to allow a few private companies to receive export quotas. To date, however, they receive only a small portion of the export quota, about 4 per cent of the total amount in 1999.

Benefits estimated at US$ 222 million over five years.

According to Ryan (1999), the TA report helped to strengthen the case of those within government who favored partial liberalization of exports. In interviews with Vietnamese policymakers in August-September 1998, 16 out of 17 respondents said that the rice export policy was influenced by the report.

Ryan also estimates the total increase in national income over 1996-2000 resulting from the policy changes to be US$ 222 million. Since Viet Nam may have eventually adopted these reforms without the TA, he calculates the benefits to Viet Nam of implementing them sooner rather than later. If we assume that the TA and the ADB program accelerated the reforms by only 1 to 2 years, the benefits associated are still substantial: US$ 45 to 90 million.

Internal trade restrictions

Reforms abolish restrictions on internal movement of rice,

Decree No. 140/TTg of March 1997 also lifted internal trade restrictions on rice and eliminated some licenses and controls on transport. Data are not available on the volumes of rice transported from south to north, but price data suggest that the Decree had the expected effect of reducing south-north margins. As shown in Table 5.3, retail prices in the Northern Uplands have fallen from 22 per cent above Mekong prices to 13 per cent above, while prices in the Red River Delta have declined from 20 per cent above to 6 per cent above. In both cases, the largest drop was between 1996 (before the Decree) to 1997 (the year of the Decree).

largely in response to study s recommendations.

According to Ryan (1999), 14 out of 14 policymakers interviewed affirmed that policies on internal restrictions and export quotas were undertaken earlier than they would have been because of the influence of the TA report.

Targeted poverty assistance

Increased use of targeted poverty programs,

The government has moved toward the use of targeted assistance in poverty over the past few years. In particular, geographic targeting is being used in several types of government programs including transport subsidies, low-interest loans, and infrastructure development. In order to target this assistance, the Committee for Ethnic Minorities and Mountainous Areas (CEMMA) has compiled a

list of 1715 poor communes, later expanded to 1866 communes.

though link to project recommendations is unclear.

Although this is a positive trend in Vietnamese economic policy, the connection between the TA report and this trend is far from clear. Among the policymakers Ryan (1999) interviewed, four out of four said that policies on targeted programs for the poor were influenced by the study, but it was not mentioned by the other respondents.

Training and capacity building

Training course were effective, but continued use of the model is limited.

One of the objectives of the study was to provide training to government officials in survey design and analysis and food policy analysis. As described above, various training modules were offered including one on the use of the VASEM simulation model. In the interviews carried out by Ryan (1999), 10 out of 10 respondents said that the training courses were effective. On the other hand, only two of six respondents said that the VASEM model was being used by policymakers. This is partly due to the complexity of both the model and the software used to run it. Another explanation is that the model was originally calibrated to simulate conditions in 1995. It should be noted, however, that one analyst in the Ministry (Mr. Tran Tong Thang) was able to recalibrate the model for 1997 and run several simulations. In addition, he plans to modify VASEM to represent the year 1999 in early 2000.

Summary

In summary, the rice study achieved significant impact

The "Rice Market Monitoring and Policy Options Project" was successful in several regards. First, combined with growing concern for low farm-gate paddy prices, it helped persuade the government to relax the export quota from 2.0 to 4.5 million tons. Second, it probably contributed to the decision to allow some private millers to export rice directly. Third, it was a key factor in the decision to remove restrictions on internal (south-north) movement of rice. Fourth, the training courses were considered useful and effective by Vietnamese officials and the VASEM model has been updated and used for simulations by Vietnamese analysts at MARD. Fifth, a database with price and output data has been compiled by MARD, based in part on recommendations by TA consultants.

but not all recommendations have been adopted.

Not all recommendations were adopted, however. First, although the rice export quota has been relaxed and may no longer be binding, the government continues to maintain a quota. It has not converted the quota to an export tax or decided to auction export quotas. Second, although a few private companies are now allowed to export, their access to export markets is still quite limited, with state enterprises receiving 96 per cent of the rice export quota. Third, the capacity to use applied policy models is still quite limited and the capacity to build such models does not yet exist.

