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JAPAN INTERNATIONAL
COOPERATION AGENCY

MINISTRY OF PLANNING AND INVESTMENT
THE SOCIALIST REPUBLIC OF VIET NAM

**THE ECONOMIC DEVELOPMENT POLICY
IN
THE TRANSITION TOWARD
A MARKET-ORIENTED ECONOMY
IN
THE SOCIALIST REPUBLIC OF VIET NAM**

FINAL REPORT

AGRICULTURAL AND RURAL DEVELOPMENT

June 1996

**DAIWA INSTITUTE OF RESEARCH LTD.
THE JAPAN ECONOMIC RESEARCH INSTITUTE
PACIFIC CONSULTANTS INTERNATIONAL CO. LTD.**

CURRENCY EQUIVALENTS

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Currency Equivalent

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Abbreviations

ASEAN	Association of Southeast Asian Nations
BOT	Board of Trade
BULOG	National Logistics Agency of Indonesia
CRS	Contract Research System
FAO	Food and Agricultural Organization
FMP	Fused Mono Phosphate
GAP	Gross Agricultural Production
GDP	Gross Domestic Production
GDSMQ	General Department of Standards, Measurements and Quality
GERUCO	Viet Nam General Rubber Corporation
HCMC	Ho Chi Minh City
HYV	High Yield Varieties
IRRI	International Rice Research Institute
JICA	Japan International Cooperation Agency
MAFI	Ministry of Agriculture and Food Industry
MARD	Ministry of Agriculture and Rural Development
MOF	Ministry of Forestry
MOLISA	Ministry of Labor, War Invalid and Social Affairs
MPI	Ministry of Planning and Investment
MWR	Ministry of Water Resources
NFA	National Food Agency
NGO	Non Governmental Organization
PCF	People's Credit Funds
RSS	Ribbed Smoked Sheet
SSP	Single Super Phosphate
SVR	Standards for Vietnamese Rubber
VAC	Vegetable, Aquaculture and Cattle Shed System
VACVINA	National Association of Viet Nam Gardeners
VBA	Viet Nam Bank for Agriculture
VBP	Viet Nam Bank for the Poor
VEGETEXCO	Vegetable and Fruit Export Corporation
VND or VD	Viet Nam Dong

Executive Summary

Vietnamese agriculture has undergone various changes owing to the evolution of the political and economic environments. The Doi Moi policy and the subsequent renovation process aimed at transforming the economic system from a planned to a market-oriented economy. The economic incentives farmers gained through the renovation process have enhanced agricultural production. In fact, during the five years from 1991 to 1995, gross domestic product in the agricultural sector achieved average annual growth of 4.5%.

Rice production in paddy equivalent has increased from 19.2 million tons in 1990 to 24 million tons in 1994. This rapid growth has been achieved by an increase in the sown area and a shift in crop seasons from lower yielding winter paddy to higher yielding spring and autumn paddies, and to a lesser degree, the overall yield increase per unit of sown land. At the same time this increase should be regarded as the integrated result of the intensification process to which such factors as introduction of high yielding varieties, higher fertilizer application and more intensive pest/disease control contributed. Above all, the investment in irrigation and drainage was most instrumental to the production increase, since the spring and autumn paddies are grown during the dry season and thus require irrigation.

Equally important was the institutional framework established since the renovation. At the same time, however, there is a concern that these economic incentives offered to farmers may not be enduring.

Diversification of agriculture, together with intensification of production, are regarded as the strategic direction of the development of Vietnamese agriculture, since geographical expansion of agricultural land is limited. Agricultural diversification, supported by the changing pattern of food consumption and the brisk expansion of exports of some agricultural products, has been taking place both at the farm and national levels. At the national level, specified production zones of certain crops and livestock are being created. This Report reviews the markets of four exporting crops - coffee, rubber, tea and vegetables - and gives the respective market prospects and required action for promoting exports.

Following renovation, few agricultural cooperatives and production groups have successfully adapted to the new conditions and provided services to individual farm households. The roles and advantages of cooperatives in a market-oriented economy, in spite of the high expectations, are yet to be fully exploited.

The rural credit system was restructured and re-established in 1990. The current system in general is functioning well, and a few financing institutions are complementing

each other. As a result, short-term loans are meeting a large part of the requirements, at least for the relatively better-off farmers.

Future sustainable development of Vietnamese agriculture should be achieved through intensification, diversification and strengthened economic incentives. Sustainable production calls for: (a) increased investment in agriculture centering on infrastructure such as irrigation, drainage, land consolidation, rural roads and rural electrification; (b) strengthening research and development for continuous technology improvements and breakthroughs; (c) further streamlining of institutional arrangements including, among others, extension of improved technologies, accelerated issuing of certificates of land tenure, and credit provision. To this end, discussions should be initiated regarding the extent and magnitude of investment in agriculture in order to secure a stable supply of food for the changing pattern of consumption and demand.

In view of the continuing importance of rice as a staple food, and in the farm and national economies, it may be opportune to review the policies and measures to stabilize rice prices, with reference to the experiences of other ASEAN countries in this area.

Regarding farmer organizations, the government already recognizes their importance in a market-oriented economy and the need of reconstruction of agricultural cooperatives. Although public support is necessary, at least at the inception stage of reconstruction, it must be carefully implemented lest it discourage the autonomy and initiatives of cooperatives and voluntary participation of rural people.

As the rural credit system has been re-established, and the current system is in general functioning well, the pending tasks are therefore to fill in the existing gaps and to rectify shortcomings such as the shortage of medium and long-term loans, coordination and merging between credit cooperatives and the People's Credit Funds, and improvement of lending conditions so as to enhance their accessibility by farmers, while maintaining the viability and sustainability of financing institutions.

Given that investment and other measures are effectively carried out, it will not be very difficult to achieve the targets for food production set in the next phase of five year plan 1996 - 2000. With the continuing fast growth of the economy, Vietnamese agriculture will face new issues and challenges and is expected to respond to them. The next five years will be crucial to build the base for the sustainable agricultural development beyond the year 2000.

IV. Agricultural and Rural Development

Abbreviations

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Chapter 1. Introduction

1-1 Overview of Agriculture and Rural Economy

1. Viet Nam is predominantly an agricultural economy based on food crops, industrial crops and livestock husbandry. The agricultural sector including forestry and fisheries accounted for 27.2% of the total GDP in 1995 (or 22.6% when excluding forestry and fisheries) though its share has gradually been declining with the growth of the economy. The total GDP of the agricultural sector excluding forestry and fisheries (GAP) in 1995 amounted to approximately VND 13,877 billion at 1989 prices, up from VND 10,887 billion in 1991. The average growth rate of GAP for the period was 6.3% p.a. Within the agricultural sector, the cultivation sub-sector took the major part (79% in 1995), while the livestock husbandry constitutes the rest. The trend of GAP and the respective shares are shown in Table IV-1.

2. The food crop sub-sector still remains the cornerstone of Vietnamese agriculture. In addition to paddy/rice, it includes maize, sweet potato, cassava and potato. Paddy/rice is the staple food of the people as well as one of the largest sources of earnings for farmers. It is grown on 4.23 million hectares of rice land by nearly 80% of farm households, and contributes 43% of GAP. Moreover rice is the second single largest item in the country's export earnings. Other food crops except maize and potato have been reducing in acreage as well as production.

3. Industrial crops include perennial crops such as rubber, coffee, coconut and tea, and annual crops such as groundnut, sugarcane and soybean. Some of these crops are important export commodities. Supported by the recent export expansion, considerable increases in acreage and outputs of these crops have taken place, resulting in a high growth rate of 8.2% p.a. for the period of 1991 to 1995.

4. The livestock sub-sector has also grown fast in recent years, supported mostly by domestic demand. This sub-sector served as another driving force of the agricultural development with a growth rate of 8.5% p.a. for the period of 1991 to 1995. Apart from cattle and buffaloes mainly raised as draught animals, cattle herds raised for meat purpose have been in an increasing trend. Pigs are the most important livestock accounting for over 15,000 heads in 1995, followed by poultry including chicken and ducks.

5. Another emerging sub-sector is the growing of fruit, vegetables and legumes. These crops are grown on upland and rice land in various cropping systems, thus become the main elements in farming diversification. Though their acreage and production increase have not been as significant as in other crops and livestock (the growth rate was 4.5% p.a.), a considerable change in the composition in the species and varieties has been taking place in responding to the changing demands in consumption.

Table IV-1 Composition of Gross Domestic Product of Agriculture, Forestry and Fisheries 1991 - 1995

(Bill VND at constant price in 1989)

	1991	composition of ag. sector in 1991 (%)	1992	1993	1994	1995	composition of ag. sector in 1995 (%)	annual growth rate for 1991-1995 (%)
I Agriculture	10,887	100.0	11,504	12,319	13,195	13,877	100.0	6.3
1. Cultivation	8,820	81.0	9,311	9,889	10,582	11,012	79.4	5.7
Food crops	5,314	48.8	5,713	6,122	6,388	6,517	47.0	5.2
(of which : Paddy)	(4,676)	(43)	(5,084)	(5,462)	(5,749)	(5,963)	(43.0)	(6.3)
Industrial crops	1,727	15.9	1,731	1,874	2,200	2,369	17.1	8.2
Vegetable, Bean	641	5.9	660	673	750	786	5.7	5.2
Fruit Crops	879	8.1	903	905	925	1,030	7.4	4.0
Other	259	2.4	304	315	319	310	2.2	4.6
2. Animal Husbandry	2,067	19.0	2,193	2,430	2,613	2,865	20.6	8.5
Cattle, Pig	1,200	11.0	1,236	1,390	1,560	1,745	12.6	9.8
Poultry	420	3.8	439	498	504	516	3.7	5.3
Other	447	4.1	518	542	549	604	4.0	7.8
II Forestry	1,132		1,108	1,136	1,140	1,259	-	2.3
III Fishery	1,195		1,240	1,359	1,498	1,566	-	7.0
IV GDP Structure(%)								
1. Agriculture	83.38		83.04	83.15	83.30	83.08	-	-
2. Forestry	8.56		8.15	7.66	7.20	7.52	-	-
3. Fishery	9.06		8.81	9.19	9.50	9.40	-	-

Source : Ministry of Planning and Investment

6. In short, the Vietnamese agriculture, with its remarkable performance in the last five years, has been and remains one of the most important sectors of the economy in contributing to the development of the national economy and improvement of people's lives. At the same time, the sector has been undergoing a structural transformation which the relative importance among different kinds of crops and livestock has been changing. This change has been caused by farmers' initiatives and aspirations for increasing their incomes which has been caused by the liberalization of production and marketing on one hand, and by the changing demand (which has been affected by the income increase of people and expanding exports) on the other hand.

7. The country has a variety of agro-ecological conditions from a tropical monsoon climate in the southern part to a sub-tropical climate in the northern part. Of the total area of 33.1 million ha of the total land, about 22% or 7.37 million ha is under agricultural use.

8. The country is divided into seven agricultural regions according to the agro-ecological conditions: North Mountain and Midland, Red River Delta, North Central Coast, South Central Coast, Central Highlands, Northeast South, and Mekong River Delta. Two river deltas are the main agricultural areas, particularly in paddy growing. In fact, these two regions account for nearly 70% of all paddy produced. Industrial crops and livestock are located in various areas, especially in Central Highlands, Northeast South, and North Mountains and Midland.

9. From 1990 to 1994, agricultural land increased only by about 379,000 ha or 5% of the present area. The increase took place mostly in Central Highlands, Northeast South and Mekong River Delta, while in other three regions, i.e., North Mountain and Midland, Red River Delta and North Central Coast, the area decreased. Within the agricultural land, perennial crop land increased by 303,000 ha and annual crop land by 124,000 ha.

10. Nearly 9.58 million rural households are working for farming apart from some 2 million non-farming rural households. Average farm sizes are small. In the north it is particularly small with only 0.28 ha in Mekong River Delta, while in the south they are relatively large with 1.50 ha in Mekong River Delta, 1.98 ha in Northeast South, and 1.60 ha in Central Highlands.

11. As the average farm size is small and expansion of the agricultural land is highly limited, intensification together with diversification of agricultural production are regarded as the practical means for development. In fact, this has been the course actually pursued by Vietnamese agriculture in the past decade. Particularly in the 90's, the institutional reforms initiated in the process of the renovation, have made farmers to pursue this course of development possible, and encouraged to do so.

12. After several years from the start of the renovation, however, the effect of the institutional reforms towards a market oriented economy may be declining or has even depleted. The remarkable performance of agriculture for the past five years was realized through the intensification and diversification of production with improved technology accompanied by higher application of inputs, capital investment and flow of rural credit. Unless these factors contributing to the intensification and diversification of agricultural production are further strengthened, it may not be possible to maintain the development.

1-2 Scope of the Report

13. This report has been prepared in accordance with the terms of reference of JICA which also reflect discussions of the academic/research group for the project at the workshop held in Tokyo in December 1995. The meeting, among other things, identified the main themes of the study. Regarding agriculture and rural development, they include policies for increasing agricultural production and organizing farmers. These major topics were further interpreted into the following five issues which are covered by this report. They are: (i) Increase in food crop production; (ii) Diversification of agriculture; (iii) Farmer organizations; and (iv) Rural credit system. This report, forwarded by this introductory chapter, covers these issues respectively in the corresponding chapters.

14. The objective of this study is also to provide observations and recommendations for the five Year Plan 1996 - 2000. It is conceived that the development of the Vietnamese agricultural and rural sector in the past decade was initiated and facilitated by the institutional reforms towards a market oriented economy and carried out in line with intensification and diversification. It is also based on the perception that farmers' initiatives and responsibilities are and essential to sustainable development.

15. In view of the limited time and resources available to carry out this study, its scope needs to be defined. While the agricultural and rural sector is considered as an entirety in the analysis, it is focused on the agricultural sector in a narrow sense, notably on the food crop sub-sector and its future potential of development. Though the share in the whole agricultural output has gradually declined, little change is envisaged in the importance of food crops specifically rice in the national economy, people's food and farmers' livelihood. Causes of the recent remarkable performance of paddy/rice production and its sustainability are analyzed in the following Chapter 2.

16. While intensification is one of the most effective means for increasing production of food crops and other farming activities, diversification of agriculture is equally important to the development particularly for producing a greater added value and income from limited land, capital and other resources. Diversification of agriculture and action to be taken for its further promotion are studied in Chapter 3 of the report. A short review of the prospect of major export commodities is also included in relation to agricultural diversification.

17. In order to intensify and diversify agriculture, strengthening institutional framework should be given a priority. For this, organizing farmers and providing institutional credit are considered to be the key elements. Farmers need to organize themselves to cope with and benefit from a market oriented economy. As many former agricultural cooperatives were dissolved or non-functioning, issues relating to build a new type of cooperatives and other farmer organizations are addressed in Chapter 4 of the report. While the rural credit system in Viet Nam was re-established, its improvement and strengthening in coping with changes are essential. Issues relating to rural credit are studied and possible courses of action are recommended in Chapter 5 of the report.

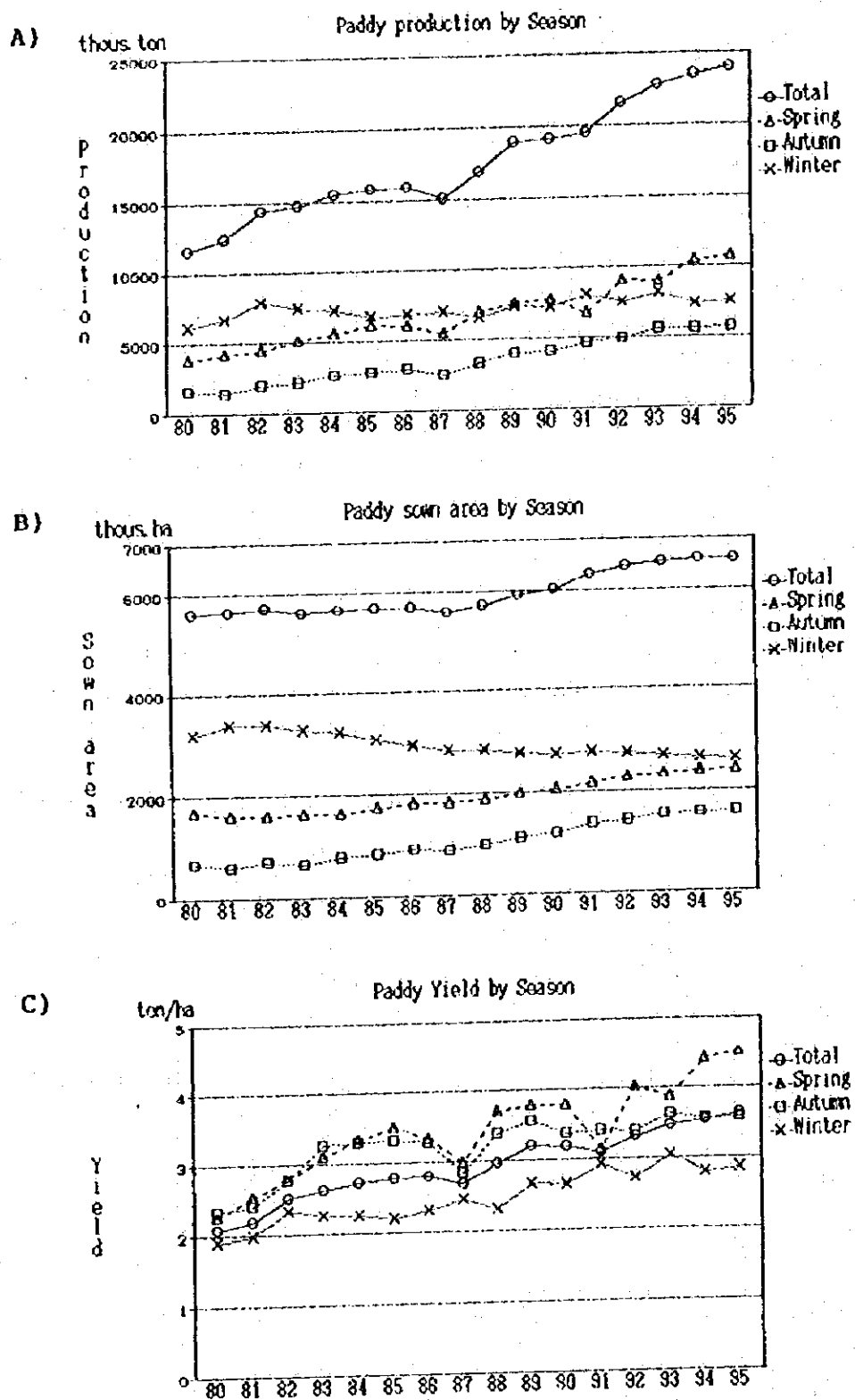
Chapter 2. Increase in Food Crop Production

2-1 Overview of Major Food Crop Production

1. Food crops, including paddy/rice, maize, sweet potato, cassava and potato, are of predominant importance in Vietnamese agriculture. This sub-sector as a whole made up 47% of the total GDP of the agricultural sector (excluding forestry and fisheries) in 1995, and is the major food source for the people. This Chapter aims to analyze the development of food crop production (particular of rice) after the renovation, and drawing the future potential and required action for its sustainable development.
2. Gross output of food crops in paddy equivalent increased from 21.5 million tons in 1990 to 27 million tons in 1995, by around 26%. Paddy, the staple food of the population and one of the major export commodities is dominant among food crop. Paddy output increased from 19.23 million tons in 1990 to 23.53 million tons in 1994, and is estimated to reach 24 million tons in 1995. This represents an increase of around 25% at the average annual growth rate of 4.6%.
3. This overall progress provides an interesting picture of development of paddy cultivation and production when analyzed by the seven agro-ecological regions as shown in Figures IV-2-2 to IV-2-5¹⁾.
4. North Mountain and Midland: Around 12% of total paddy is produced in this region. Although the share of the region in paddy production is small, it is steadily increasing with yearly variations. Rainfed paddy (winter paddy) is dominant, hence the average yield is one of the lowest among the seven regions (2.8 tons/ha. in 1994).
5. Red River Delta : The major paddy producing region after Mekong River Delta. About 18% of total paddy is produced in this region. Paddy output in 1990 was 3.62 million tons and 4.12 million tons in 1994 with the increase of 14% during this period. Spring paddy, mostly grown under irrigated conditions (occupies 49.6%) has provided a higher yield (4.01 tons/ha in 1994). On the other hand, winter paddy, mostly the monsoon crop, has remained stable in sown area and the yield has almost stagnated. As a whole, the region's paddy production has developed under the two major constraints: a limited land area with high population pressure and the extremely small farm size. Furthermore the economic development in this region may have exerted pressure to convert farm land (including paddy land) to non-agricultural uses. Taking full advantage of the location of adjacency to the metropolitan cities of Hanoi and Hai Phong, farmers will tend to grow other crops whenever the price situation and others conditions permit.