5.1.4 Impact of the ADB land administration project

Design and objectives

Land Information System and Agricultural Taxation Study.

The Asian Development Bank designed a technical assistance project called "Viet Nam Land Information System and Agricultural Taxation Study" (TA 2225-VIE). The TA was carried out by the Department of Land Administration (DOLA) of Western Australia in collaboration with the Vietnamese General Department of Land Administration (GDLA) and MOF over the period August 1995 to November 1998.

Scope

The TA consists of two components: i) the development of a computerized land information system (LIS) based on primary survey data and secondary data, and ii) review of the existing agricultural taxation system. It also included training activities and study tours of staff of GDLA and MOF to selected Asian countries.

Objectives

The objectives of the technical assistance were: i) to monitor the progress of allocation of land use rights and reserved land held by communes; ii) monitor trends in land transactions and the accumulation of land use rights and their implications for socioeconomic equity; iii) comprehensively review the existing agricultural taxation system.

Findings and recommendations

As part of the technical assistance project, the Department of Land Administration (DOLA) of Western Australia identified a number of problems with the system of land registration.

There are multiple sets of land records

First, the General Department of Land Administration (GDLA) was attempting to maintain three sets of records of land-use certificates and land transactions. Books were being kept by communal, district, and provincial authorities. Furthermore, all three sets of books had equal authority; none was considered more authoritative than the others.

with numerous discrepancies.

Second, DOLA found that there were numerous discrepancies across the three levels. Given the fact that records were being kept using paper-based systems, this was perhaps inevitable.

Farmers rarely register land sales,

Third, farmers were generally reluctant to register land transactions with the communal authorities. Reasons for avoiding registration of land transactions included 1) the land transfer tax, equal to 10 per cent of the assessed value of the land, 2) the administrative complexity of the process, which sometimes required the applicant to travel to district headquarters, and 3) the risk that the transaction would not be approved by the People's Committee. A transaction may not be approved if the seller does not have a land use certificate (LUC), if the seller is not moving or changing occupation, or if the buyer has already reached the ceiling for land holdings.

so official records are out-of-date.

Fourth, as a result of the reluctance of farmers to register land transactions, the books maintained by the commune, district, and provincial authorities were outdated. DOLA describes these reports as an accurate view of the distribution of land at the time of the original allocation of land.

Temporary land certificates have been issued, but have no legal basis.

Fifth, over one million "temporary land use certificates" have been distributed to farm households. These certificates acknowledge the rights of a household to a plot of agricultural land, but the plot of land is not described precisely using cadastral mapping. The idea was to provide some land-tenure security until the mapping process could be completed, but as DOLA points out, the temporary LUCs have no legal legitimacy.

Land valuation carried out by numerous bodies,

Sixth, land valuation carried out by numerous government agencies, with the communal People's Committee playing a central role. Land valuation may be carried out by the GDLA, the MOF, the Government Price Committee, or other organizations, though in all cases the People's Committee of the commune play a central role.

and valuation not related to market value.

Seventh, one reason that information on the market values of land is scarce is that the contract for the sale of the land is not considered part of the public record. The transfer contract between buyer and seller is considered a private document, while a second document without the sale price is submitted to the local authorities.

DOLA recommends that GDLA

In light of these findings, DOLA made a number of recommendations to improve the allocation of land use certificates and the land valuation system.

designate one set of books as authoritative,

First, DOLA argued strongly for the selection of one set of books (commune, district, or provincial) to be declared authoritative. This would provide a means for resolving the numerous discrepancies between books.

and integrate mapping and land allocation

Second, they recommended that proper cadastral mapping be undertaken as an integral part of the process of issuing the LUCs. They opposed the issuance of temporary land use certificates, partly because the temporary certificates have no legal basis and partly because a certificate that does not precisely identify the location of the plot risks creating conflicts later on.

in a computerized system

Third, DOLA argued that computerization of the land-use records and land valuation were necessary to minimize errors and ensure consistency across books. Computerized land records, particularly if they were connected through some sort of network, would allow simultaneous updating of books at commune, district, and province level.

using modern technology.