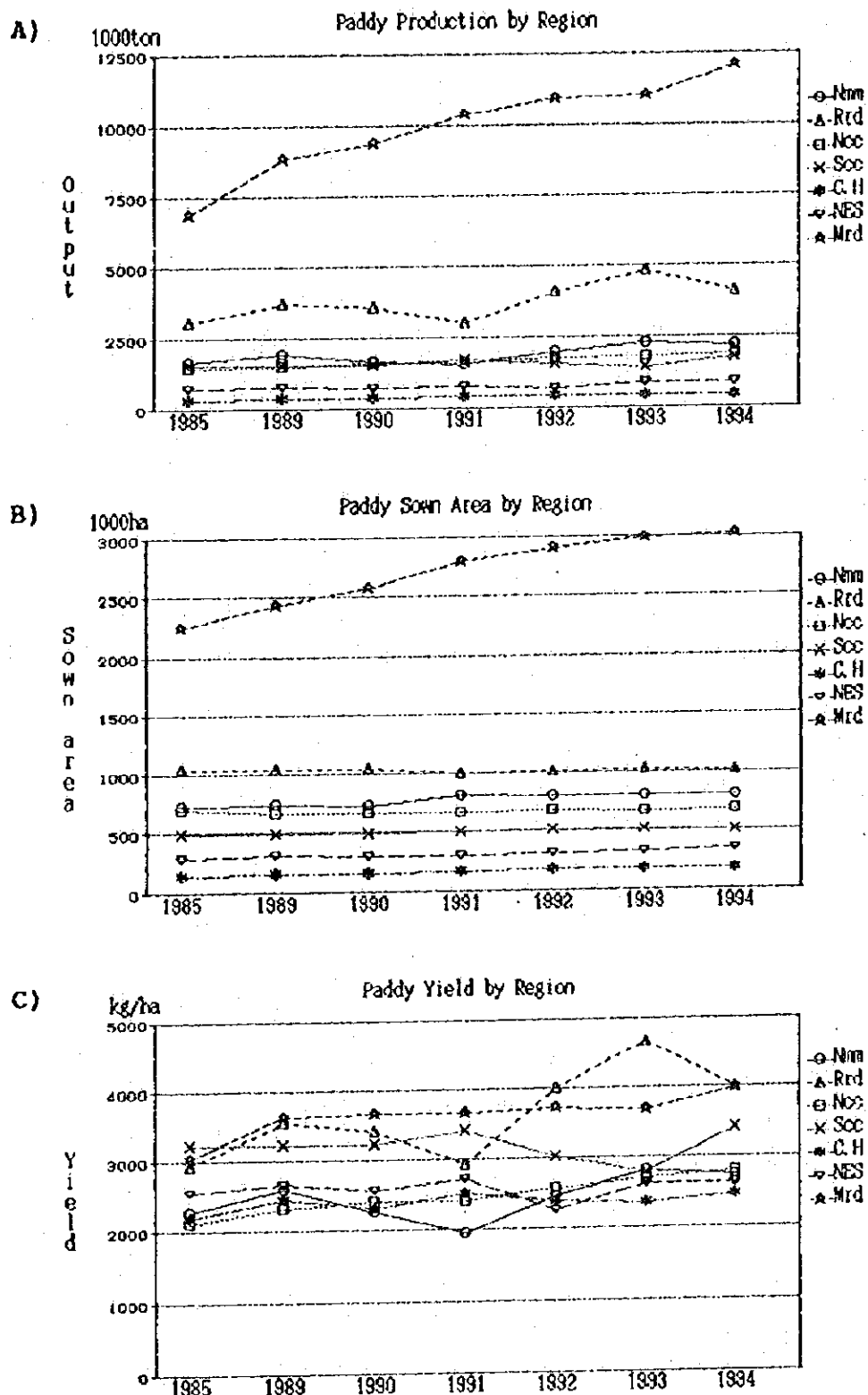
¹⁾ Regarding the naming of the crop seasons of paddy production, this report follows the classification generally used in statistics: winter, autumn and summer paddy crops. These terminologies respectively represent the main harvesting seasons. The winter crop roughly corresponds with the monsoon rice, sometimes called the 10th month rice. The illustrative cropping periods for each crop season in Red River and Mekong River Deltas are shown in the Figure IV-2-6. For this reference the average monthly rainfall in the three cities, Hanoi, Da Nang and HCMC is shown in Figure IV-2-7.

Figure IV-2-1 Trend of Paddy Production by Season



source : Agriculture of VIETNAM 1945-1995

Figure IV-2-2 Trend of Paddy Production by Region



source : Agriculture in VIETNAM 1945-1995

Figure IV-2-3 Paddy Production by Region

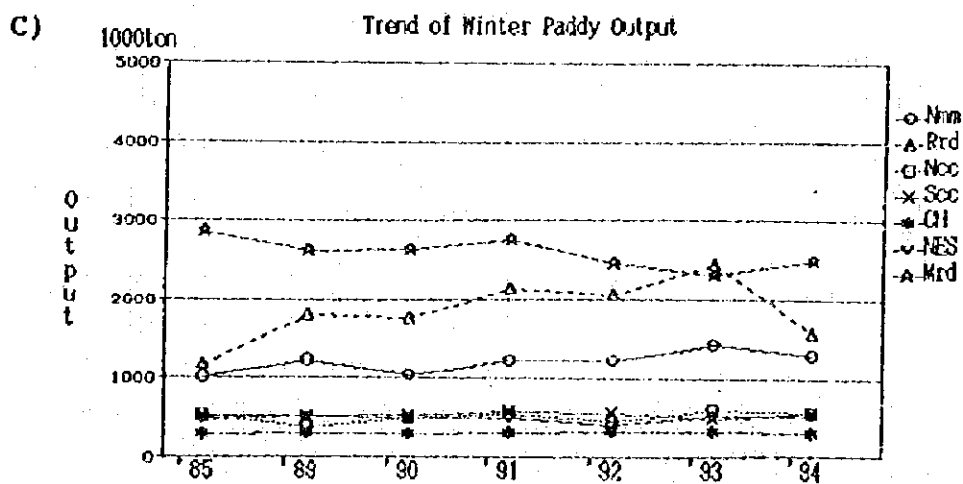
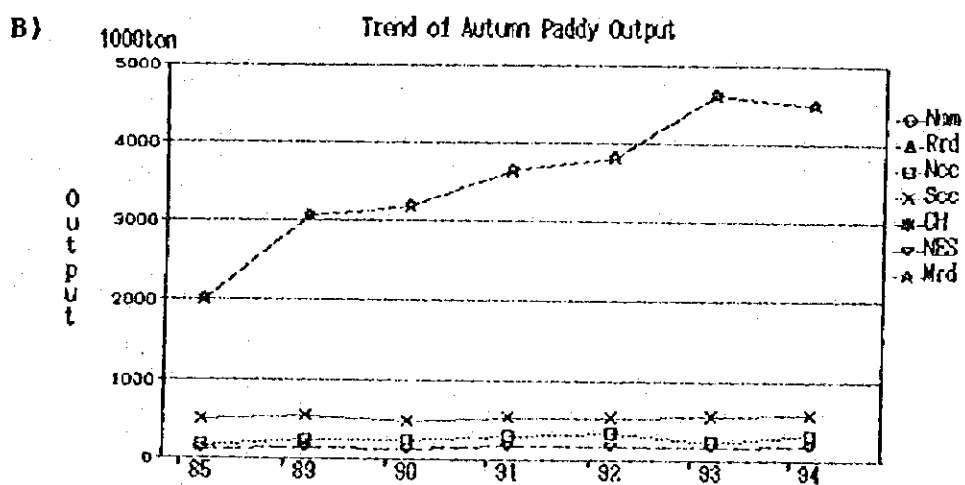
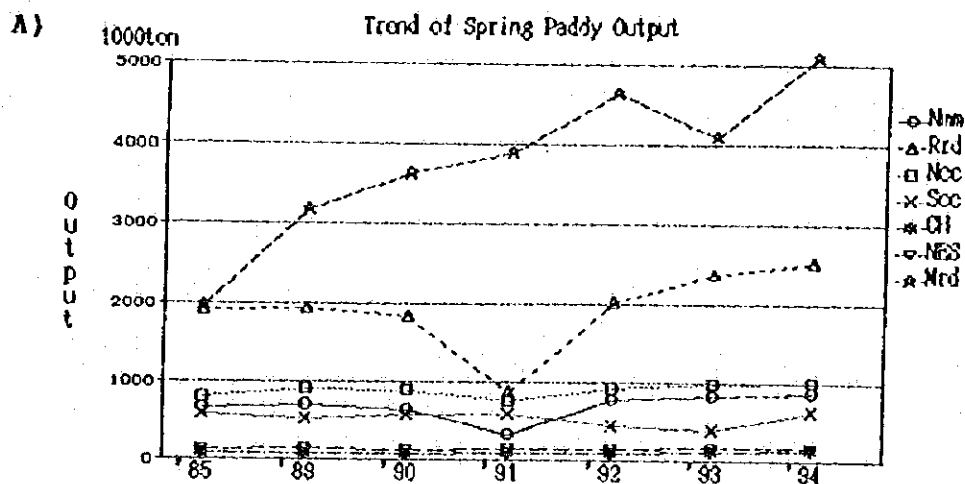


Figure IV-2-4 Paddy Sown Area by Region

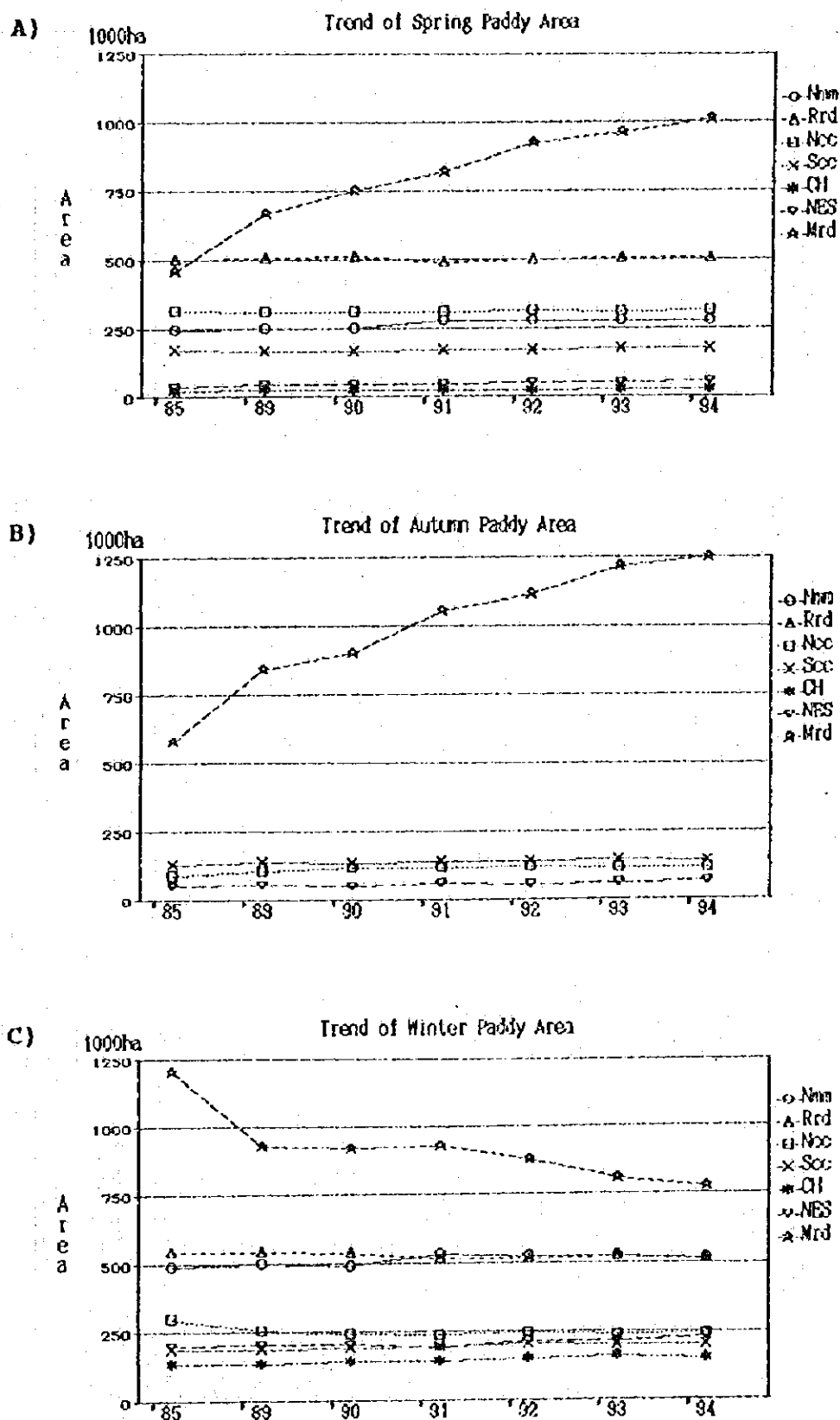


Figure IV-2-5 Paddy Yield by Region

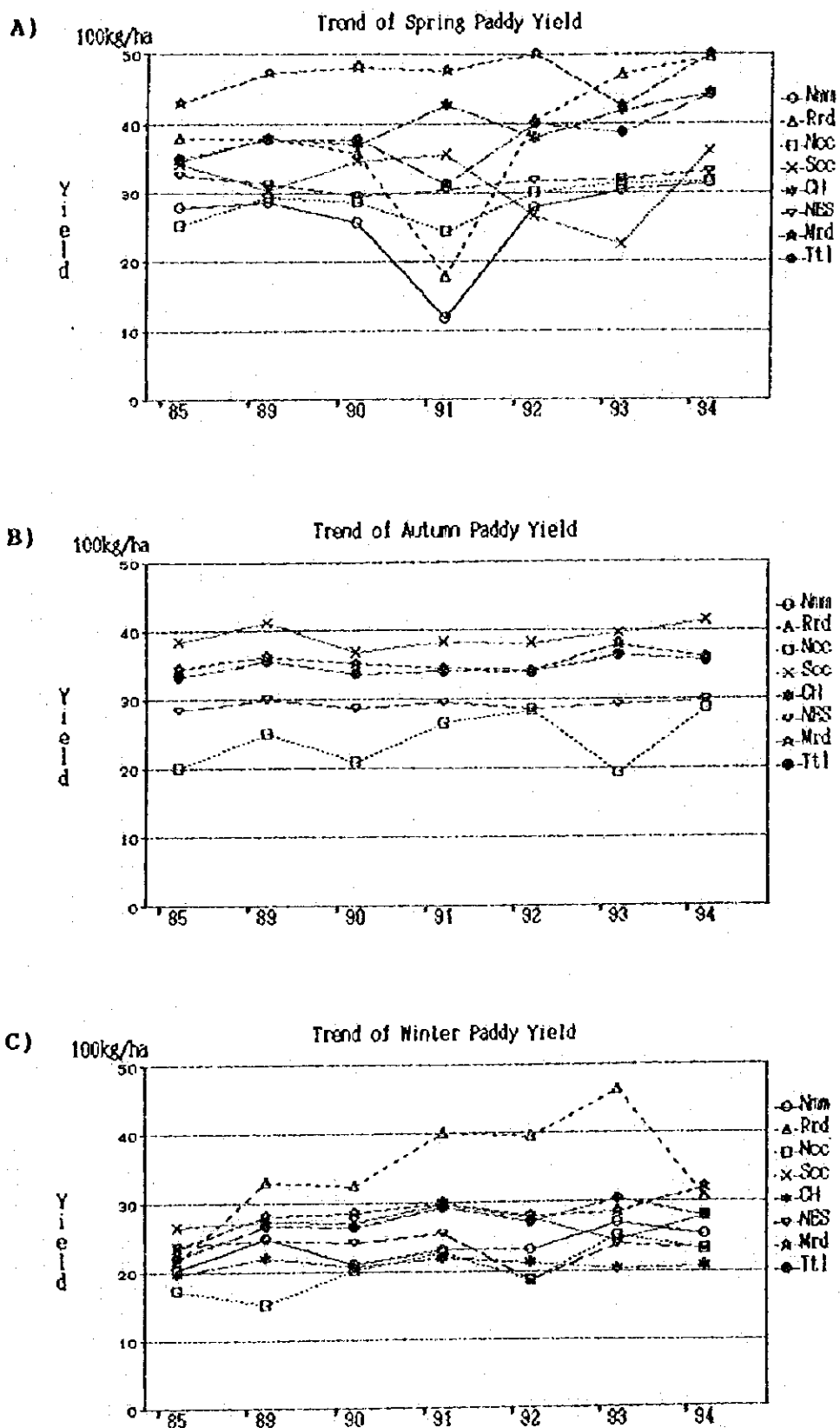
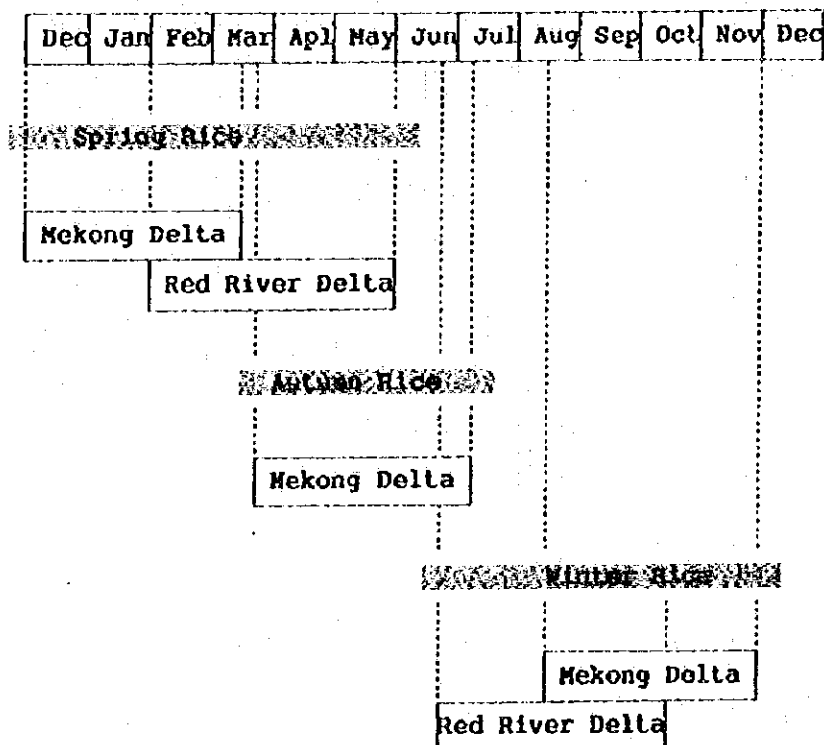
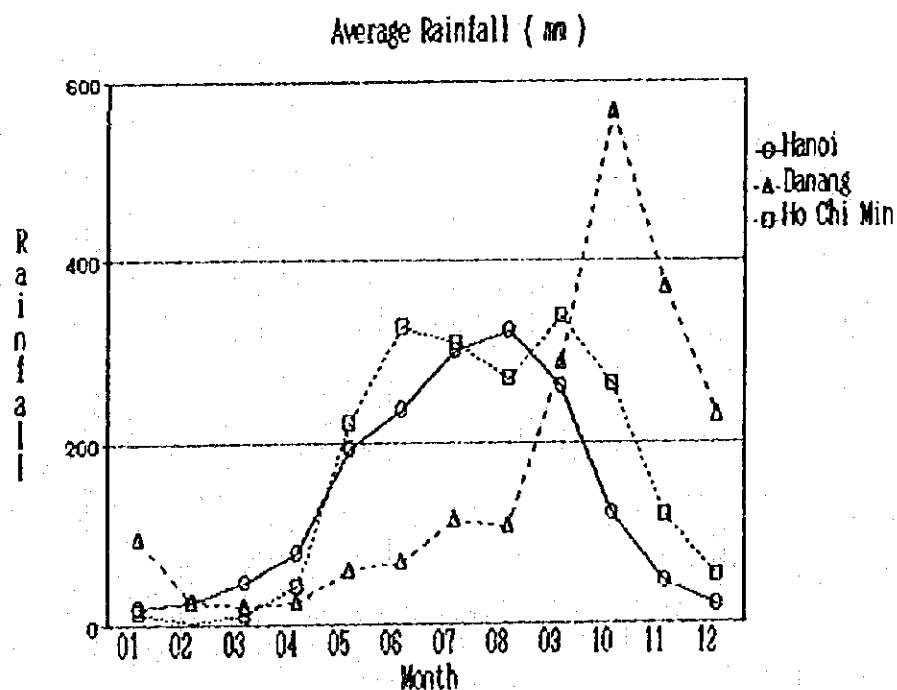


Figure IV-2-6 Paddy Crop Calendar



source : Vietnam Agricultural Marketing Study by the World Bank

Figure-IV-2-7



source : General Statistical Office

6. North and South Central Coast : The share of paddy production of these two regions is 18% of the national total. Combined with both regions combined together, paddy production was 3.25 million tons from a sown area of 1,172 thousand ha in 1990. In 1994, paddy output was 3.70 million tons from a sown area of 1,199 thousand ha. Both acreage and yield increases have not been noticeable, but instead are marked by a relative high yearly fluctuations. These two regions are prone to typhoons which often cause considerable damages. Among three paddy crops, the spring paddy has the highest share.
7. Central Highlands : In this region paddy production is very much limited. Water resources are the main constraint. Thus this region is one of the major rice deficit regions and other food crops like cassava are widely consumed. Mostly winter paddy is grown but a small portion is shared by spring paddy (about 30,000 ha) with an increasing yield. In 1990 386 thousand tons were produced from 165 thousand ha, and in 1994 the output amounted to 449 thousand tons from 182 thousand ha.
8. Northeast South : The region, surrounding the biggest city HCMC and comprising uplands, has a small share of paddy production with less than 4% of the national total. A gradual increase of sown area in all three seasons' crops, while the yield per hectare is stagnant, has resulted in a modest increase in the output of paddy.
9. Mekong River Delta : Mekong River Delta is the most important paddy producing region in Viet Nam. Indeed it is the rice bowl of the country and accounts for nearly a half of the total production. The production in this region has been rising at the highest rate. In 1990, it produced 9.48 million tons from a sown area of 2.58 million ha. Figures for 1994 were 12.12 million tons from 3.04 million ha. Such a remarkable production increase in paddy output (27.9% during this period or 6.3% per annum) is attributed to the increase in the sown area (4.2% p.a.) and increase in the yield (2.1% p.a.).
10. Because of the favorable climate, two to three paddy crops are grown in Mekong River Delta. The most significant feature is the considerable increase in spring paddy in sown area (from 0.75 million ha in 1990 to 1.01 million ha: a 34% increase) and its output from 3.63 million tons to 5.11 million tons (a 41% increase). The production increase in the period is mainly due to the sown area expansion. Autumn crop also witnessed a substantial expansion both sown area and output, respectively from 0.91 million ha in 1990 to 1.25 million ha to 1994 (a 38% increase) and from 3.21 million tons to 4.51 million tons (a 40% increase), which implies the yield increase was minimal (3.53 t/ha to 3.60 t/ha : a 2% increase). On the contrary, winter paddy has been decreasing in the sown area as well as total output, though this decline was partly compensated by an increase in yield per hectare.
11. Although total agricultural land has expanded by 373,966 ha from 1990 to 1994, it is concentrated in three regions: Central Highlands (184,000 ha), Northeast South (151,000 ha) and Mekong Delta (189,815 ha). In other regions notably North Mountain and Midland, and North Central Coast, the area declined, which was more than compensated by the increases in the above three regions. Changes in rice land shows a similar trend. During the last five years, rice land increased in Mekong River Delta, and Central Highlands, while it decreased in North Mountain and Midland, and North Central Coast. The Red River Delta's decline in the acreage, if any, has been marginal. Altogether the total paddy land has increased by a modest 3% or 0.7% per annum.

12. It can be concluded that the remarkable output increase in rice has been largely achieved by an increase in the sown area, and the shift in crops seasons from lower to higher yield seasons, and to a lesser degree, the overall yield increase per unit of sown land. Mekong River Delta has led these movements with an increased sown area, shifting to the spring and autumn paddy and a modest yield increase per hectare. In Red River Delta, on the other hand, the increase was to a large extent achieved by yield increase and partially by the shift in cropping seasons.

Other Food Crops: Maize, Sweet Potato, Cassava and Potato

13. Maize: Although minor in planted area and production compared to paddy, maize production increased gradually during the past five years from 671 thousand tons in 1990 to 1,144 thousand tons in 1994, with the planted area of 432 thousand ha in 1990 and 535 thousand ha in 1994. Maize is used not only as a staple food (estimated to be 35 - 45% of the total output), but also as feed for livestock (40 - 50%). Maize is particularly important as food for the people in the mountain and highlands areas.

14. The North Mountain and Midland region where maize is one of the staples has the highest share of planted areas and production (43% and 33% respectively in 1994). The yield however is as low as 1.66 t/ha. In the lowlands like Red River Delta, though the planted area is small (76 thousand ha), Northeast South (66 thousand ha), and Mekong River Delta (22 thousand ha), the yields are relatively high being 2.65, 3.19 and 3.80 t/ha respectively. In these regions maize is mostly used as animal feed and often compete with rice and other crops on the same land. As a whole the maize yield in Viet Nam is noticeably low being 1.8 t/ha, compared to other Asian countries such as China (5.0 t/ha), Indonesia (2.2 t/ha), Republic of Korea (4.2 t/ha), and Thailand (3.2 t/ha) (FAO Production Yearbook, 1994 figures).

15. Sweet potato is mainly produced on uplands but often on rice land within crop rotation. The crop is regarded to be an "insurance" crop in the typhoon prone areas due to its resistance. The major producing regions are North Central Coast (121 thousand ha, 557 thousand tons) followed by North Mountain and Midland (85 thousand ha, 377 thousand tons) and Red River Delta (75 thousand ha, 584 thousand tons). Wide variation of yields among regions are noticeable: from 11.29 t/ha in Mekong River Delta to 3.80 t/ha in South Central Coast. In parallel to the increase in paddy production and consumption, sweet potato is gradually losing its importance as a food crop.

16. Since cassava has been mostly used as a subsistence food in Viet Nam, its production appears to have stagnated or even declined in many regions. The major growing regions are North Mountain and Midland, and South Central Coast. Production is scattered through all regions but is a minor crop in both deltas of Red River and Mekong River.

17. Other food crops including maize, sweet potato, potato and cassava, have played and are still playing a role in providing staple food for farmers and people, particularly those living in remote upland and mountain areas. For instance in North Central Coast, an average of 106 grammes of roots and tubers are taken per day per person against only 5.7 grammes in Mekong Delta (A survey by National Research Institute for Nutrition). Yet even in the remote and upland areas where other food crops were consumed in a sizable amounts as food,

their intake has been decreasing, if only slowly, as the income has been rising. Except for maize (for which a greater demand for feed is expected from the rapidly expanding livestock raising of pig and chicken), future prospects of other food crops may not be bright, unless uses other than direct food are explored and developed. Potato may claim a different status as it is increasingly consumed as a vegetable. On the other hand, these crops are important in diversifying cropping patterns particularly on rice land in winter and other seasons. In uplands, they remain as main crops within crop rotation together with other commercial crops.

2-2 Major Factors Contributing to the Increased Production

18. As mentioned earlier, expansion of land for rice and annual crops has been limited. Increase in the output of paddy has been almost exclusively achieved by the intensification. In the following paragraphs the major factors that have contributed to the rapid increase in rice production are specified, and the sustainability of the individual effects is examined.

19. Virtually in all regions, increased sown areas of spring paddy and/or autumn paddy are observed while winter paddy shows a slight decline during the period. Spring paddy as well as autumn paddy require irrigation water in one form or another since their growing seasons fall outside the monsoon period. Irrigation expansion in the 80's and early 90's has substantially contributed to the expansion of the sown area of spring and autumn crops. For these crops, wide introduction of high yielding varieties (HYV) were practiced together with increased usage of fertilizers. Longer existence or successive growing of paddy crops in a year causes a high risk of pest and disease damage. Therefore, together with integrated pest management, application of pesticides and insecticides has increased.

20. Irrigation and drainage were given a priority in investment during the period. As shown in Table IV-2-1, the investment in irrigation and drainage has steadily increased in constant 1989 prices from VND 191 billion in 1991 to VND 313 billion in 1995. The average yearly amount for 1986 - 1990 was VND 162 billion. This has very much contributed to the expansion of spring and autumn paddies by providing adequate water in these seasons. In fact, as in Table IV-2-2, for the period of 1991 - 1995, while the area under paddy irrigation hardly expanded from 5.2 million ha to 5.3 million ha, that for spring crop increased by more than 334,000 ha at the expense of other season crops. Area under drainage mainly for winter crop has also increased by 370,000 ha.

TABLE-IV-2-1 Investment in Irrigation and Drainage

(million VND)		
	current prices	constant in 1989 prices
average of 1986-1990	N.A.	162,870
1991	468,871	191,376
1992	488,468	150,298
1993	688,400	185,054
1994	990,000	232,394
1995	1,531,185	312,551

Source : Ministry of Planning and Investment

Table-IV-2-2 Irrigation and Drainage Area of Paddy : 1991-1995

(1000ha)					
	Irrigation Area				Drainage Area for Winter Crop
	Total	Spring Crop	Autumn Crop	Winter Crop	
1991	5,245	2,074	1,231	1,940	2,041
1992	5,407	2,178	1,260	1,969	2,235
1993	5,492	2,263	1,341	1,888	2,197
1994	5,601	2,329	1,420	1,852	2,329
1995	5,325	2,408	1,116	1,801	2,410
increase / decrease	80.0	334.0	-115.0	-139.0	369.0
in %	2.0	16.0	-9.0	-7.0	18.0

Source : Ministry of Agriculture and Rural Development

21. High yielding varieties. Use of high yielding varieties has been increasing in parallel with the shift in emphasis to spring and autumn paddy crops from monsoon paddy. In Red River Delta, a number of high yielding varieties of spring paddy such as CR-203, DT-10, DH-60, C-70 and C-71 are widely grown. For winter paddy, CR-203 is widely used depending on the level of water in fields. These varieties give much higher yield than traditional varieties. Introduction and expansion of hybrid and high yielding rice varieties are regarded as one of the important factors contributing to the recent increase in paddy production²⁾.

22. In Mekong River Delta, several high yielding varieties originating from IRRI (International Rice Research Institute) have been developed suitable to the local conditions. Average yield of these varieties for spring paddy is reportedly 4.7 t/ha, compared with the 2.5 t/ha for deep water paddy and 1.5 t/ha for floating rice.

23. Fertilizer: With the introduction of high yielding varieties, fertilizer application has substantially increased. Improvement of the urea-paddy price ratio has underscored this movement which changed from onetime high 2 to current 1.3. As the domestic production is still limited, demand has to be largely met by imports. Imports of urea have increased from 0.93 million tons in 1990 to 1.38 million tons in 1994. Domestic production of urea, single super-phosphate (SSP) and fused magnesium phosphate (FMP) also increased from 40 (thousand tons), 290 and 70 respectively in 1990, to 103, 581 and 139 thousand tons in 1994.

24. Though the level of fertilizer usage is lower than that recommended, the increased usage has contributed to the increased output of paddy, notably in Mekong River Delta. Comparison of fertilizer use with some Asian countries may provide an idea for understanding the current situation. Based on the statistics in 1993 (FAO Production Yearbook), chemical fertilizer consumption in terms of plant nutrients per arable land and permanent crop land are compared. These figures in the order from high to low applications are: Republic of Korea: 473.8 (kg/ha), Japan: 407.1, China: 261.3, Viet Nam: 135.6, Indonesia: 84.8, and Thailand: 54.1.

25. Plant protection: The trend towards intensification naturally induces the risk of pest and disease. Efforts are made for integrated pest management which at the same time contributes to the reduction of chemical use while protecting plants from pest and diseases. Nevertheless the use of insecticides has been rapidly rising. The imports amounting to US\$ 9 million in 1990 rose to US\$ 33 million in 1994. The area damaged by pests is estimated to be around 2,500 - 3,000 thousand ha for 1990 - 1993.

26. It should be noted that the remarkable increase in rice production, particularly caused by yield increase, is the combined and integrated outcome of the above contributing factors. Introduction of high yielding rice varieties is the typical example. They required controlled

²⁾ In a commune visited in Hai Hung province, the yield of hybrid rice was reportedly as high as 6.4 - 6.7 t/ha against the 4.7 t/ha of conventional high yielding varieties. In the case of hybrid rice, they need to purchase seeds every year, (currently all from China). Nearly 50% more fertilizer is required compared to other high yielding varieties, selling price being 15% lower. However they say they could obtain a higher income by using hybrid seed with the same size of paddy field. It is estimated that the area under these hybrid varieties, mostly in Red River Delta, has increased from about 11,000 ha in 1992 to more than 60,000 ha in 1995.

irrigation and drainage, greater fertilizer application and pest control, apart from intensive input of labor. In fact, the investment in irrigation and drainage facilities in the 80's and early 90's was really instrumental to introducing high yielding varieties and make higher application of inputs feasible.

27. Equally or more important are institutional factors initiated by the party instruction No.100 in 1981, the Resolution No.10 in 1988 and the Resolution No. 5 in 1993, which have liberated farmers from the collective economy and brought them to a market-oriented economy. Specifically the Land Law in 1993 stipulated the rights of uses, transfer, use as collateral, inheritance and leasing of allocated land to individual households, and was thus highly instrumental in increasing production. In obtaining the land use rights, farmers are motivated to invest for increasing productivity and production and aspire to improved incomes and living conditions.

28. Moreover liberalization of rural markets has made it possible for prices of inputs and outputs to be determined by market forces. This has encouraged farmers to produce crops and livestock according to their decision and responsibility. Rural credit system was established during this period through which mostly short term credit has been provided to a majority of farmers.

29. Among other food crops, maize merits a special attention in view of the great potential in both demand and production within the country. Compared to paddy, the yield of maize in Viet Nam is very low, providing the potential for yield increases. The share of animal feed will definitely increase, and introduction and extension of the high yielding varieties will contribute to raise yields and hence to increase the output. Extension services should be strengthened especially in mountain areas.

2-3 Rice Policies in Viet Nam and ASEAN Countries

30. In view of the overwhelming importance of rice to farmers, consumers and the national economy, the government has paid a great attention and taken action to increase rice production and thus farmers' incomes, whilst stabilizing rice prices. Although after the renovation and in the subsequent transition of the economy to a market-oriented one, all the controls such as urban rationing, fixed prices, rural procurement and public monopoly in the domestic market were abolished. As a result, the marketing and trade of paddy/rice is now mainly in the hands of the private sector, with an estimated share of approximately 60 - 70% of marketed rice. According to information regarding the Mekong River Delta area, out of 7 million tons of marketed rice corresponding to nearly a half of the total output, 5 million tons are handled by state food companies and the remaining 2 million tons by the private sector. But the amount handled by state corporations include those purchased from private rice mills, many locating in rural areas, which makes the above share of the state corporations an elusive figure.

31. Nevertheless the government has kept or exerted certain interventions in the rice market. In the domestic market, state companies are expected to stabilize prices. The main operation of the government in this regard is to "instruct" state corporations to purchase paddy/rice from farmers and traders when the retail price falls below the "reference" bottom

level determined by the government, by offering working capital with a subsidized interest rate of 1% per month with a maturity of six months. The subsidies are funded from the Price Stabilization Fund (PSF) established in April 1993 with the revenues levied on the trading margins of selected imported commodities between importing and domestic prices. According to an information, the PSF supported 500,000 - 600,000 tons of purchases in recent years with an annual expenditure of US\$ 50 - 60 million. The mechanism has an advantage to manage a relatively large amount of rice with a small fund. On the other hand, the intended effect may not be fully and timely realized since the funds are limited and the operations are carried out indirectly.

32. The "reference" bottom and ceiling prices are determined by the government every year. They are actually proposed by the Price Committee after considering such factors as the cost of production, situation of supply and demand, export prices and the previous year's prices. The cost of production includes such items as inputs, labor including family labor, water fees, depreciation of machineries and buildings, and a certain profit but excludes land use tax and rent. These prices are only regarded as the reference for the above public interventions.

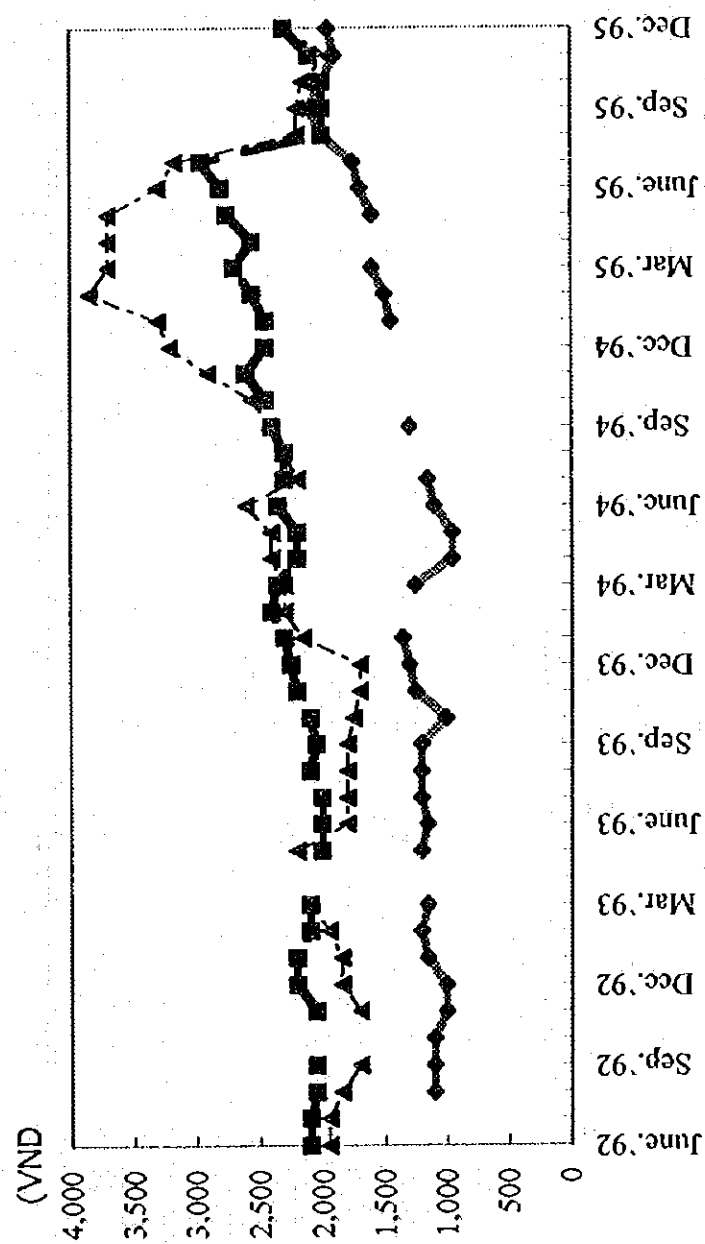
33. As state food corporations engaged in rice distribution and exports were integrated in December 1995 into two "general" state corporations, i.e., the North and South Food Corporations, which are respectively to delimit the operations to the north and the south from Da Nang. Provincial food corporations have been put under the jurisdictions of these two general corporations. These two corporations are entitled to distribute the above subsidized loans and export quotas to the provincial companies, and to engage in rice transportation from the South to the North.

34. The shortage of rice only takes place occasionally and geographically. North Mountain and Midland, Central Highlands and Northeast South are considered the chronic rice deficit regions. Rice is transported from surplus, mainly Mekong River Delta, to deficit regions. Natural calamities caused mainly by typhoons in Central Coasts often call for emergency relief. National reserves of rice have been established mainly for coping with such disasters. With the full financial support from the state, the Department of National Reserve keeps some 200,000 - 300,000 tons of rice which are rotated every one and a half to two years. The agency is not expected to work for price stabilization, instead exclusively responsible to manage the national reserve.

35. For last two years, the farmgate prices of rice have gradually but steadily increased, while the retail prices, with seasonal fluctuations, have not noticeably been on an upward trend. The farmgate prices of "ordinary rice"³⁾ have stabilized at close to VND 2,000 per kg. As shown in Figure IV-2-7, at one time in late 1995, farmgate prices were even higher than retail prices considering the milling ratio from paddy. It is not easy to interpret the sudden decline in retail prices after June 1995, although seasonal factors usually pull down prices after a major harvesting. Although it is premature to interpret the above movement, it would suggest a general streamlining of the domestic market and reduction in the margin between farmgates and retailers.

³⁾ "Ordinary rice" refers to the kinds of rice other than "special rices" such as those produced in Tam Thom in the north and Nag Huong in the south. Thus it covers many species including hybrid varieties.

Figure IV-2-7 Price Movement of Rice at Farmgate and Retail Stages



a) Average farmgate prices of the "ordinary" paddy at Ben Tre province
b) Average retail prices of the "ordinary" rice

36. The export prices have been determined by quality and other conditions referring to world prices, normally the BOT prices in Bangkok. A considerable difference had existed in prices between those ex-HCMC and ex-Bangkok. Meanwhile the export quality of Vietnamese rice has been improving. It is reported that the proportion of the 20% broken has been declining while the share of the 5% broken has been increased from 3% in 1990 to 60% in 1994⁴⁾. Other information suggests that a half of total export fell within the 5 - 15% broken category⁵⁾, while the 45% broken made up 12.5% (both in 1993)⁶⁾. As a result, the difference between the prices of ex-HCMC and ex-Bangkok has been narrowing. It is certainly a welcoming trend as the improvement in quality brings a higher earnings from the export. Yet as the Vietnamese rice has so far filled a lower segment of the international market, upgrading of export quality would cause Vietnamese rice to face greater competition in the world market.

37. Rice pricing policy has the dual objectives of ensuring reasonable and stable prices to consumers on one hand and securing remunerative prices to producers on the other. Experiences of some ASEAN countries provide mixed picture reflecting the different socio-economic conditions and the modalities of intervention in the rice market of the respective countries.

38. In Indonesia, price and trade policies aim to protect the domestic prices from fluctuations in international markets. In case of rice, government intervention in the market has been carried out by BULOG, the National Logistics Agency, through its procurement in the domestic market and monopoly of rice import/export. Market interventions of BULOG mainly aims at (a) stabilizing the domestic prices of rice within the current range between ceiling and floor prices; and (b) stabilizing supply, particularly for special segments of the population called the Budget Groups including armed forces and civil servants. The operations are carried out by procurement of domestic rice, and imports as required. Shares of the BULOG procurements in the domestic production have been in the range of 3 - 9% in the last decade, depending on the actual harvest of the respective years.

39. The operations of BULOG are generally regarded to be successful at stabilizing market prices and keeping them within the intended price range. The recent poor crops in 1992 and 1995 necessitated the imports of rice in considerable amounts, and the procurement and distribution of rice to the Budget Groups has increasingly become a burden. Moreover responding to the conclusion of the GATT Uruguay Round, the government policy on food marketing is giving way to deregulation. However BULOG remains active in marketing of agricultural commodities including rice as a State Trading Enterprise (STE) registered under the GATT/WTO rules and regulations.

40. In Thailand, as a leading exporter of rice in the world, government intervention has been minimal compared to other countries in the region. The "Rice Premium", which actually worked as an export tax on rice, was introduced in 1955 but was abolished in 1985, enabling the rice trade to be completely free. Government intervention in the domestic rice market is

⁴⁾ Dr. Nguyen Sinh Cuc, Review and Analysis of Agricultural Production, 1995

⁵⁾ The World Bank, Viet Nam Agricultural Marketing Study, 1994.

⁶⁾ JICA, Report of the Committee of the Viet Nam Aid Study, 1995.

now focused more on income support of the producers. The "Paddy Pledging scheme" was considerably expanded after 1985. Under the scheme, farmers can obtain a six-month interest subsidized loan equivalent to 80% of the market price of their output from the Bank of Agriculture and Agriculture Cooperatives (BAAC). The various ministries and agencies are providing funds for low interest loans to farmers such as the "Paddy Pledging scheme" and other measures to encourage rice exports every year. The rice policy of Thailand has thus shifted towards free trade in both output and input markets, and the transmission of market signals to different levels from production to export seems to work effectively.

41. In the case of the Philippines, the National Food Authority (NFA) encourages rice production and insulates producers' and consumers' prices from fluctuations of world prices by procuring and reselling rice in the domestic market as well as the import monopoly of rice. The procurement price set by NFA has been at a level that assures consumers access to rice as a cost compatible with income, bringing the producers' price usually below the world price. However, since the procurement price constitutes the floor in the market in years of surplus, this means an attractive price for producers in cases of bumper harvests. The lower rice price is partly compensated for by subsidies such as fertilizers and other input, irrigation and other infrastructure development.

42. In Malaysia as well, rice is a commodity of direct government intervention. However, in the process of Malaysia's economic development, the role of rice in consumption and thus policy towards rice has been changing. Policy of rice self-sufficiency established immediately after independence had been discarded in the middle of 1970s when paddy production started to stagnate and decline in spite of massive investment in irrigation, introduction of high yielding varieties, subsidies for fertilizers and other input together with producers' price support measures. Historically Malaysia has controlled prices both to support producers and to allocate rice to consumers. The National Padi and Rice Board (LPN) purchases paddy from farmers at relatively high administered prices and has the sole authority to import rice from abroad. Consumer price is controlled and not linked to producer price, with the government delivering necessary quantity of rice to the market at the designated price by importing during shortfalls.

43. In these countries mentioned above, in spite of the different intervention measures reflecting the respective situation of each country, some common phenomena are observed. First, as rice is the most important staple food of the population, government intervention, mostly direct, is seen, except in the case of Thailand. Second, in general, low pricing policies have been practiced during the past decades, with some compensatory measures such as concessionary loans, subsidies on inputs, and investment in infrastructure. This is gradually changing to lower levels of subsidies and less direct government intervention. Third, the general tendency of policies in recent years suggests that the income and well-being of farmers are given more priority than the interests of consumers. This may imply that the increasing income gap between rural and urban areas is becoming conspicuous while at the same time, the amount spent on rice in the total expenditure of the average urban household is diminishing. Further, although the socio-economic environment is changing rapidly, rice remains a staple of the people and requires sustained production. To this effect, investment in infrastructure is emphasized to adjust and strengthen the production base of rice in respective countries.