Fourth, they recommended the use of aerial photography and global positioning systems to improve the quality of the cadastral mapping.

GDLA must streamline procedures

Fifth, they recommended that the steps for registering land transactions be simplified in order to encourage households to register transactions. At the least, this would involve streamlining the bureaucratic procedures. At most, it would involve reducing or eliminating the transfer tax and the restrictions on land transfers.

and bring valuations closer to market values.

Sixth, DOLA recommended a system of land valuation that would bring official valuation closer to market values by incorporating systematically a wide range of measures of land value, including access to roads and communication infrastructure, land characteristics, distance to major urban centers, and so on. In addition, they argue that the sale contract, including the sale price, be made part of the public record. This would also facilitate the collection of information on market prices and the development of a valuation system that reflects market prices.

A new agency is needed.

Seventh, DOLA recommended the creation of a new, independent agency responsible for land valuation. They argued that this was necessary in order to apply consistent criteria in valuing land, as well as avoiding possible conflict of interest problems.

Impact of the project

The GDLA has designated provincial books as authoritative,

The GDLA has accepted the argument for identifying one authoritative set of books. It has been decided that the books kept by the provincial Department of Land Administration will be considered the official ones. The problems of computerizing the 500-odd district-level offices or the 10 thousand communal offices prevent a more decentralized approach.

and accepts integration of mapping and allocation.

The GDLA has also accepted the idea that land registration and cadastral mapping need to be carried out in an integrated manner. Since the DOLA project, the GDLA has focused its efforts on providing (regular) land use certificates and formalizing the temporary land use certificates.

Computerization of records is proceeding,

The GDLA has adopted the recommendation that land records be computerized. After the completion of the ADB project, the GDLA adopted two software packages: the Field Work and Cadastral Mapping Integrated Software (FAMIS) and the Cadastral Document Database Management System (CADDB). The software has been installed in all 61 provinces. Due to variation in technical capacity and training, only 45 provinces have implemented the software and are currently using it, and, according to GDLA officials, only 25 provinces are using it well.

and registration has been streamlined,

A number of steps have been taken to facilitate land registration. Most importantly, the land transfer tax for agricultural land has been reduced from 10 per cent to 2 per cent. In addition, computerization has simplified procedures somewhat, although the process remains slow. A proposal to eliminate the conditions on land transfer and the ceilings on land ownership was drafted for inclusion in the 1998 revision of the Land Law. The National Assembly, however, rejected the reforms.

but the system for land valuation remains flawed.

The GDLA agrees with the recommendation to create an independent agency for land valuation, but the government has not yet approved this administrative reorganization. The GDLA also reports that they accept the need to incorporate a variety of criteria in valuing land, but they believe that the system proposed by DOLA was too complex given the current administrative capacity in Viet Nam.

The GDLA has adopted the use of global positioning systems (GPS) for cadastral mapping, but the use of aerial photography was considered too expensive and impractical.

DOLA has improved methods and accelerated land registration,

In general, the DOLA project can be given credit for providing a blueprint for the land registration process and in persuading the GDLA to adopt certain procedures, both of which accelerated the process of issuing land use certificates. As described earlier, by 1999, over 10 million households had been issued LUCs for agricultural land, about 87 per cent of the agricultural households. These certificates covered 5.7 million hectares or 79 per cent of the agricultural land in Viet Nam.

though a number of problems remain.

On the other hand, a number of problems identified by the GDLA have not been resolved. In particular, three problems can be cited: 1) for various reasons, including the conditions on transfer and the ceilings on land holdings, most farmers do not register land transfers so the GDLA books remain out of date, 2) although software has been installed, many provinces are not yet making effective use of it due to limits on institutional capacity, and 3) the valuation of land is still done by a variety of institutions, resulting in assessments that have little relation to market values.

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