2-4 Potentials and Challenges for Increasing Food Production

44. The Five Year Plan for 1996 - 2000 attaches great importance to agriculture and rural development. It aims at (a) ensuring food security for all the people; (b) expanding export of agricultural products; (c) creating jobs for an increasing labor force in rural areas; and (d) improving the living standard of rural people.

45. The plan sets several targets to achieve the above overall objectives. The planned growth target of the agricultural sector (including forestry and fisheries) in GDP for 1996 - 2000 is 4.5 - 5.0% per annum. Production targets of food crops are set for 30 million tons for 2000. In 2000, the per capita food availability would be 360-370kg from 365kg in 1995.

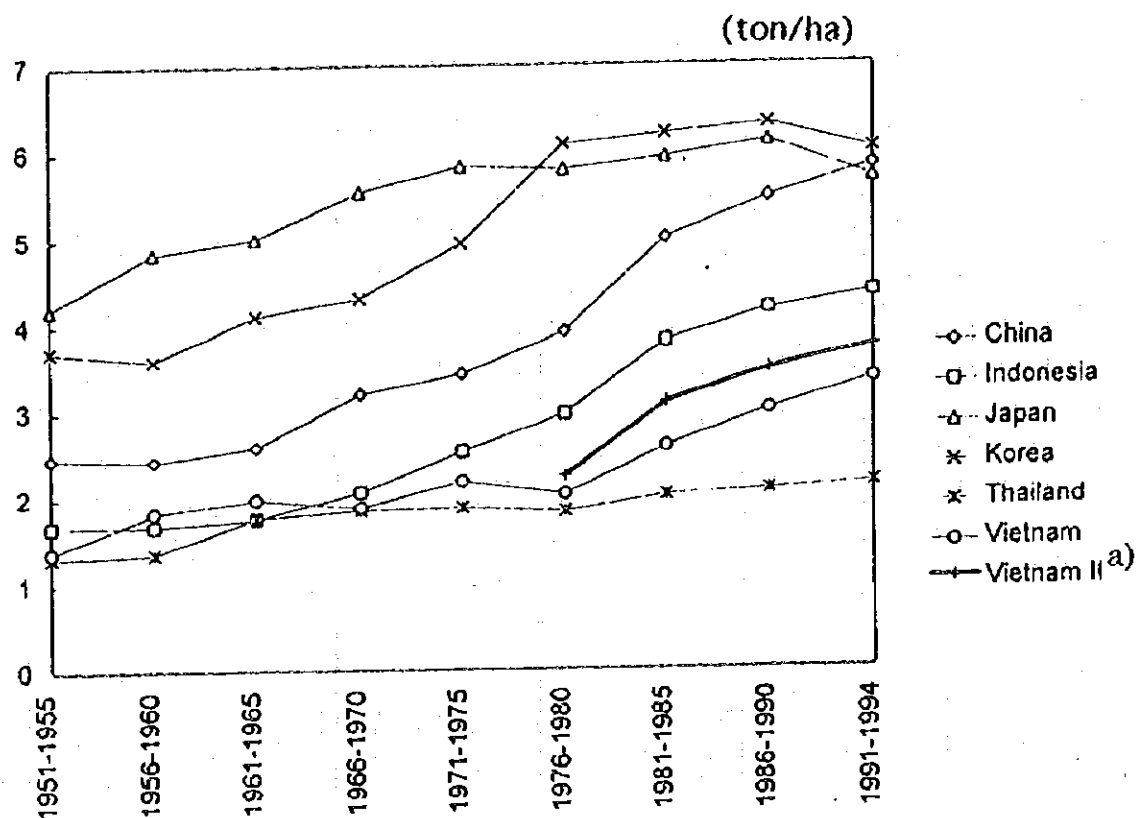
46. It has been noticed that in the agricultural sector, more emphasis is put on animal husbandry, and in crop production, increased shares of industrial crops and orchards are expected than food crops. Therefore, the targets are set at a relatively modest level for food crops, in spite of the continuing predominant position in the agriculture sector and society, compared to those of other sub-sectors. Diversification of the agriculture together with creation of rural industries and employment opportunities are strongly advocated as the means of improving farm household income and living conditions.

47. Following the past trend of intensification, it will not be very difficult to achieve the targets of 26 million tons of paddy, and 30 million tons of food crops altogether, provided that the continued investment on irrigation and drainage as well as the provision of inputs are secured. The estimated figure of 24 million tons of paddy in 1995 gives a promising launching pad. As shown in Figures IV-2-8, Viet Nam appears to have the potential to further increase the rice yield per unit of land when comparing current yields with other Asian countries. Viet Nam appears to have started to follow the course in the late 80's which many other Asian countries pursued in the 70's and the early 80's.

48. As noted, intensification has been so far achieved, to a large extent, by the expansion of sown area along with the shift from monsoon paddy to spring and autumn paddies, supported by the expansion of irrigation and drainage. In this connection, it remains a concern that the share of the investment of irrigation/drainage works as well as the overall agricultural investment has been declining of the total public investment. It is indicated that the proportion of capital invested in agriculture in the overall public investment fell from 15% in 1990 to 11% in 1994, in which agriculture excluding forestry and fisheries was less than 9%⁷⁾. Table IV-2-3 further indicates the share of investment in agriculture as well as irrigation/drainage out of the total state investment in both current and 1989 constant prices. This underlines a worrying trend. The increase since 1994 simply reflects investment in reforestation carried out under the programme "Greening of Barren Land and Bald Hills" started in 1993, thus has no affect in irrigation and drainage.

⁷⁾ Chu Van Lam, "The Development Path of the Rural Economy, Viet Nam's Socio-Economic Development", *A social Science Review* No.4, Winter 1995.

Table IV-2-8 Average Paddy Yield in Selected Countries in Asia



Sources : FAO, *Production Yearbook*, 1993. (Vietnam II, *Agriculture of Vietnam 1945-1993*, 1995.)

Note a) Vietnam II means average of spring and autumn paddy.

TABLE IV-2-3 Shares of Investment in Agriculture and Irrigation / Drainage
in the Total State Investment: 1985-1995

	Share of investment in agriculture out of the total state investment		Share of investment in irrigation / drainage out of the total state investment	
	Constant 1989 prices	Current prices	Constant 1989 prices	Current prices
1985	18.6	-	9.2	-
1986	-	-	8.2	-
1987	-	-	7.4	-
1988	-	-	9.1	-
1989	12.4	12.4	9.2	9.2
1990	15.2	19.2	7.6	14.1
1991	-	13.7	8.0	9.0
1992	-	13.0	4.5	9.0
1993	-	12.6	3.1	8.9
1994	-	15.6	4.8	8.5
1995	-	17.8	-	10.3

Source : Based on the information provided by Ministry of Planning and Investment

49. Regarding fertilizer use, the level of applications per unit of land is still lower than those of many other Asian countries. Thus fertilizer-paddy ratio should be maintained at a level instrumental in greater uses. Domestic fertilizer production is planned to increase. This would provide an opportunity to increase paddy yield by higher applications of fertilizer together with high yielding varieties.

50. Another issue of concern is the matter of comparative advantage of paddy to other crops and farming activities for which paddy compete on land use. Trade-off among crops produced on the same land may occur depending on the market situation of respective crops. Competitive and complementary relationships of rice with other farming activities will be discussed in Chapter 3, Diversification of Agriculture.

51. Indeed the coming five years will be a critical period for agricultural development in Viet Nam. In one point, as cultivation becomes more intensive, the law of diminishing return of land productivity and labor productivity would come into effect. In another, as the industrial development will progress, rural wage level will rise, so does the cost of agricultural production.

52. Achievement of targets for the year 2000 and beyond largely depends on whether the contributing factors to the development discussed in the earlier section continue to have an effect, and that the momentum attained in the early 90's be sustained and strengthened. The following paragraphs discuss the conditions and possibilities of each factor.

53. Infrastructure, Irrigation and drainage. Further intensification calls for irrigation and drainage systems to be expanded and rehabilitated, following the effort of the past years. Priority areas in future water resources development by region are summarized:

- Northern Mountain and Midlands: Construction/improvement of small scale reservoirs for flood control and prevention of soil erosion. This water may be used for small scale paddy production.
- Red River Delta: Rehabilitation and grading up of the pumping systems for irrigation and drainage.
- Central Coasts: Construction of small scale reservoirs for watershed management and rehabilitation of the embankment for the protection from typhoon damage.
- Central Highlands and Northeast of South: Strengthening upland irrigation systems.
- Mekong River Delta: Expansion of irrigation/drainage systems with particular attention to salinity and acidity control.

54. Rural roads. Linking villages and markets and within villages are in very poor condition. To increase the market access of farmers and for the introduction of rural industry, improvement of roads is urgently required. Noting the financial constraints, mobilizing the beneficiaries for the construction and maintenance of these roads is to be explored.

55. Consolidation of farm land. As a result of equal distribution of farmland use rights to individual farmers, it is often the case that land of a farmer is scattered in several plots. This situation reduces labor efficiency and productivity and would hinder farm mechanization in the future. Land consolidation needs to be carried out on a village or hamlet basis. The consensus of the concerned farmers needs to be reached at first, then exchanges of parcels can be made. Communes and rural associations could take the initiative. Issuance of land use certificates which defines the use rights of individual parcels could facilitate the process.

56. Rural electrification. Further efforts to expand electricity supplies to rural areas is necessary, not only for production efficiency and better rural life, but also for the introduction of rural industries.

57. The infrastructure investments as mentioned above would become more effective, to maximize the benefit and also to enable people's participation if they are carried out better in an integrated manner such as commune or village development projects/ programmes.

58. Agricultural research. By the integration of three Ministries, --Ministry of Agriculture and Food Industry (MAFI), Ministry of Water Resources (MWR) and Ministry of Forest (MOF)-- to Ministry of Agriculture and Rural Development (MARD), there exist now 36 research institutions under MARD. Total researchers including technicians number 2,719 but there are few senior researchers. The present budgetary provision is far from adequate. Lack of funds for research with limited equipment and facilities discourages the morale of researchers. This would be partly compensated by the contract research system (CRS) which generates research funds under contracts with outside organizations. This system has relevance as these research activities respond directly to the needs of farmers and organizations. However, there are negative aspects, such as difficulty to implement long term research, excessive orientation to the adaptive and practical research, and the possible risk of overlapping between research and extension. The idea of restructuring research institutions was reportedly put off. It is suggested that discussions are initiated towards establishing a master plan with cooperation from multilateral and bilateral donors.

59. Extension. The extension system was created in 1992 and reorganized in 1995, with the integration of three ministries. A three tier vertical system is applied from central to provincial and commune levels. After the renovation, individual farmers are the major target of technology transfer for agricultural extension. In this connection, strengthening the extension system is of vital importance. Lack of funds and manpower with expertise is a serious constraint to this effect. Urgent measures should be taken to strengthen the system in creating better coordination and cooperation between research and extension.

60. Institutional setting. As seen in the course of the renovation process, changes in the institutional setting give considerable economic incentives to farmers and thus, to production. While the impact of the economic incentives has been shrinking, there is still room, as well as a need, to further strengthen the institutional setting and maintain the momentum of production growth.

- (i) Rural credit. The importance of credit cannot be overstated. With commercialization and diversification of agriculture, the provision of institutional credit, particularly medium and long-term loans, is crucial. This matter is deliberated in a separate chapter 5.

- (ii) Due to the technical complexity and financial constraints, there is a certain delay in issuing Certificates of Land Tenure. This delay would discourage farmers' effort for investments to intensify and modernize the farming. Land consolidation as mentioned earlier could also be accelerated by the issuing as well. Measures to resolve the bottlenecks should be sorted out.
- (iii) Land use tax was reduced by about 30% in 1993. The restitution of part of the collected tax to agricultural investment and/or reduction of water fee will start from 1996. These are commendable moves in line with the direction to increase the investment in agriculture as advocated in this chapter.

61. Further, in the process of crop diversification, there exists the possibility of less interest in investment in food crops. For the time being this is not a serious risk. However in the long run, neglect of land for paddy production may endanger the base of the food supply of the nation. For this, apart from the achieving the target for 2000, it is opportune to initiate discussion by setting up an appropriate forum regarding: (a) longer policy perspectives on investment in agriculture in the framework of the entire state and other investment; and (b) a longer term food policy including stabilization of rice prices for ensuring the national food security.

2-5 Changes in Consumption of Rice and Other Food Crops

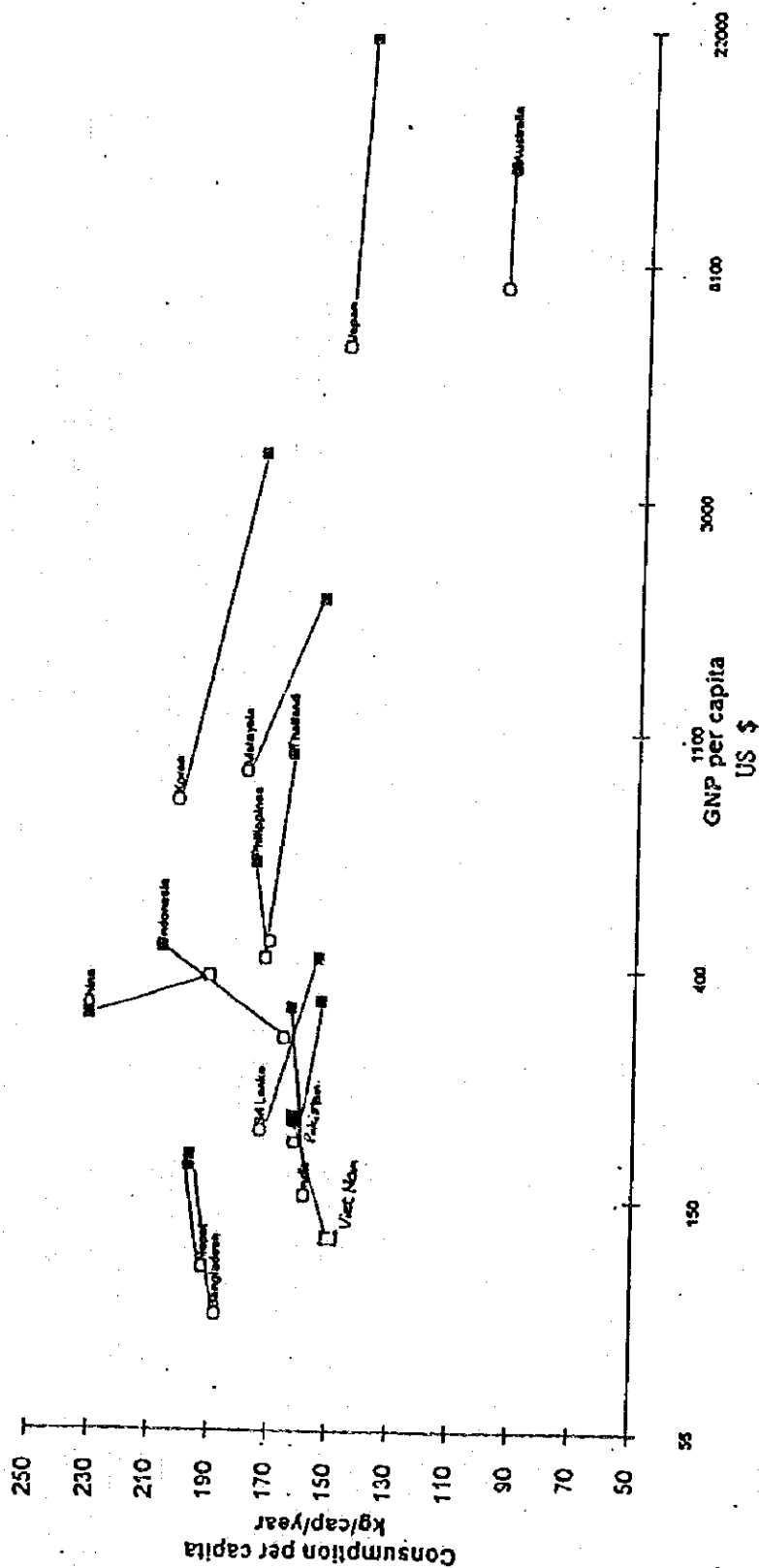
62. Apart from the targets of increasing food crop production to 30 million tons thus harvesting 360 - 370 kg/year per person by 2000, no particular nutritional targets are set in the Five Year Plan of 1996 - 2000. However it is projected that with increased incomes, food consumption patterns of the people would change and the nutritional status improved.

63. Per capita net food rice availability reached 160 kg, and together with other food crops the aggregate food crop availability amounted to 179 kg in 1995. With the expected high growth rate of GDP as well as the average per capita income, food consumption patterns would start to change gradually. Currently rice (or food crops as a whole) provide 75% (or 85%) of the total calorie intake, and 68% (or 74%) of the total protein. Figures IV-2-9 to IV-2-12 present the picture of per capita (net) food consumption of selected food items in Asian countries. They shows the fact that as income increases, cereal and rice consumption starts to decline after reaching a peak, while some other products like meat and eggs increase. In view of the present relatively high levels of food intake and nutrition level, the changes in Viet Nam may start soon. Table IV-2-4 was produced on the basis of the per capita net food consumption in 1995 and the projections for 2010 made by National Institute of Agricultural Planning and Projection⁸⁾.

⁸⁾ Dr. Dui Thi Sy, Consumption and Market of Some Major Agricultural Products in Viet Nam. 1995.

Figure-IV-2-9 Relationship between per capita GNP and per capita consumption of selected Food : 1977/79 - 1987/89. (Viet Nam: 1990-1995)

A - Cereals



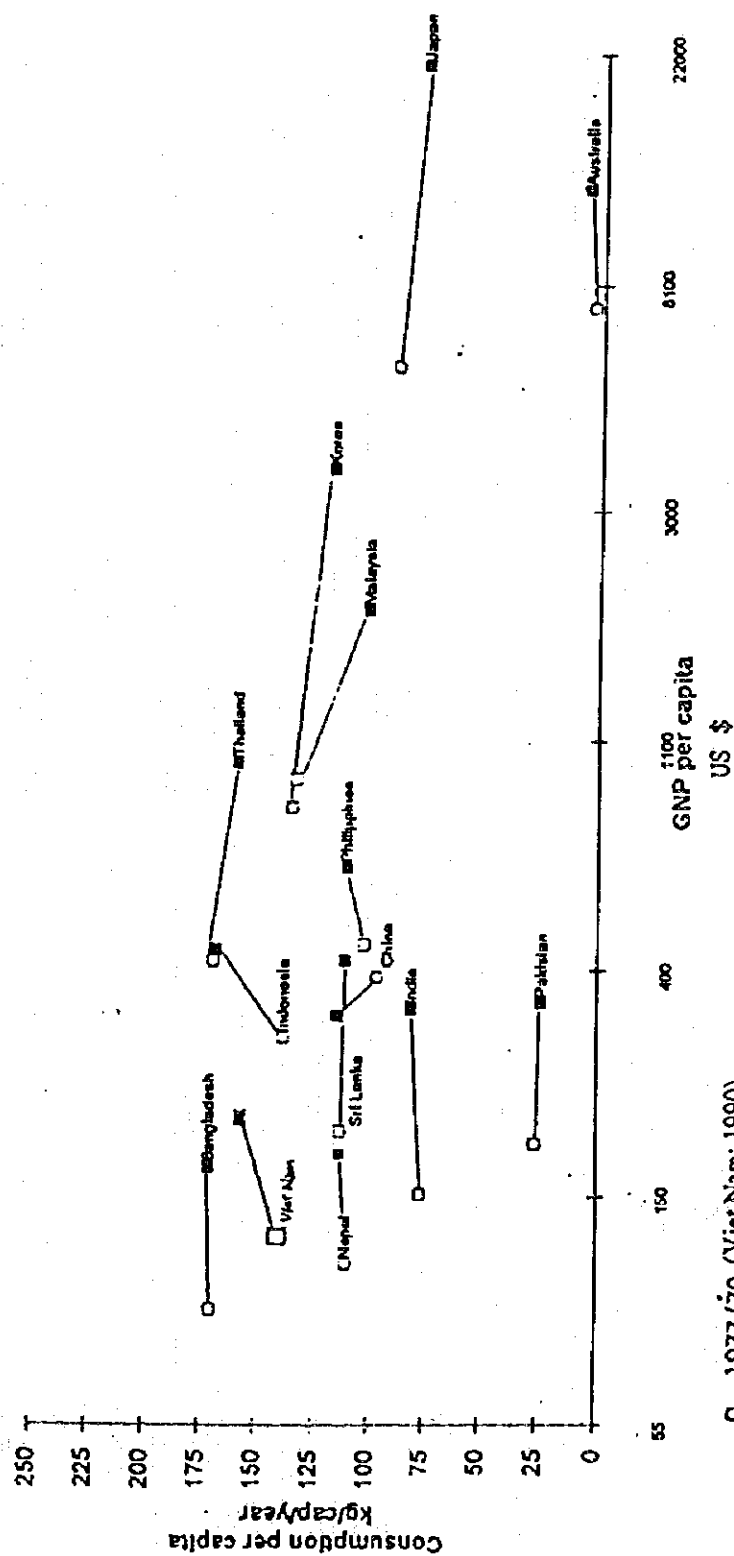
○ 1977/79 (Viet Nam: 1990)
■ 1987/89 (Viet Nam: 1995)

Source: FAO, Food Balance Sheet and World Bank, World Development Report

Viet Nam - Food Balance Sheet in 1990 and 1995 World Bank. Viet Nam Economic Report on Industrialization and Industrial Policy, 1995.

Figure-IV-2-10 Relationship between per capita GNP and per capita consumption of selected Food : 1977/79 - 1987/89. (Viet Nam: 1990-1995)

B - rice



○, 1977/79 (Viet Nam: 1990)

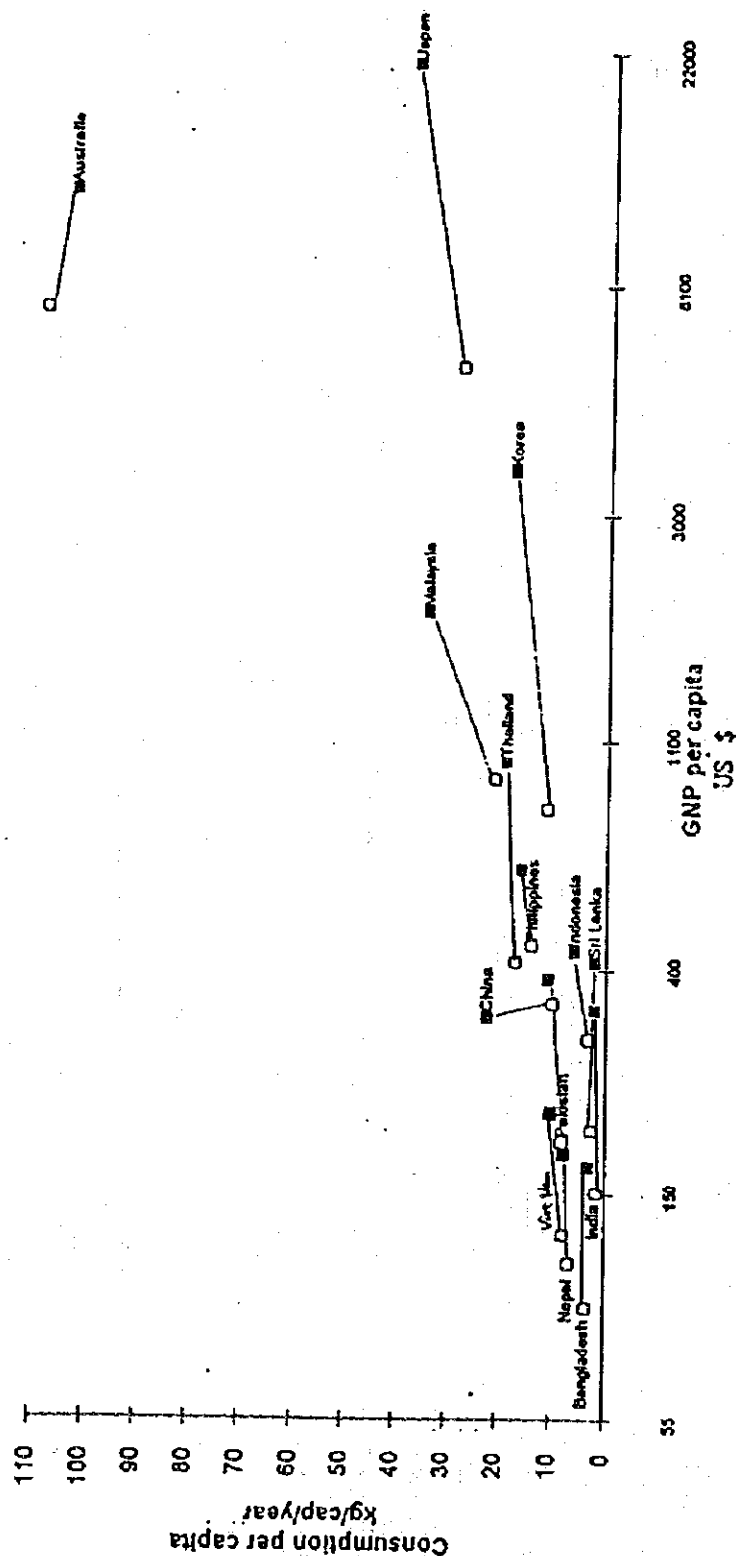
■ 1987/89 (Viet Nam: 1995)

Source: FAO, Food Balance Sheet and World Bank, World Development Report

Viet Nam : Food Balance Sheet in 1990 and 1995, World Bank, *Viet Nam Economic Report on Industrialization and Industrial Policy*, 1995.

Figure-IV-2-11 Relationship between per capita GNP and per capita consumption of selected Food : 1977/79 - 1987/89. (Viet Nam: 1990-1995)

C - Meat

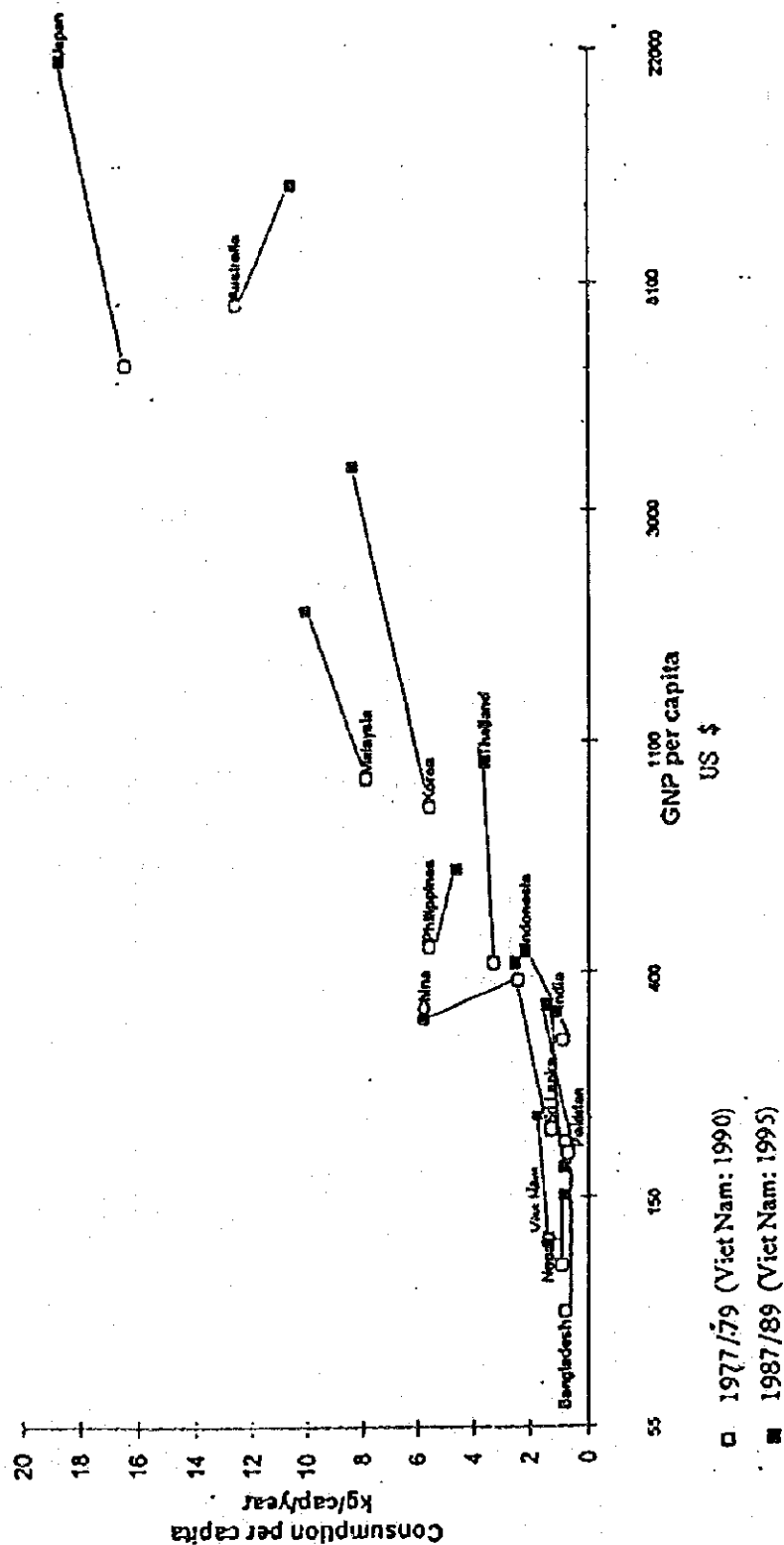


- 1977/79 (Viet Nam: 1990)
- 1987/89 (Viet Nam: 1995)

Source: FAO, Food Balance Sheet and World Bank, World Development Report
Viet Nam : Food Balance Sheet in 1990 and 1995, World Bank, *Viet Nam Economic Report on Industrialization and Industrial Policy*, 1995.

Figure-IV-2-12 Relationship between per capita GNP and per capita consumption of selected Food : 1977/79 - 1987/89. (Viet Nam: 1990-1995)

D - Eggs



Source: FAO, Food Balance Sheet and World Bank, World Development Report
 Viet Nam : Food Balance Sheet in 1990 and 1995, World Bank, Viet Nam Economic Report on Industrialization and Industrial Policy, 1995.

Table-IV-2-4 Per Capita Net Food Consumption
: 1995 and Projections for 2000 and 2010

	(kg/per capita/year)		
	1995	2000 ^{a)}	2010
Rice	160	-	-
Food crops ^{b)}	179	162	144
Sugar	7	11	20
Fruits	30	43	72
Vegetables	31	51	100
Meat	11	15	24
Milk ^{c)}	0.67	4	12
Eggs ^{d)}	29	64	144
Edible oil	0.24	1.8	5.4

Sources : 1995 ; Food Balance Sheet,
2010 ; National Institute of Agricultural Planning
and Projections, 1995

Note : a) 2000 ; Linear proportional allocation connecting
the amounts of 1995 and 2010.
b) Rice equivalent including other cereals, roots and tubers.
c) In litres.
d) In number of eggs.
e) Table oil only.

64. Changes in food consumption patterns have been gradually occurring. Rice will replace other food crops such as maize, cassava and sweet potato. In fact, according to the survey of Nutrition Research Institute, rice consumption in mountain areas accounts for only 83% of that in the plains, suggesting possibility of increase in replacing other food crops. Meanwhile in some agricultural products like meat, eggs, sugar, vegetables, fruits and edible oil, the per capita consumption has started to increase.

65. Agricultural production should respond to these changes in domestic consumption. Some industrial crops like coffee and rubber are also expected to increase at a fast pace though the expansion is subject to the extent of exports. These are the driving forces of agricultural development in the coming years. Therefore whether or not the target of 4.5 - 5.0% annual growth in the agricultural sector can be achieved depends, among others, on the progress of agricultural diversification and increasing exports through strengthened international competitiveness.

2-6 Summary and Recommendations

66. Food crops, including paddy/rice, maize, sweet potato, cassava and potato, are of predominant importance in Vietnamese agriculture. Among them, rice is overwhelming. The production of rice since the renovation started shows the remarkable performance. It has been largely achieved by an overall increase in the sown area, in which a shift in crop seasons from lower yielding winter paddy to higher yielding spring and autumn paddies has taken place. At the same time yield per unit of land has risen, to a different degree, in all seasons' crops.

67. These increases should be interpreted as the combined and integrated outcome of various contributing factors such as high yielding varieties, higher fertilizer application and pest control, apart from intensive input of labor. Above all, the investment in irrigation and drainage in the 80's and the early 90's was most instrumental to the intensification process.

68. Equally or more important was the institutional framework established since the renovation. Indeed, stipulations of land use rights in the Land Law in 1993 have motivated farmers to invest for increasing production. Agricultural prices are determined by market forces which have encouraged farmers to produce crops and livestock according to their decision and taking responsibility. A rural credit system was re-established through which funds have flown into farm households. At the same time, there is a concern that economic incentives created by the renovation process may have exhausted to give a further motivation for farmers to increase inputs and investment.

69. As far as the future development of food crops is largely carried out through intensification, the marginal returns of additional land and investment in production would decrease over time. On the other hand, the recent trend of investment in agriculture, specifically in irrigation and drainage, does not show an upward trend, even there is a sign of stagnation or decline. Agricultural research may not be able to provide the continuous technological improvements and breakthroughs, unless a fundamental reinforcement takes place. The provision of rural credit in medium and long-term loans are far from satisfactory. While the farmgate price of rice has risen recently, the price stabilization policy and measures

should be clarified and strengthened in order to give enough price incentive to producers.

70. It is recommended that the following action be taken to further pursue and sustain the development of food crops, specifically rice and maize:

- (i) Increase the investment in agriculture such as irrigation and drainage, land consolidation, rural roads and rural electrification;
- (ii) Strengthen research and extension. It is recommended, in this connection, to initiate a discussion to set up a master plan of the research and development (R&D) system so that an appropriate organization for receiving public funds would be stabilized;
- (iii) Further improve the institutional framework for facilitating investment and supporting improved technology transfers and adoption. An expansion of rural institutional credit, and an acceleration in issuing land tenure certificates are stressed; and
- (iv) Initiate a discussion regarding the national food and rice policy. Experiences of other ASEAN countries regarding market interventions would give useful references.

Chapter 3. Diversification of Agriculture

3-1 Diversification of Farming at Individual Farm Level

1. The growth of agriculture for the period of 1990 to 1995 was due not only to the increase in food crop production but also to the increase in production of livestock, industrial crops, vegetables, fruits and aquaculture. In order to improve farmers' incomes and living conditions, farming diversification should be recognized as an important means. Diversification of Vietnamese agriculture should be examined from two view-points i.e. individual farming and national agriculture.

2. During the period of reconstruction, the Vietnamese Government promoted comprehensive agricultural development: crop cultivation, animal husbandry, foodstuff processing, aquaculture. However, agricultural diversification is closely related with the development of commercial agriculture. Although semi-subsistence agriculture is predominant on both the individual farm and national levels, commercial agriculture has been rapidly developing especially since the beginning of a market-oriented economy. Under the market-oriented economic system, farmers are permitted to freely use their allotted farm land and to freely dispose their products in the markets. This new system gives farmers incentives and possibility for increasing agricultural production so that surplus products in farm households can be sold.

3. With the development of commercialization, corresponding to the increase and the changes in demand for various farm products in domestic and foreign markets, farm production has been diversified and the combination of crops and livestock at individual farms developed. In addition to food crops such as rice, maize, sweet potato and cassava, animal husbandry, foodstuff processing and aquaculture have been introduced. Various new breeds of crops and livestock have also been introduced.

4. In fact, many farmers intend to diversify their crops, depending on the natural and economic conditions. According to the field survey conducted under this study in three representative villages in Red River Delta (Thai Binh province), Central Highlands (Dak Lak province) and Mekong River Delta (Can Tho province) (for the details see Appendix 2), virtually all farmers in Dak Lak responded to expand coffee, while in Can Tho many indicated an expansion of rice and sugarcane, the crops actually grown. In Thai Binh, farmers intend to expand food crops, livestock and fruits.

5. The diversification of farming comprises the following several aspects: (a) more intensive land use; (b) more family labor opportunities at farms; (c) to eliminate or reduce the deterioration of soil fertility and environmental pollution; (d) diversified and more nutritious agricultural products for home consumption; and (e) increase in farm earnings or incomes.

6. The cultivation system of Garden - Pond - Animal Husbandry (VAC in brief, standing for V - Vegetable and fruit growing, A - Aquaculture and C - Cattle and poultry rearing) has been encouraged. The purpose of this farming system is to use farm resources intensively (including land), to keep the environment clean, to produce clean healthy food, and to raise

the quality of rural life. The VAC movement is being recognized as one of the organic agriculture in Viet Nam.

7. Types of farm diversification vary depending on the natural, economic and social conditions in which farm households are located. Specifically, the factors affecting the farming system are: natural conditions such as climate, topography, soil conditions and others; market conditions for agricultural products; and socio-economic conditions such as farm size and labor condition of farms.

8. Types of farming may be classified into the following areas: multiple cropping under crop rotation system by combining different types of crops; combination of livestock with crops; combination of aquaculture with farming; introduction of processing of farm products; and integration of agro-forestry in perennial crop producing areas.

9. Based on the field survey in specific regions, the following types of diversified farms are suggested to be suitable to improve farming systems, taking into consideration the respective situation.

10. Red River Delta Agriculture in this region is characterized by the relatively small size of farms with the average sized labor force per household. Rice growing is predominant. There are two type of rice growing, spring paddy and winter paddy. Because of the small size of farms, there is a limit to the increase in farm incomes by rice growing alone. Many farmers in this region are therefore introducing livestock, vegetables, flowers and fruits. Type of combinations of farm enterprises are: double cropping of rice; rice + vegetable (two times a year); double cropping of rice + vegetables; vegetables (four times a year); single cropping of rice + fishing in rainy season, single cropping of rice + aquaculture; and aquaculture + fruits. Profitability of farming varies depending on the type of farming.

11. Mekong River Delta The climatic conditions in this region are favorable for farming. On average, farm size and the labor forces are relatively large as compared with those in other regions. Rice growing is predominant. However, there are constraints and limitations to the increase in both the acreages and the yields of rice production because of soil and water conditions in some areas. Also there are specific problems in Mekong Delta. Excessive increase in double or triple rice growing a year has brought about deterioration of soil fertility and environmental pollution due to the heavy application of chemical fertilizer and pesticides. Taking these problems into consideration, the farming should be more diversified in combining with vegetables, fruits, fish, shrimp, sugar cane and others. Several farming systems are identified: rice - fish; rice - fish; livestock - fish; rice - rice - fresh water prawn-fruit trees; rice - rice - marble goby fruit trees; and rice - brackish water shrimp.

12. Central Plateau Region. In Central Plateau Region, industrial crops such as coffee and rubber are predominant crops. Both individual households and state-operated farms producing these crops tend to specialize. However, it should be noted that soil fertility should be maintained and that employment opportunities need to be found for the slack season. To this effect, livestock should be effectively introduced into the coffee or rubber farming. Until coffee or rubber trees reach maturity, annual crops or tree crops of short maturity should be incorporated as intercrops.

13. The conditions for establishing the above mentioned farm diversification are considered as follows: improvement of land so that various crops are able to be introduced; to establish effective marketing systems of agricultural products; and to provide funds for operation and investment for both individual and state operated farms.

3-2 Diversification of Agricultural Products and Their Domestic Markets

14. Depending on the conditions such as climate, topography, soil and water, many kind of agricultural products mainly for home consumption have been produced in Viet Nam for long time. They include: (a) food crops - rice, maize, sweet potato, cassava, millet, sorghum; (b) vegetables and fruits - potato, tomato, kohlrabi, cabbage, aubergines, cucumbers, false bottle-gourd, waterspinach, pea, banana, pineapple, custard-apple, jackfruit, papaya, mango, rambutan, longan, litchi, orange, lemon, mandarin; (c) industrial crops - rubber, coffee, tobacco, tea, sugar-cane, jute, coconut, groundnut, reed, cotton; (d) livestock - buffalo, ox, pig, chicken, duck; and (e) aquaculture - shrimp, lobster, black carp, major carp, bream, loach, eel, tortoise.

15. Diversification of agriculture is a response to the growing demand for consumption in terms of quantity, varieties and quality for domestic and international markets. The structure of the domestic market is naturally affected by the change in domestic consumption. Agriculture, in response to these changes, will shift production for markets where demand is increasing and exports are expanding. Such adjustments are generally carried out through market mechanisms.

16. The consumption of major agricultural products in Viet Nam can be divided into two categories, i.e., human consumption and other such as livestock feed, seed, processing and other manufacturing. The foods for human consumption are mainly in raw or semi-processed forms. Processed food accounts for a very small part. Grain accounts for the major part of total human consumption. There are differences among regions and between rural and urban areas regarding food consumption. In the mountainous and upland areas, rice consumption tends to be lower, as in the urban areas, unlike in the lowlands and average rural areas.

17. Meat consumption in urban areas amounts to 2 - 3 times that of the national average and 3 - 4 times of that in rural areas. Pork consumption accounts for 77.4% of total domestic meat consumption. Processed products from pork is very small, accounting for only 10% of the total. Beef accounts for 6.5% of the total meat production and is mainly used for domestic consumption. Poultry meat - chicken, duck, and goose - accounts for 16%. Per capita egg consumption is about 30-35 eggs per year and the domestic consumption accounts for 95-98% of total production. At present, egg consumption is still small due to the small capacity for egg production. Milk consumption per capita (fresh milk equivalent) is about 1.5 liters per year and 90% is imported. In short, consumption of meat, eggs and milk is still at a low level compared with those in other Asian countries.

18. The demand for sugar, fruits, vegetables and vegetable oil have been increasing in recent years. At present, per capita sugar consumption is about 8 kg per year. To date the domestic sugar production does not satisfy the demand, resulting in imports. Per capita fruit consumption in Viet Nam is about 25 - 27 kg. The fruit consumption has been increasing, supported mainly by the rising demand of the urban population. Per capita vegetable consumption is about 40 - 42 kg. During 1980 - 1995, vegetable consumption increased with an annual average growth rate of 2.1%. Vegetables in Viet Nam range from tropical, sub-tropical to temperate varieties. Vegetables are mainly consumed fresh.

19. Per capita vegetable oil consumption is at very low, only about 0.45 - 0.5 kg per year, although in recent years the consumption has increased rapidly. The growth rate during 1980 - 1995 was 8.6% per year.

20. Crops such as maize, potato, sweet potato, vegetables and fruits are exclusively marketed to the domestic market. With the increase in the population and the changes in the food consumption pattern in urban areas, farmers are promoting marketing these products which, among others, require improvements of transport facilities, and storage capacities.

21. Characteristics of vegetable production, consumption and marketing in Viet Nam is taken as an example. The main features are summarized below:

- (i) Before 1988, seasonal shortages occurred often especially in urban areas. This was caused by the failure of the management mechanism of collective farming and shortcomings of the marketing system. In recent years, however, the production and consumption of fruit and vegetable has increased. The seasonal shortages disappeared in large cities like Hanoi, but it remains in some regions in the hot and dry seasons.
- (ii) The consumption per capita increased from 45 kg in 1990 to 60 kg in 1995. The government forecasts consumption of 100 kg per capita in 2000.
- (iii) New tendencies in vegetable consumption are also appearing. Urban people prefer high quality vegetables. While the consumption of leaf vegetables has tended to decrease, that of tomato, cucumber, corn, carrot, bamboo shoot, cauliflower, and processed vegetables have been increasing rapidly.
- (iv) City people have also begun to pay more attention to green and safe vegetables. Organic farming has become popular and the National Fruit and Vegetable Institute indicates the standards for application of organic fertilizer. Protection net for insect, clean water and other new techniques have been adopted.
- (v) Responding to the changes in production and consumption of vegetable in urban areas, the marketing structure has also been changing. In Hanoi, almost all vegetables, except bamboo shoots, mushrooms and some kinds of corn produced in mountain areas, are supplied from the vicinity.
- (vi) Before 1998, marketing of vegetables was carried out by cooperatives and state run companies. The vegetables produced in cooperative farms were sent to the terminal retail markets by companies which also carried out the functions of storage, transportation and distribution. Since the start of a market oriented economy, a large part of vegetables has been produced and marketed by individual

farm households. The vegetable producing farmers in the vicinity of cities transport and directly sell their products. However, the farmers located far from cities sell their products to intermediaries who deliver to other intermediaries or wholesale markets in cities.

(vii) New trials of marketing vegetables have begun in the southern regions. Private companies are introducing contract farming under which farmers are organized. The companies provide seeds, fertilizer, agro-chemicals and technical know-how to farmers. The vegetables produced in contracted farms are collected and marketed by the company.

(viii) In order to respond to the increase and changes in the demand for vegetables in large cities, the government has a plan to create the specialized vegetable production areas in the plains. Increased production of vegetables in mountainous regions in summer is also encouraged.

22. Characteristics of fruit production, consumption and marketing in Viet Nam are presented separately:

- (i) For the past five years, consumption and demand of fruits have considerably changed and increased. A survey conducted in Hanoi showed an increase of two to three times in consumption compared to the period before 1988.
- (ii) In 1995, 325,000 ha of fruit trees, produced 3.2 million tons of fruits. However, fruit consumption per capita still remains at 45 kg. The government has a plan to increase the fruit growing area to 1 million ha in 2000 which is 3 times the present growing area. At that time, total production of fruits will be 10 million tons or 100kg per capita.
- (iii) Measures to expand fruit production include; more intensified and specialized use of farmers' gardens; converting 4 million ha of unused waste and barren land to fruit orchards; planting fruit trees on 20 - 40% of the reforested land.
- (iv) Corresponding to the increase and changes in fruit production and consumption, it is required to establish a new marketing system. Unlike vegetables, fruit production areas are scattered all over the country. Different fruits are grown in different regions. For example, peaches, persimmons and plums are produced in the north, while mangoes consumed in Hanoi have to be transported from the south. Relatively large sized private and state marketing companies participate in the trade. Sometimes the fruits produced in the south reach to consumers in the north through several stages of collection, transportation, storage, distribution and retailing.
- (v) With the increase in fruit and vegetable transported over long distance, the role of wholesale markets become important. The major wholesale markets for fruit and vegetables are the Loung Bien market in Hanoi and the Cau Muor market in Ho Chi Minh City. As trading activity in wholesale markets has increased the number of intermediaries has decreased.
- (vi) Bananas and mangoes produced in the south are exported to foreign countries, especially to China. Exporters purchase fruits for export at wholesale markets or

from small local collectors. Many medium sized export companies compete with each other for exporting the fruits.

- (vii) VEGETEXCO (Vegetable and Fruit Export Corporation) is the state company that deals vegetable and fruit exports. The function of this corporation is to increase exports of vegetables and fruits and to adjust competition among exporters. The corporation has branches in Hai Phong, Da Nang, Hue, and Hanoi.

23. Processing facilities in rural areas are important in order to add value to agricultural products. The establishment of processing factories for agricultural products in rural areas will also be instrumental in creating employment opportunities.

3-3 Exporting Agricultural Products and Their International Markets

24. Apart from rice, several agricultural products such as coffee, rubber, tea, cashew and peanuts are produced for exports. These products are grown in hilly and plateau regions where the natural conditions suit their production. These crops also offer employment opportunities and income in those regions. Export earnings from agriculture such as coffee, rubber and tea are expected to play an important role in the economy.

25. Coffee is one of the major exported farm products in Viet Nam. The existing coffee fields amount to 150,000 ha over all the country. The total production of coffee amounts to 220,000 tons, the average yield per ha being 1.5 tons. The government is planning to produce 250,000 tons by the year 2000 (30,000 tons more than in 1995). Coffee grown in Viet Nam are mostly robsta with a small amount of arabica. The production sites of robsta coffee are Gia Lai, Kon Tum, Dak Lak, Lam Dong and Dong Nai provinces. Arabica coffee is produced in Tyen Quang, Lai Chau, Son La and Nghe An provinces. The government has a plan to expand by 2000 - 6000 ha the area devoted to arabica coffee every year to become 100,000 ha until 2005. However, since the suitable temperature for arabica coffee is 20-24 °C and not lower than 5 °C, the production area is restricted to areas 1,000m above sea level.

26. In the past, coffee was produced entirely on state farms. Since 1985, the share of individual households has increased and now reaches about 80% of the total coffee production. The size of coffee plantations in individual farms varies from 0.5 ha to 3.0 ha, while the expansion is recommended.

27. Before 1990, Viet Nam exported coffee together with rubber and tea to the former soviet Union and East European countries. Since 1991, however, the country have to find new coffee markets. Since then output and export of the Vietnamese coffee have rapidly increased. According to the statistics of the U.S. Department of Agriculture, its shares of the world production and exports were 2.68% and 2.82% respectively in 1993/94, compared to the corresponding figures of 1.01% and 1.43% in 1990/91. Viet Nam is the second largest coffee producing country in Asia and the seventh largest in the world.

28. Coffee consumption in the world as a whole is stagnant. Per capita consumption in

the U.S. and European countries has been declining, while it is increasing in only a few countries like Japan and Republic of Korea.

29. Most of the coffee production is borne by small farmers whose price response is not strong, as they tend to maintain a certain output even in a depressed market. In order to stabilize the international price of coffee, the International Coffee Agreement has been signed between the coffee producing countries and consumers. This agreement broke down in 1989 when the two groups failed to reach an agreement. Meanwhile the world prices have stayed at a relative high level, being much affected by the recent poor harvests in Brazil, but this may not last for long. In the medium and long term, coffee price may not be as high as the present, unless new markets are developed and consumption grows considerably.

30. Since 1991, Japan has imported coffee from Viet Nam. Yet this accounted for only 3% of the total imported amount in 1994. Japan (the third largest consuming nation in the world) imports coffee from many countries shown in Table IV-3-1. So far only the robusta coffee is imported from Viet Nam into Japan. As the arabica coffee has been imported on a trial basis, it has had difficulty in establishing its status in the Japanese market, as its quality is so far not satisfactory.

31. For improving the quality, it is necessary to pay more attention to the drying process which is best done by the sun, not by mechanical drying. For instance, the method of laying bricks, covered by a thin layer of cement, that will enable moisture to be absorbed, is recommended. It is not recommended to dry coffee on a concrete floor or on soil. Provided the quality is improved and the price is low, it is possible to increase exports.

32. Rubber. Rubber is one of the main exports products of Viet Nam. At present, there are about 250,000 ha of rubber plantations in the country, four fifths of which or 200,000 ha are under direct management of the Viet Nam Rubber Corporation (GERUCO). More than 30,000 hectares belong to the private sector. By the year 2005, private rubber acreage is expected to become 350,000 hectares. While expansion of rubber plantations primarily is to increase the production of latex, it also aims to cover barren hills and to have rubber wood for processing. Rubber wood is increasingly used by the furniture industry. Moreover, expansion of rubber production is helpful in providing employment opportunities for the ethnic minority peoples living in highland regions and to improve the living conditions of workers in rubber plantations. The production of dry latex was 135,000 tons in 1995 and is expected to increase by 15 percent annually until 2005.

33. Natural rubber is indispensable to tire manufacturing in spite of the substitution by synthetic rubber, and is great demand. Important producing countries of natural rubber are Malaysia, Indonesia and Thailand. Production of these three countries altogether accounted for more than 70% of the world production and nearly 90% of exports (1994). These countries are endowed with favourable conditions to rubber, and established themselves in the international market through the quality improvement and active marketing.

Table IV-3-1 Green Coffee Beans Import into Japan in 1994

(UNIT: 1,000 BAGAS/60kg)

ORIGIN	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
BRAZIL	1,252	810	938	1,036	1,138	967	1,144	1,192	1,259	1,301
COLOMBIA	519	669	714	667	665	973	792	895	1,008	1,260
INDONESIA	727	825	1,032	1,065	1,087	1,171	1,342	1,038	1,042	1,088
GUATEMALA	79	143	88	103	147	163	204	203	263	375
ETHIOPIA	144	116	176	199	221	217	251	256	314	347
HONDURAS	213	319	271	182	320	254	320	214	221	251
TANZANIA	46	58	59	62	71	90	75	130	229	191
PERU	137	254	186	127	209	255	260	200	147	182
VIETNAM	-	-	-	-	-	-	30	85	109	171
INDIA	206	65	87	42	69	10	14	76	75	132
THAILAND	-	-	-	20	15	98	57	184	109	125
MEXICO	11	80	161	136	97	20	36	74	34	85
COSTA RICA	15	22	49	29	39	82	111	76	87	66
SALVADOR	114	104	169	123	81	39	103	49	91	45
IVORY COAST	81	138	55	56	42	44	39	35	40	13
CUBA	17	26	67	53	80	91	59	56	49	9
OTHERS	287	413	452	478	456	334	140	100	115	103
TOTAL	3,853	4,042	4,504	4,378	4,737	4,808	4,977	4,863	5,192	5,744

Source: Japan Coffee Association

34. Malaysia is leading in the area of rubber processing technology. It produces "technological specified rubber (TSR)" which meets specific grade requirements sorted at the manufacturing stage. In Indonesia as well, TSR production has been rapidly increasing with the technology introduced from Malaysia. Rubber from these two countries is largely destined for U.S. and Europe.

35. In Thailand, on the other hand, most rubber is produced in the form of "ribbed smoked sheet (RSS)". RSS is a low-processed product. While the quality of RSS is difficult to control since it is less processed, RSS produced in small factories in rural area has improved in quality thanks to technology transfers from Japanese tire manufactures. RSS thus produced in Thailand has great competitiveness due to the quality, low prices and great processing potential. Export has increased not only to Japan but also to other countries, which has contributed to make Thailand as a major rubber exporting country.

36. The Vietnamese rubber has so far been exported in the form of RSS. GERUCO, in cooperation with the General Department of Standards, Measurements and Quality (SDSMQ), has been formulating the standards for Vietnamese rubber (SVA) corresponding to the international norms, which has become effective from 1 January 1996.

37. Until now, Viet Nam has only exported rubber latex and has had to import all manufactured rubber products. In 1995, the Viet Nam rubber output amounted to between 110,000 tons and 130,000 tons, of which only 10 - 15 % of the output was used by domestic enterprises and the balance being exported. The tire manufacturing industry requires high technology and a huge capital investment which at present is lacking in Viet Nam. Currently, most of the rubber processing industry of Viet Nam is concentrated in motorbike and bicycle tires and tubes.

38. Major buyers from GERUCO are Taiwan, Hong Kong, Singapore, Germany, Malaysia, China and Japan. Japan is the seventh largest buyer of the Vietnamese rubber. Japan consumed nearly 1,700,000 tons of rubber - natural and synthetic - in 1994, in which natural rubber accounted for 38 % or 646,000 tons. Against this consumption, Japan imported 644,300 tons of natural rubber in 1994, of which 78 % came from Thailand. Imports from Viet Nam amounted to 298.4 tons, only 0.4 % of the total imports in 1994. Yet considering that the start of imports was only 39 tons in 1992, it represents a rapid increase. Imported natural rubber is usually used for producing tires (Table IV 3-2).

39. Viet Nam has areas suitable to rubber production, particularly in the south and central highlands. In order to further increase exports, it needs to improve the quality and establish a reputation. Since the rubber is mostly grown on plantations, and processed at large-scale state enterprises, the course of development taken by Malaysia is the best to follow. The recent introduction of processing technologies from Malaysia is a move along this line.

40. Tea. Tea is one of the few industrial crops which can give great economic benefits to farmers in Mountain and Midland regions. Viet Nam produced 31,000 tons of dry tea leaves in 1985, 32,200 tons in 1990 and 36,000 tons in 1994. These figures include green tea which amounted to 22,000 tons in 1985, 23,800 tons in 1990 and 25,000 tons in 1994. In terms of green tea, Viet Nam is the third largest producing country in the world after China and Japan.

Table IV-3-2 Natural Rubber (Crude rubber & Latex) Imports from Main Producing Countries to Japan : 1989 - 1995

(M/T)		1989		1990		1991		1992		1993		1994		Jan. A' Nov. 1995	
From	In	M/T	%	M/T	%	M/T	%	M/T	%	M/T	%	M/T	%	M/T	%
Malaysia		123,799	18.6	117,462	17.7	116,099	16.8	84,366	12.5	75,969	12.0	65,363	10.1	59,769	9.4
Thailand		440,977	66.3	437,384	66.0	467,663	67.7	491,192	72.7	473,915	74.8	503,455	78.2	505,245	79.1
Indonesia		90,520	13.6	95,835	14.4	96,013	13.9	89,033	13.2	72,178	11.4	61,985	9.6	60,051	9.4
Singapore		6,620	1.0	8,310	1.3	7,101	1.1	7,090	1.0	6,682	1.1	6,748	1.1	7,255	1.1
Sri Lanka		3,335	0.5	3,619	0.5	3,660	0.5	3,349	0.5	3,395	0.5	3,249	0.5	3,051	0.5
Philippines		-	-	18	0.0	-	-	-	-	-	-	-	-	59	0.0
Viet Nam		32	0.0	-	-	-	-	38	0.0	1,323	0.2	2,784	0.4	3,261	0.5
Myanmar		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Others		144	0.0	476	0.1	141	0.0	629	0.1	154	0.0	716	0.1	25	0.0
M/T		665,427	100.0	663,104	100.0	690,677	100.0	675,697	100.0	633,616	100.0	644,300	100.0	638,716	100.0
\$1,000		673,082		579,150		593,345		581,412		558,296		662,207		1,014,312	
a million yen		91,983		83,942		79,898		73,558		62,578		67,354		93,937	

Source: Customs Division, Ministry of Finance, Japan

Note: Latex - DRC Weight

Tea can also be planted on barren hills to protect the soil from erosion, to improve the environment and to create jobs for people in those regions.

41. Apart from supplying nearly a half of its output to domestic consumers, Viet Nam managed to export 16,000 tons of tea in 1995. Negotiations are currently under way to expand exports to the Eastern Europe from the existing stockpiles, and to use tea to pay off Viet Nam's outstanding debt to these countries.

42. Tea prices are unstable and fluctuate, caused by a drop in demand in the traditional markets and droughts in tea growing areas. The tea sector is also facing constraints including an inappropriate land tax based on rice regardless of the crop actually grown. In order to expand the tea market, it is necessary to take measures such as quality control, selection of products, improvement of design and packaging, advertising in identifying customers' preferences, delivering at reasonable prices, and ensuring regular and timely supply.

43. Several trading companies in Japan have been importing green tea from Viet Nam. One of the companies has introduced a new variety of green tea from Japan together with technical assistance for consigned production in Thai Nguyen and Bac Thai provinces. The scale of this business is small at present as a trial.

44. Fruits and vegetables. The fruits and vegetable are almost entirely produced for domestic consumption. However, several vegetables have been exported to Japan in recent years. Japanese trading and processing companies have been trying to import fresh as well as processed vegetables on a contract or consigned production basis.

45. One trading company has imported burdocks produced at Dalat and Lam Dong province. That company also imports salted cucumbers, onions, ginger, and cabbages. However, since the imported burdock does not meet the expected size, the importing company has delivered it to food processors, instead of delivering it in fresh to wholesale markets. Cabbages were not marketable because of loose leaves. Green soybeans, yam and azuki beans are being imported on a trial basis. The azuki beans did not meet expectations. So far, the imports of green soybeans and yam have not been profitable business.

46. Another food trading company in Japan has conducted trial imports of onions, burdocks, carrots, taro, field peas and chinese cabbages, valued at about 30 million yen a year since 1994. All the trial imports turned out to be failures. Arrangements for vegetables were far from expectation and the product was not fresh. Thus the products could not be displayed in Japanese stores. The company still continues trial imports in anticipation of future improvements in the quality of products.

47. The third company imported fresh vegetables such as taro, cabbages, carrots, onions, and field peas. All were produced on a consignment basis. It is not a year-round import, but for the off seasons in Japan. Prices are not necessarily low. Transport infrastructure from the production site to the production depot, and to the shipping port has not developed. Besides, facilities such as freezers and refrigeration equipment in the stock yard are absent, which makes it difficult to maintain freshness. Cultivation techniques are still rudimentary, and products are liable to damages of blight and insects. Thus most of products readily available are not suitable to the Japanese market. Technical assistance services should be provided and new breeds and varieties be transformed.

48. From the above, the issues for improving vegetables from Viet Nam to Japan would be summarized into following points:

- (i) There is a lot of room to improve the product quality so as to meet the requirements of the Japanese market. Among others, these include the selection and promulgation of suitable species and breeds, and transfer of improved production techniques;
- (ii) Regarding transportation, infrastructure at different stages from producers to the Japanese market should be strengthened particularly to maintain freshness;
- (iii) Market channels should be streamlined so that producers and exporters are able to better respond to the needs of the Japanese market in obtaining the necessary information regarding the required conditions for exports; and
- (iv) Trading practices need to be established in a mutually understandable way. It is reported that contracts are sometimes not honored and renegotiation of the contracted conditions is required.

3-4 Summary and Recommendations

49. While subsistence and semi-subsistence agriculture is still dominant, the commercialization of agriculture has been expanding, and diversification of farming by introducing new crops, animal husbandry and aquaculture has been taking place. This process has also been supported by the changing consumption patterns of food, particularly in urban areas. Farming diversification must contribute to increased farm income and earnings in using available land, labor and capital more efficiently, to reduce environmental degradation and to improve the nutrition of farming families. Diversification together with intensification is the strategic direction of the development of the Vietnamese agriculture.

50. In proceeding with diversification at farm level, such constraints are conceived as: (a) poor land and irrigation conditions to grow a variety of crops; (b) lack of effective marketing system and transportation facilities; (c) shortage of credit including medium to long term loans; and (d) a less than satisfactory level of research and extension regarding farming systems suitable to local agro-ecological conditions need.

51. Since many crops and livestock integrated into the current farming systems are more profitable than rice, in some cases several times the gross income per unit of land, diversification of rice-based farming should be carried out so as to avoid a reduction in paddy/rice acreage and production.

52. When trying to raise the household income of small farms, farming diversification has a certain limit. Off-farm income should be sought through: (a) increasing employment opportunities in villages or communes by introducing processing and other agro-based industries; and (b) to further create employment opportunities in the vicinity areas.

53. Diversification of agriculture is also initiated and developed by export of such agricultural commodities as coffee, rubber, tea and vegetables. While coffee production as well as exports have rapidly increased in exploring new markets since 1991, the future

prospect of the world market is not completely optimistic. The current high price may not last for long, as the market overall is saturated. The international coffee agreement has been left inactive. Fast growing markets for coffee like Japan and Republic of Korea prefer the high quality arabica beans. Quality control together with an increase in arabica production are crucial to maintain the export momentum of Vietnamese coffee.

54. The prospects for rubber are brighter as demand for natural rubber from the tire manufacturing industry has been increasing and will continue to increase. As Viet Nam is a new entrant to the world market, quality improvement and establishment of its reputation are highly necessary. In this regard, the direction pursued by the national rubber corporation GERUCO is correct, in which production of "technically specified rubber (TSR)" is promoted. With better quality and a strong reputation, the future of rubber exports is promising.

55. Though Viet Nam is a traditional tea exporting country, in view of the saturated world market, the future prospects for tea exports are not bright. Prices are unstable and remain low. Promotional marketing should be vigorously carried out for exploring and expanding foreign markets. Trial exports to Japan are still in small quantities.

56. Finally, vegetable exports to Japan (either fresh and semi-processed) are so far limited due to the unique nature of the Japanese market which requires specific quality, shape, colour, size, taste and delivery timing. Considerable efforts are needed on both the Japanese and Vietnamese sides in order to penetrate the market, which include: (a) to establish effective marketing channels and information systems; (b) to improve transportation infrastructure such as rural roads, storage and transportation facilities; and (c) to enhance research and development in related areas including processing.

Chapter 4. Farmer Organizations

1. Although there are several kinds of farmers organizations currently Viet Nam, the discussion in this chapter is concentrated on agricultural cooperatives and small group activities. The reason is, needless to say, the importance of farmers' economic organizations in the market economy. It should be kept in mind, however, other farmers organizations such as farmers' association, people's credit funds, women's union, and VACVINA are also important not only in social and political aspects but also in economic aspect. The role of People's Credit Funds and indigenous credit groups are increasingly important, but they will be dealt with in the next chapter due to their nature.

4-1. Short Review of Cooperatives before Resolution No.10

2. The role of cooperatives have changed totally after the promulgation of Resolution No.10 in 1988. Although this report mainly deals with the present situation of cooperatives and their future prospects, it should be worthwhile to briefly review the history of agricultural cooperatives.

3. It took several yeas after the promulgation of the land reform law for cooperatization of agricultural production in the northern Viet Nam to start. The first stage of cooperatization was the establishment of assistant teams of farmers and then proceeded to low grade agricultural production cooperatives which are based on the principle of voluntary participation, mutual benefit and democratic management. Farmers were still the owners of the land, and they could enjoy the fruits of any production increases. It is reported that this type of cooperatization served as a driving force for the promotion of agriculture¹⁾. Socialistic thoughts at that time and the need for procuring food for soldiers during the wartime led to the further collectivization of agriculture, namely to high grade agricultural production cooperatives (hereafter referred to as "old cooperatives"), though shortcomings of such collectivization became apparent shortly after its introduction. With their land collectivized and almost all production activities managed by agricultural cooperatives, farmers felt themselves to be employees of the cooperatives and had no incentive to increase production, which led to the stagnation of agricultural production.

4. After the liberation of south Viet Nam, Government tried to introduce there the same cooperative system as in the north. But cooperatives and production groups, which corresponded to the low grade cooperatives in the north, faced severe difficulties and most of them dissolved immediately after their establishment.

5. In 1981, Directive No.10 of the Central Party Secretariat was issued and a farm household contract system was introduced. In this manner some part of production processes was transferred to individual households, but the major part was still managed by

¹⁾ Dr. Nguyen Sinh Cuc, 'Viet Nam's Agriculture over the Past 50 Years' in "Agriculture of Viet Nam 1945-1995" p.69.

cooperatives. Stagnation of agricultural production in 1986 and 1987 finally pushed the government to change their policy as to the role of cooperatives.

6. The lessons learned from the past experience of cooperatization is that individual farm households are the suitable unit for agricultural production, and that economic incentive is the essential factor driving farmers to production increase. Thus Resolution No.10 of the Politburo was promulgated in 1988.

4-2. Present Situation of Cooperatives and Production Groups

Effect of policy changes on cooperatives and production groups

7. Resolution No.10 proclaimed farm households to be the basic production unit and the role of cooperatives to be a service provider to the farmer. Along with liberalization of commodity marketing and price mechanism, farm households adapted themselves vigorously to a market-oriented economy, which rapidly increased agricultural production. On the other hand, since the time the old cooperatives and production groups allotted land to individual households, they have been faced with serious difficulties. According to the survey conducted by MARD in 1993, out of 16,314 existing cooperatives only 2,870 (17.5%) cooperatives could succeed in adapting to their new role as service cooperatives. The remaining cooperatives are those of "partially reconstructed" cooperatives and "existing in name only" cooperatives comprising 41.7% and 40.8% respectively (Table IV-4-1).

8. Things are much worse for production groups. Compared with cooperatives, most of which still exist only in name, more than 90% of the production groups have dissolved between the years 1987 and 1994 (Table IV-4-2). Even among the existing production groups, "effectively reconstructed" production groups are less than 1% of the total and most of the production groups are not operating any more (Table IV-4-3). Thus in practice, production groups have almost totally disappeared.

Table IV-4-1 Reconstruction of Cooperatives as of the End of 1992

Region	Total Number	Effectively Reconstructed		Partially Reconstructed		Exist in Name Only	
		No. of Coops	%	No. of Coops	%	No. of Coops	%
Whole Country	16,341	2,870	17.5	6,821	41.7	6,650	40.8
Northern Hill	7,645	921	12.0	2,990	39.1	3,734	48.8
Red River Delta	2,509	810	32.2	1,160	46.2	539	21.4
Former 4th Division	4,255	689	16.1	1,862	43.7	1,704	40.0
Central Coastal	937	283	30.2	447	47.7	207	22.1
Central Highland	325	70	20.0	133	39.0	122	41.0
Eastern South	437	70	16.0	169	38.6	198	45.3
Mekong Delta	233	27	11.5	60	25.7	146	62.6

Source: Ministry of Agriculture and Rural Development, 1993

Table IV-4-2 Changes in the Number Of Cooperatives And Production Groups

Region	Cooperatives				Production Groups			Remarks	
	1987	Increase		Decrease by dissolution	1994	1987	dissolution		1994
		Separation	Newly Established						
North Highlands	7724	1554		1743	7535				Hoa Binh
Red River Delta	2768			259	2509				
Former 4th Division	3673	582			4255				
Central Coast	1284	15		43	1256	915	893	22	
Central Highlands	509	20		132	397	1863	1582	281	
Eastern South	534			484	50	3851	3841	10	
Mekong Delta	530		8	297	241	29723	27488	2235	
Total	17022	2171	8	2958	16243	36352	33804	2548	

Source: Ministry of Agriculture and Rural Development

**Table IV-4-3 Reconstruction of Production Groups
in Selected Provinces as of the End of 1992**

Province	Total Number	Effectively Reconstructed		Partially Reconstructed		Exist in Name Only	
		No.	%	No.	%	No.	%
Total	6,472	41	0.6	575	8.9	5,856	90.5
Ben Tre	1,657			15	0.9	1,642	99.1
Dong Thap	951	5	0.5	78	8.2	868	91.3
Vinh Long	236			38	16.1	198	83.9
Soc Trang	2,834	28	1.0	92	3.2	2,714	95.8
Kien Giang	260			260	100.0		
Dong Nai	100	8	8.0	10	10.0	82	82.0
Ninh Thuan	37			37	100.0		
Binh Dinh	94			4	4.2	90	95.7
Phu Yen	22			4	18.2	18	81.8
Gia Lai	281			37	13.2	244	86.8

Source: Ministry of Agriculture and Rural Development, 1993

Activities of the existing cooperatives

9. Before describing the activities of existing cooperatives, it is worthwhile to look into the regional characteristics of the existing cooperatives (Table IV-4-1). The regions with a high ratio of "effectively reconstructed" cooperatives are Red River Delta and Central Coast. These are the areas where farmers are relatively homogeneous, and their lands are generally very small. In these areas individual farmers are too small to manage irrigation systems by themselves, hence they should be managed by cooperatives.

10. On the other hand, the cooperatives "existing in name only" are concentrated in North Highland, Former 4th Division, Central Highlands, Eastern South and Mekong Delta. These are the places where irrigation systems managed by cooperatives have not developed, or their role in irrigation activities were minimal. It seems that whether cooperatives have survived changes in circumstances after Resolution No.10 largely depends on the extent of irrigation system in which each cooperative has been involved. This is underlined by a survey regarding activities carried out the existing cooperatives. As shown in Table IV-4-4 cooperatives categorized in the "middle" quality, comprising 40% of the total, mainly provide irrigation services. The irrigation service is popular among the basic services provided by the existing cooperatives because most of the irrigation facilities have been built and managed by cooperatives and this cannot be easily divided and allocated among farmers unlike other equipment.

Table IV-4-4 Activity of Cooperatives by Category

category	ratio(%)	activities
"good"	15.5	provide necessary services to farmers
"middle"	40.4	mainly engaged in providing irrigation
"bad"	43.3	no economic activities

Source: Ministry of Agriculture and Rural Development, 1993

11. It is however reported that where cooperatives have no function any more, the commune authorities take care of irrigation. Cooperatives are not necessarily the sole institution to take care of irrigation facilities. According to the result of the farm household survey jointly conducted in this study which look into three villages respectively in the Red River Delta, Central Highland and Mekong Delta more than half of the farmers of the village in Red River Delta feel no special need for a cooperative, although irrigation service within the commune territory is managed by cooperatives and farmers contribute substantially to the cooperatives by both labor and paddy (Table IV-4-5). In this commune it was reported that responsibility for road construction which used to be managed by cooperatives was transferred to the commune. Considering that a majority of farmers does not feel the need for cooperatives, it may be possible that even the irrigation activity will be transferred to the commune, or any other efficient groups in either the private or public sector.

12. Although many cooperatives are engaged in irrigation activities, cooperatives are not the sole institution capable of managing irrigation. Farmers increasingly feel that services of cooperatives are insufficient and costly. Unless the existing cooperatives become more efficient service providers, they may be deprived of irrigation activity and be dissolved. On the other hand, some cooperatives, though their number is limited, have succeeded in transforming themselves into new cooperatives as service providers. According to a survey of 41 cooperatives conducted by Ministry of Agriculture and Rural Development, the range of their activities and satisfaction of the members' demand to the services are shown in Table IV-4-6.

Table IV-4-5. Farmers' Needs for Cooperative

Province	indispensable	no special needs	no particular opinion	NA	Others
Thai Binh	26.0 %	52.0 %	6.0 %	16.0 %	0.0 %
Dac Lac	68.0 %	6.0 %	24.0 %	0.0 %	2.0 %
Can Tho	60.0 %	8.0 %	32.0 %	0.0 %	0.0 %

Source: Farm Household Survey

Note: The number of the surveyed farm households is 50 in each province / commune

Table IV-4-6 Activities of Cooperatives and Degree of Satisfaction by Farmers

(%)

Activity	"Good" coop	"Middle" coop	"Bad" coop
1. Rice Seed Supply	12.8	24.5	2.9
2. Fertilizer Supply	35.6	15.9	7.9
3. Plant Protection	70.6	39.1	12.2
4. Veterinary	53.3	82.6	39.6
5. Irrigation	95.8	98.3	60.9
6. Credit	20.2	14.2	0.0
7. Land Preparation	32.8	48.0	2.4
8. Marketing	21.5	0.5	0.0

Source: Ministry of Agriculture and Rural Development

Note: The percentage is the ratio the number of cooperatives which provides the respective services as compared to demand of members.

13. As discussed, irrigation is the key activity of cooperatives in all categories. "Good" cooperatives, in addition to irrigation, provide other services like fertilizer supply, plant protection, and veterinary service. Activities of "good" cooperatives compared with other cooperatives are particularly significant in covering marketing of agricultural products. "Good" cooperatives thus support farmers their production activities at various stages.

Increase in small group activities

14. A remarkable phenomenon concerning collective activities of farmers after the promulgation of Resolution No.10 is the sudden appearance and increase in farmers' small groups in various forms. Since many of them are unregistered, the exact magnitude of their activities is not well known. It is reported that the number of such groups amounts to some 40,000 though the information is a little old. By making a group, farmers can obtain merits which is hard to obtain by individual small farm households. With promulgation of Resolution No.10 and the successive policies, farm households became an autonomous economic unit and they were given incentives to pursue their own economic interests. This

policy change has led to the stagnation or even dissolution of many cooperatives. Many individual farmers, however, are too small and vulnerable to take advantage of the market economy. This is the reason why farmers need a new type of collective forms to adapt themselves to the new economic circumstances.

15. According to the farm survey mentioned above in which only 31 groups were surveyed, the average size of group is 18 members ranging from 3 to 86. Their activities include: (a) joint irrigation network; (b) joint liability groups to get access to bank credit; (c) group in the same profession like gardening association, shrimp rearing group; (d) exchange for labor or machine; and (e) joint marketing of farm products and, purchasing of inputs. Also in the survey, indigenous mutual financing groups called usually "ho" were identified in almost every place as an important farmers organization.

16. Although the organizational structure and the nature of these group activities need to be further studied, the groups are voluntarily organized for mutual help in pursuing the economic interests of members. Formation and increase in these groups are highly positive, since they certainly contribute to the economic improvement involving many small farm households which are otherwise not likely to benefit from the competitive market economy. Though their activities are sometimes supported by the government and local authorities, they need better conditions and more support, if they are to be further encouraged.

4-3. The Role and Significance of Agricultural Cooperatives in the Present Viet Nam

17. Although most of the cooperatives are yet to find their activities, their future role in the market economy is considered significant. Roles and the significance of new agricultural cooperatives in the present and future Viet Nam are indicated in the following five aspects.

18. Realization of the scale economy. Theoretically, the main expected role and the foundation of the cooperative is to realize economies of scale through organizing small farmers. Individual farmers are often too small to introduce profitable production technology, investment and inputs. Through organizing they can also obtain stronger bargaining power in the market. Such benefits include access to institutional credit on better terms, obtaining market information, sharing machine which individual farmers cannot afford to buy, purchases of production inputs of a lower price, and marketing of farm products at higher prices. As already seen, a number of small groups are being formed at present in the Vietnamese rural society with the aim of realizing these advantages.

19. Construction and management of infrastructure. Construction and management of rural infrastructure like irrigation, drainage facilities and farm roads are not necessarily the tasks of cooperatives. Many cooperatives in Viet Nam, however, are engaged in this type of work which can be transferred to local authorities like people's committees, or in case they do not exist, other rural institutions.

20. The cooperatives can also be an active economic promoter in rural society. For example, it can exploit a new market for farm products. One such case was observed in the farm household survey in Hai Hung Province. The cooperative which we visited makes contract with farmers and collects the farm products (cucumbers), then sells them to an export trader whose office is in a nearby town. The farm products thus collected by cooperatives are after simple processing exported to Taiwan and Japan. This is a case which shows that a cooperative acts as the catalyst for introducing new economic activities instrumental in the development of rural economy.

21. Minimizing the income gap among the rural population. One of the principles of cooperatives is mutual help. This is an important feature of the cooperatives in the present Viet Nam, since the widening gap between the rich and the poor is of growing concern. In paying special attention to the vulnerable sectors in the community, cooperatives can help them, for instance, to help introduce profitable activities like vegetable growing, livestock rearing (Vegetables, Aquaculture and Cattle Shed System), or help get loans from the banks. Such functions of cooperatives should be effective when cooperatives are formed on the basis of strong community consciousness and where the community is organized on mutual-help and self-rule principles.

22. As a partner of the government and other institutions in implementing policies and programmes. Cooperatives can be a good partner of the government or other institutions like national and international aid organizations to carry out socio-economic programmes for the members. Programmes such as introduction of new production methods, construction of infrastructure and poverty alleviation programs will be appreciated by the cooperative members. Excessive intervention and financial support to the cooperatives, however, may make the cooperatives to be a passive beneficiaries and deprive their autonomy.

4-4. Constraints to the Re-establishment of Cooperatives

23. Agricultural cooperatives in the market economy have enormous potential in both economic development and minimizing social problems. Such potential, however, has not been fully exploited. Major constraints to the development of cooperatives are explained in the following seven paragraphs.

24. Lack of legal status of cooperatives. One of the major obstacles to the development of cooperatives is the lack of a legal framework for the cooperatives. Having no legal status, the nature and role of cooperatives are not clearly understood by the rural population. Certainly the enactment of the Cooperative Law in March 1996 is instrumental in the development of cooperatives. This Law is the basic law governing all kinds of cooperatives, thus requires by-laws to define specific roles and features relating to individual types of cooperatives like agricultural cooperatives. In fact, a by-law of the model statute of agricultural cooperatives is being enacted.

25. Negative image of the rural population regarding cooperatives. Due to the past negative experiences with cooperatives, many rural people have lost confidence in agricultural cooperatives. Such negative images among farmers are likely to hinder the re-establishment of cooperatives.

26. Lack of management ability. According to the survey, the education level of management staff in cooperatives is relatively high. On average 30% of staff graduated high school, and nearly a half have a secondary school degree. Cooperatives, however, did not provide necessary training to the staff. The percentage of the trained staff since the One such case, process started is as low as 17%.

27. Financial problem. Many cooperatives are facing serious financial problems. Cooperatives have to collect water fees and other fees relating to cooperatives. Such fees, however, are not enough to start new activities by the cooperatives. The biggest financial problem is the huge debts owed mainly to state institutions and repayment arrears by cooperative members. Thus, cooperatives should collect these arrears from debtors while liquidate the debts. It is reported, however, that more than 40% of total members have debts to cooperatives but many of them have neither the capacity nor the willingness to repay. Settlement of this financial problem is the prerequisite for facilitating the re-establishment process of cooperatives and starting new activities.

28. Competition with the private sector. Following the liberalization of price and commodity markets initiated by Resolution No.10 and the successive policies, the private sector including traders and processors have become very active in rural areas. The private sector as a whole should not be regarded as an evil player in the market, instead it often promotes economic development by providing facilities in response to farmers' demand timely and adequately. Money lenders provide loans without collateral and formal documents, and traders visit farmers to sell and buy commodities. Cooperatives in the market economy assume a role of protecting small farmers from exploitation by the private sector. In order to play this role in competing with the private sector, cooperatives need to become efficient taking full advantage of grouping. On the other hand the illegal and unscrupulous activities of the private sector must be strictly prohibited, and this will ensure fair competition between the private sector and cooperatives.

29. Agricultural cooperatives versus credit cooperatives. Agricultural cooperatives and credit cooperatives are separate institutions. It means that a farmer must become a member of more than one cooperative to enjoy services from the cooperatives, and must pay shares of and other fees to the respective cooperatives. This disadvantage of separation can be understood comparing to a private trader who provides a farmer with agricultural inputs on credit with technical advises, and buys farm products after harvest and then settles the credit. All the services are provided often by a trader. It is true that in many cases agricultural cooperatives give guarantees to their members and thus facilitate their borrowing from the VBA. Also there are many cases where cooperatives supply farmers with fertilizer on credit, some even providing loans from their own funds. This benefit of integrated services can be facilitated if an agricultural cooperative and a credit cooperative are combined, or alternatively an agricultural cooperative begins credit operation as well. Such multi-purpose cooperatives are not only convenient for farmers, but also provide a stable financial base for agricultural cooperatives. Even where there are not multi-purpose cooperatives, close cooperation between concerned service institutions must be maintained in order to better meet farmers' needs.

30. Lack of cooperative federations. Although individual cooperatives are the autonomous units, a federation of cooperatives or an apex organization will be helpful in enhancing the cooperative movement. Lack of a federation or apex organization at present causes disadvantages for cooperative members in providing information, guidance and training opportunities.

4-5. Experiences of Cooperative Development in Asian Countries

31. Several cases of development of agricultural cooperatives are presented in Appendix 1 of this Report. They include:

- (i) The development of farmer organizations in China, specifically after the communes were dissolved;
- (ii) Saemaul Movement in the Republic of Korea in connection with agricultural cooperatives;
- (iii) Small farmer groups in Japan; and
- (iv) Cases of agricultural cooperatives incorporating credit activities.

32. The intention is not to draw comprehensive conclusions in conducting a comparative study, instead it is simply a description of several topics relating to agricultural cooperatives in Asian countries. However a few observations may be derived. First, needless to say, an agricultural cooperative, as an entity for achieving the economic welfare of its members, is nothing but a product of the socio-economic development of a country based on historical and cultural backgrounds. It is neither feasible nor meaningful therefore to directly apply the case of one country to another. One can only learn useful lessons from the experiences of other countries, taking the conditions and causes which bring out the particular characteristics of each farmer organization or cooperative into account. For instance, the reason why agricultural cooperatives have not developed in the rural Thailand is often attributed to the rural structure based on a loose and open society as well as the relationships among rural people. These phenomena may be affected by the abundant availability of farm land at least until the 70's.

33. Secondly, whatever the social structures of rural areas, and government policy for the development of agricultural cooperatives are, it is farmers who initiate, organize, manage and operate an organization such as agricultural cooperatives. Any cooperative which ignores farmers' needs and demands cannot survive and develop. In this connection, the effectiveness of small farmers' activities at the grassroots level should be emphasized. In fact, with the membership based on a coherent and small group, the participatory approach is ensured. A cooperative can be organized and expanded with these small groups as cores.

4-6. Summary and Recommendations

34. After the renovation policy was implemented, the status and role in a market-oriented economy of agricultural cooperatives changed. Individual farm households became the autonomous and basic production unit of agriculture. While old cooperatives and production groups endeavored to adapt themselves to the economic situation, they faced difficulties. As a result many cooperatives and production groups dissolved, or even after being reconstructed, ceased to function.

35. There are regional differences in the process of re-establishment of the agricultural cooperatives. In general, those in the Red River delta in Central Coast have a high ratio of being "effectively reconstructed", while in the Mekong River Delta, North Highland, Former Fourth Division and Central Highlands, many cooperatives, though reconstructed, "exist in name alone". Irrigation services are common among the basic services provided by the existing cooperatives. According to the farm household survey conducted under this study, those cooperatives meeting the needs of local farmers are functioning well, irrespective to the above regional differences.

36. A remarkable phenomenon in rural areas is an increase in various forms of small farmer groups. Although the details are not fully known, these groups are voluntary and spontaneously formed by farmers for mutual assistance in pursuing mainly the economic interest of members.

37. The role of cooperatives in a market economy is to provide the member farmers necessary services which they cannot get as individual farmers. Furthermore, community based cooperatives are, to a certain extent, expected to help shrink the income and development gaps among farmers by assisting the disadvantaged people in the community. These advantages and roles of agricultural cooperatives, however, are yet to be fully exploited. Cooperatives in Viet Nam are facing difficulties which cooperatives in other Asian countries, in the process of their development, have faced and resolved. Review of the experiences of other Asian countries will provide useful lessons and suggestions to overcome the difficulties.

38. One of the important conditions to encourage and build effective agricultural cooperatives is the arrangement of the legal status and framework. In this regard, the enactment of the Cooperative Law in March 1996 is a landmark step. The government is currently preparing by-laws for individual areas including a model statute for agricultural cooperatives. These legal and administrative arrangements are expanded to stimulate as well as facilitate the organization of agricultural cooperatives in new circumstances.

39. The government needs to provide information to farmers regarding the benefits and advantages of new cooperatives. By understanding these benefits, the rural population is willing to rebuild and join new cooperatives. Active participation and democratic management based on an understanding of the cooperative's role is the key to a successful cooperative movement.

40. Lack of funds caused by accumulated debt is one obstacle to reconstructing old cooperatives and starting new ones. Many cooperatives have debts to state institutions, and overdue loans to members. Settlement of these problems will enable cooperatives to resume borrowing from banks and restart activities. The members who borrowed loans from cooperatives must repay them so that the cooperatives can clear their liabilities to government agencies, banks and other institutions. There may be several options of settling the problem. If it is impossible to collect the farmer's debts, liabilities to government institutions would be partially written off or repaid by long-term installments at low interest rates.

41. As a cooperative is generally built on a community basis, its members encompass a wide range of the community including the rich and the poor. If the community wishes, even non-farm households can be members, and activities of these cooperatives would not be limited to economic interests but also the common interest of the whole community such as poverty alleviation and infrastructure building. This type of cooperative can be developed where the social structure is coherent and egalitarian. The northern delta and central coast areas seem particularly suited to this type of cooperative. To encourage them, the minimum obligatory share of each member should not be excessively large so that a majority of the population can participate. The cooperatives capital can be accumulated gradually by transferring the profit from service activities to the members' shares and own funds. It is reported that some cooperatives are too big in size to take full advantage of community solidarity. These cooperatives would be better divided into a village or hamlet size.

42. In the present administrative framework, agricultural cooperatives and credit cooperatives (People's Credit Funds) are supervised by different administrations, namely the Ministry of Agriculture and Rural Development (MARD), and Ministry of Finance (MOF), respectively. Establishment of a multi-purpose cooperative including credit services therefore requires a certain administrative rearrangement. The advantages of a multi-purpose cooperative, though it varies by country and region, should be examined. In this connection, the cases of other Asian countries presented in Appendix 1 should provide useful reference.

43. Regional and national federations are to be established in parallel with the development of the new cooperatives. Cooperatives should take the initiative to do this. The government, for its part, would provide favorable conditions to help the establishment. The role of federations is to provide information, guidance, audits of cooperative management, and training.

44. Small groups in rural Viet Nam are strong promoters of the development of cooperatives. Even in the future, these small groups may remain a major form of farmers' economic organizations. Therefore, a legal framework and preferential conditions should be provided in order to encourage their activities. One way to encourage their activities would be to give them a legal status as a semi-cooperative at their choice, so that they are eligible for preferential conditions, are able to get credit from banks and to make contracts with cooperatives or other institutions.

45. Agricultural cooperatives have enormous potential as economic organizations. Their goals are not only to provide economic services to a certain portion of the community, but also to support economic activities of the vulnerable part of the community and thus help to shrink the gap between the rich and the poor. Furthermore, many cooperatives, especially in the north delta area, are engaged in semi-public activities like irrigation services and road construction/management at present. The government has plans to support these cooperatives by offering preferential treatment such as tax exemptions and a priority credit. Part of the land tax will be returned to local authorities for the purpose of developing rural cooperatives. These supports to the cooperatives by the government are welcomed so long as they enhance the development of autonomous and democratically managed cooperatives. In view of the past and present experiences of agricultural development in Viet Nam, it is clear that no economic entity can work effectively, if it lacks autonomy and its own initiatives. The utmost advantage of cooperatives exists in mobilizing members for their own benefit in a participatory manner. The government support to cooperatives therefore must be carefully examined lest it should discourage the autonomy of cooperatives and voluntary participation of the rural population.

Chapter 5. Rural Credit

5-1 Restructuring of the Rural Credit Systems After the Renovation¹⁾

1. In the foregoing Chapters 1 and 2, it was indicated that capital investment is one of the most important elements to the future development of the Vietnamese agriculture to increase the production through the intensification, to improve farm incomes through diversification and to expand exports of agricultural products. The previous Chapter 4 further stresses that rural resource mobilization and credit provision would be best realized as farmers organize themselves and help each other. This Chapter aims at reviewing the changes and restructuring of the rural credit system in Vietnam after the renovation and identifying areas of further improvement so that the system could best serve the agricultural and rural development.

2. The changes as directed by the Instruction No. 10 in 1988 have liberated farm households and thrust them into a market-oriented economy. As old institutions collapsed or disintegrated, a new institutional framework was required for the rural economy which had no financial markets, no market for agricultural products, no legal framework and no effective farmer organizations suitable to the new conditions. The reconstruction of the rural credit system was thus one of the urgent matters in the renovation process.

3. The previous system of rural credit was mainly comprised by the State Agricultural Bank, savings and credit cooperatives and informal agents. In short the State Agricultural Bank provided long-term and short-term credit to state and collective economic sectors. Sources of funds were limited to the state budget and those mobilized from deposits. Credit cooperatives depended on political favors, obtained most of their resources from the State Bank, and lacked their own initiative.

4. After 1988, the rural credit system was reconstructed to respond to the overall objectives of the agricultural and rural development such as the increase in agricultural production, promotion of commercial production and marketing and the improvement farmers' living standard. Various credit activities and entities were created to this end. The following paragraphs discuss the developments, current situation and issues facing main financial institutions.

5-2 Main Institutions Providing Rural Credit

The Vietnam Bank for Agriculture

5. The first and utmost step was the reorganization of the former Agricultural Bank of Vietnam to a state commercial bank, fully autonomous and commercially based. It shifted

¹⁾ Description of this chapter owe very much to the paper by Dr. Dan Tho Xuong, "Actual situation of Rural Credit System of Vietnam Before Renovation and in the Present Period", a consigned work in this study.

its main clients from state enterprises and cooperatives to individual farms households, revised the interest structure, and diversified the equity among different economic entities.

6. The Bank, established in 1990, has grown rapidly to become one of the largest state-owned commercial banks. Total outstanding loans have increased from VND 3,338 billion at the end of 1990 to VND 16,711 billion at the end of August 1995. Individual production households out of total outstanding loans have also increased from none in 1990, 19% in 1991, 39% in 1992, 62% in 1993, 81% in 1994 to 78% at the end of August 1995, the remaining being lent to the state sector and cooperatives. The Bank now virtually serves the whole country with 2,546 branches employing approximately 21,000 staff and with total assets of VND 16,711 billion. Direct lending to the clientele is the main operation, but the Bank also makes indirect lendings through financial intermediaries such as cooperatives, state farms, rural share holding banks. Initial losses in the operations have turned into profits from 1993 (Table IV-5-1).

Table IV-5-1 Major Indicators of Vietnam Bank for Agriculture for the Period from 1990 to August, 1995

Unit : Billion VND

INDICATORS	1990	1991	1992	1993	1994	31/8/1995
A LIABILITIES :	3,338	4,060	5,122	7,708	11,918	16,711
I Own capital	200	200	200	509	816	935
Statutory capital	200	200	200	200	455	503
II Mobilizations :	1,079	1,456	2,458	3,712	5,766	9,532
1 Demand	216	291	578	1,453	1,450	1,683
2 Time	863	1,165	1,880	2,259	4,316	7,849
III Borrowings :	1,285	2,080	2,094	2,500	3,442	2,963
From the State Bank of Vietnam	1,281	2,074	2,031	2,240	2,533	1,486
IV Trust fund :	0	0	32	784	829	1,054
V Other liabilities :	774	324	338	203	1,145	2,227
B ASSETS :	3,338	4,060	5,122	7,708	11,998	16,711
I Total outstanding loans :	1,516	2,880	4,106	6,587	8,752	12,565
1 Short - Term :	1,410	2,474	3,896	5,430	6,852	9,890
of which for the production households	0	394	1,539	3,371	5,624	7,898
2 Medium - term :	106	133	210	1,157	1,900	2,675
of which for the production households	0	8	65	731	1,441	1,988
II Reserve for payment	688	335	533	754	1,145	2,256
Compulsory Reserves	58	27	213	203	209	403
III Other assets :	1,134	845	483	367	2,101	1,890
C OTHER INDICATORS :						
1 Total staff	31,223	27,694	22,791	20,908	20,907	20,911
2 Number of branches	434				2,546	2,546
3 Financial result :						
Loss		82	52			
Profit				2.7	23	35

Source : Viet Nam Bank for Agriculture

7. The Bank is looking forward to further expanding its operations in response to the changing and increasing demand from the agricultural and rural sector. The following points call for particular attention:

- (i) It needs to improve the access of farmers to the bank activities. Currently it has reportedly reached 50 - 60% of farm households, presumably the relatively better-off.
- (ii) With the commercialization and diversification of agriculture, the Bank needs to respond to the credit demand from emerging sub-sectors such as agro-processing, industrial crops, animal husbandry and horticulture. These areas particularly require medium and long-term loans. The food crops and other sub-sectors also need these loans. At present the share of medium and long term loans of the total outstanding was only 21% as of end of August 1995.
- (iii) The fund source needs to be further diversified. Other than increasing money deposits from individual households, other sources should be exploited. This requires conditions such as higher deposit rates accompanied by low inflation rates.
- (iv) Staff capability should be enhanced so that they can respond to diversified farmers' activities, agro-related industries and increase their operational efficiency.

8. VBA as the leading financial institution in the rural credit system has a responsibility to respond to the challenges arising from the changes and development of the agricultural sector. At the same time it would be appropriate to demarcate itself from other several institutions according to their objectives, clients and specific functions.

Credit Cooperatives and the People's Credit Funds (PCFs)

9. After 1989, many credit cooperatives were dissolved or ceased functioning. At the end of 1994, there were 88 reorganized credit cooperatives of which 19 cooperatives joined the PCFs and the remaining 69 were functioning in 18 provinces and cities. These cooperatives altogether extended loans amounting to VND 14,641 million outstanding as of 31 December 1994 against VND 15,217 million of liabilities including VND 12,919 million of member deposits. The size of operations and the membership of credit cooperatives are thus small compared with other institutional financial institutions.

10. In July 1993, the government established, on an experimental basis, the People's Credit Funds. The aim of the Funds was to assist farmers and other members to mobilize funds and to provide loans for production purposes following the cooperative model. The Funds are composed of three tiers - at the commune, provincial and central levels. At least 12 members are required to establish a PCF at commune level. The operations are supported by the People's Committee of communes.

11. Since their establishment, PCFs have quickly expanded and at the end of 1995 they were operating in 565 communes, and 5 provincial and one central units were set up. Their total liabilities were VND 448 billion, mobilized funds from the members amounting to VND 272 billion with a minimal borrowing from the State Bank. PCFs' loans stood at VND 385 billion, and the membership 240,000. The cooperative model is still being tested, but it demonstrates an effectiveness in mobilizing rural savings, facilitating the access of members to

credit. So far PCFs have given only short term loans, and in principle individual borrowers are responsible for collateral. With their rapid expansion, staff and other administrative capacity have become constraints to the PCFs' operations and their improvement is urgently called for.

12. As the Law of Cooperatives is enforced, PFCs are entitled to become cooperatives. While the immediate merger with existing credit cooperatives is not envisaged (since both systems are operated in the same principles and objectives), linking both systems should strengthen each other. In the future, the possibility of merging the two may be considered.

Rural Share Holding Banks

13. After 1990 several rural share holding banks (sometimes called rural corporate banks) were formed. As of end of April 1994, 16 banks were reported in operation mostly in the south. Their funds are mobilized from member's shares, savings of non-members and borrowing from the State Bank. The total capital resources were VND 44 billion against which VND 40 billion was lent. While an advantage of the share holding banks is their lendings through joint liability groups, making it possible for poor farmers to receive loans²⁾, their functions in size and coverage are highly limited in the rural credit system.

Special Credit Programmes and the Vietnam Bank for the Poor (VBP)

14. Since 1992, the government has established many programmes providing financial support for rural people and activities. They include the Programme for Job Creation in Rural Areas (established in 1994 with the fund of VND 300 billion); and Programme for Greening Bare Land and Bald Hills (VND 150 billion per year). These special programme are usually established by resolutions, have specific objectives and target area or people, charge no or minimal rates of interest, and are managed in various ways depending on the sources of funds and objectives of programmes.

15. Besides the above special credit programmes supported and funded by the government, many other credit schemes funded by bilateral and multi-lateral sources, and non-governmental organizations (NGOs) including Farmers' Association and Women's Union, have been established. The total amount of external funds (all sectors on a disbursement basis) was estimated to amount to US\$ 400 million in 1994 and a cumulative amount of US\$ 1,619 million for 1990 - 1994. These special programme funds are often channeled through financial institutions.

The Vietnam Bank for the Poor (VBP)

16. The government has been keen to channel funds to the rural poor and for this purpose several special programmes were tested and operated. Since April 1995, with its own fund and the borrowing from a few state institutions, VBA operated a programme named "the Fund for Favorable Loans for the Poor (Fund for the Poor)". This project was institutionalized as the Vietnam Bank for the Poor (VBP) in December 1995 with an initial capital of VND 500 billion. It aims at providing credit funds for the poor on preferential terms to alleviate rural poverty. Funds are mobilized from internal and external organizations and individuals.

²⁾ SIDA, Survey on Rural Credit in Vietnam, August 1992.

17. Although the detailed lending policies and criteria are yet to be determined at the time this report was prepared, VBP has started functioning in succeeding the operations of the preceding fund for the poor. Main features of VBP operations are as follows:

- (i) To follow the group lending consisting of 12 members. Joint liability is the norm. Individual households are the lending units;
- (ii) Only "the poor" are eligible for loans. The actual borrowers are selected and determined by the community in consultation with local farmer organizations among those defined by the MOLISA (Ministry of Labor, Invalids and War Veterans), e.g., 15 kg rice equivalent per month per person in 1995;
- (iii) Activities requiring loans should relate to production. Since all the poor are expected, though tiny, a land use rights, landless is not subject to loans. In fact, in case of the "Fund for the Poor" the two-thirds of loans were for livestock including aquaculture, 27% for inputs of crop cultivation, and the remaining 6% for others. The maximum amount of a loan is VND 3 million for 1 to 3 years' duration depending on the activity;
- (iv) At commune level, VBP entrusts VBA to disburse and collect loans to designated borrowers, while the former monitors and supervises the latter's operations. To give really well supervised loans is a pending issue; and
- (v) Interest rates would be favorable than the commercial rates. This could be achieved by mixing the funds from the State Bank (VND 300 billion with 0.9% per month, planned for 1996) with the government money (with no interest), plus other sources supposedly carrying the market rate.

18. VBP plans to reach the rural poor requiring these production loans, estimated 70 - 80% of the total poor numbering 3.2 million according to the MOLISA criteria. During 1996, it is expected to cover approximately one third of this targeted population.

19. Targeted and supervised loans for the poor is certainly a priority area in the rural credit system. Such a special scheme should be well targeted and be built to serve the targeted people. The establishment of the VBP is thus an encouraging step forwarding to this effect. One of the pending issues is to set up a supervisory mechanism at the grassroots including technical assistance to the group so as to make the scheme really serves the poor.

5-3 Non-Institutional Rural Credit and Savings

20. There are many non-institutional rural credit and savings modes. They are diversified, characterized by timely provision and simple procedures thus being accessible to many farmers, particularly those not covered by the institutional credit. Loans are given to farm households either in cash or in kind, secured with or without collateral. The loan size is also variable depending on the borrower's requirement. Loan terms and interest rates, if any, are negotiated and determined based on various factors such as borrower's confidence and neighborhood, but sometime usurious terms are applied.

21. There are no figures showing the dependability of farm households with respect to informal loans. According to a survey held in four provinces in 1992³⁾, 45.83% of farm households (or 36% of the interviewed households), who received a credit during the previous year, were provided with credit from the informal sector. It is reported that the recent developments in the rural credit system have started to reduce the dependence of farm households on informal credit,

22. There are several types of the informal credits:

- (i) Rotating savings and credit associations ("phuong ho"). Voluntarily set up by farmers, they are still common today. These groups could also serve as the background for forming other self-help groups. According to a survey⁴⁾, the mutual help funds account for 20% of the total funds of farm households. Sometimes they become more usurious in which case they are "hui ho".
- (ii) Rivate lenders. They include the normal "tontine"⁵⁾ under which loans are extended on the basis of mutual trust without any formalities and contracts. Conditions are negotiated. Loans are made against collateral e.g. mortgage of an asset. Thus a loan can be extended to strangers.
- (iii) Advances. This is often used by small traders, and input supply and marketing agencies. They advance inputs or cash to farmers and receive or buy the products at a prefixed negotiated rate or price at harvest.

23. In general, informal credit is small and simple which is suitable for small scale lendings. These forms of lending are common among farmers because the practices are simple, accessible to them, and available anytime thus filling the gap which formal or institutional lending cannot cover. On the other hand, informal credit sometimes carries high interest rates and other unfavorable conditions to borrowers.

5-4 An Evaluation of Performance of the Rural Credit System

24. Although the present institutional rural credit system has only been established since 1990, it has developed quickly and relatively efficiently, and responded to the new and increasing demand from farm households and other rural sector. The current system comprising of VBA, PCF, VBP and other special programmes can be regarded to work well in considering the short period since the restructuring. Indeed the credit extended through the system has contributed to production increase, diversification of agriculture, improvement of the life of rural households and job creation, at the same time reducing farmers reliance on informal credit. At present, these institutions are complementing each other with a broad demarcations among clientele. Table IV-5-2 shows the main features of four major credit institutions. Generally speaking VBA widely covers rural households though its clients are

³⁾ SIDA, Survey on Rural Credit of Vietnam, August 1992

⁴⁾ A survey made by the Policy Commission of Ministry of Agriculture and Food Industry in nine provinces in 1991

⁵⁾ A "tontine" refers to a modality of mutual savings and credit in which the annuity shared by subscribers to loan, while the shares increase as subscribers die till last survivor gets all.

likely to be above average in farm sizes and living standards. PCF/credit cooperatives are based on their participating members. VBP specifically targets the rural poor as defined by its criteria.

25. Regarding medium and long term loans, available amounts fall far short of what is needed. VBA's lendings can be made to these loans, while others mostly or exclusively for short term loans. As described in earlier sections, with intensification and diversification of agriculture, the demand for medium and long term loans increases. Such items as planting of perennial industrial trees, breeding of livestock, construction of aquaculture sites and on-farm irrigation works require medium to long term credit. Moreover rural agro-processing is needed to be developed as it creates added value to products and rural employment opportunities. It also requires longer term loans. Currently only 21% of the outstanding lending of VBA are medium term loans. Constraints for expansion, apart from the fund mobilization are the high interest rates of loans partially caused by a relatively high inflation rate.

26. In fact, the findings of the farm household survey conducted under this study (see Appendix 2 for details), as high as 79% of the surveyed farms replied the lack of capital (funds) as the biggest problem for continuing farming. This high proportion is common to all four surveyed locations. The main source of credit is VBA (44.7% of the surveyed farms), followed by other banks (7.3%), though considerable differences exist among the four locations. Among the problems for borrowing from VBA, however, complexity of the procedures comes at the top (nearly 60% of the responses were "highly difficult", "very difficult", and "fairly difficult"), followed by physical access (50.7%). On the other hand, high interest rates and lack of collateral are considered less problematic as 23.3% and 11.9% of farms respectively identified such as constraints to borrowing from VBA.

Table IV-5-2

Main Features of Rural Credit Institutions

	Vietnam Bank for Agriculture (VBA)	People's Credit Funds (PCF)	credit cooperatives	Vietnam Bank for the Poor (VBP) ^{a)}
clients	farm households, state enterprises, state farms	members	members	"poor" according to established criteria
number of borrowers	2 million number of loans bored by household for Jan. - Jun. 1993 ^{b)} 7 million (cumulative)	240,000	69 cooperatives	800,000 by end of 1996
lending modalities	1) direct through branches 2) indirect through other financial intermediates	direct through communes	direct	direct through VBA
lending terms	short, medium and long terms	short terms	short terms	1-3 years
collateral	required	required	---	not required
outstanding loans (VD billions)	12,365 (31/8/95)	385 (31/12/95)	15 (31/12/94)	500 (by end of 1996)
outreach	2,546 branches (31/8/95)	565 communes	69 cooperatives	41,422 groups (30/11/95)

Source: Information collected by the mission.

Notes: a) Some figures refer to those of the former Fund for the Poor.

b) Some borrowed farmers may take more than two loans in the period.

27. Savings mobilization remains one of the important issues facing the rural credit system. Of the total resources (liabilities in the balance sheet) of VBA, time deposits constitute nearly a half. Other institutions have a higher ratio, about 60% at the PFCs, and 85% in three credit cooperatives. On the other hand, according to other statistics, in 1993 only 7.4% of household savings were deposited with state-owned banks. An estimation made by the team led by Dr. Dang Xuong⁶⁾, the ratio of savings to the gross agricultural products (GAP) in rural areas was noticeably as high as 10% in recent years, which is used in the first place for construction of houses. This suggests a need for VBA to strengthen the effort to mobilize the rural savings for productive purposes. As the inflation rate has been falling, there is a sign that the savings propensity may be increasing. Savings mobilization in rural areas remains an issue for the rural credit system.

5-5 Summary and Recommendations

28. The rural credit system of Viet Nam has been fully re-established since 1990. The main institutions including the Vietnam Bank for Agriculture (VBA), People's Credit Funds (PCF) together with credit cooperatives, and special credit schemes are effectively functioning while complementing each other. As a result, the availability of short term loans appears to be meeting the demand of more than half of all farm households.

29. Due to the difficulty of access and a complex procedure, informal lending is still common in rural areas though its share and importance in rural credit seems to be declining. While informal lending may have some advantages, every effort should be made to replace it by a greater supply of and better access to rural lendings from institutional sources.

30. As intensification and diversification of agriculture further progresses, medium and long term loans will need to be increased and this should be provided by the institutional system on affordable terms while maintaining the financial viability and sustainability. In this connection, emphasis of lending should be placed on the emerging subsectors including agro-related processing which would lead to an increase in added value in agricultural production and rural employment generation.

31. Fund mobilization and mutual lending based on the cooperative principle has great potential and is needed in order that farmers take part in commercializing process of agriculture and to benefit from a market economy. To this effect, the People's Credit Funds is expected to play an increasing important role particularly as the Funds and farmer cooperatives have had the legal basis and there is little difference in objectives and modalities between the two institutions; and

32. Special credit schemes in preferential conditions for specified target groups like the Vietnam Bank for the Poor is much needed in filling gaps in the present rural credit system. The government should further strengthen such credit schemes particularly towards the rural poor institutionally as well as in funds available.

⁶⁾ Dr. Dang Tho Xuong, Continued Renovation of Vietnam Agricultural Bank to Help Rural Development in the Period of Industrialization, Paper submitted to the Hanoi Workshop, March 1996.

Experiences in Cooperative Development from Selected Cases in Asian Countries

1. Situation of Farmers Organizations since the Introduction of the Household Contract System in Rural China

During the renovation process in the late 70's, the People's Republic of China introduced the farm household contract system in place of the collective farming system in people's communes. Consequently each household became the production unit.

Collective support service organizations, however, deteriorated after the introduction of contract system. To cope with the problem, in 1983, the Communist Party announced a way to reconstruct cooperative organizations. It emphasized the importance of support services by the cooperative sector to farm households, while assuring farmers they could determine the cooperative size and elect the managerial board.

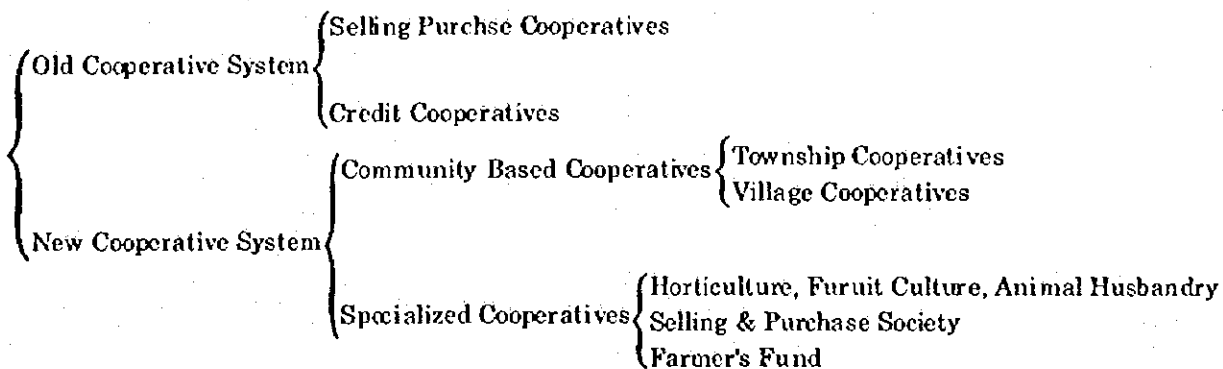
In 1984, the Party indicated more clearly the way to reconstruct the cooperative sector. The framework of the cooperative renovation plan is summarized as follows:

- i) In order to reinforce the cooperative support system, community based cooperatives should be organized;
- ii) The operation area of each cooperative would cover either a village or a hamlet;
- iii) Besides the community based cooperatives, establishment of specialized cooperatives like fruit, livestock and horticulture cooperatives are encouraged. These specialized cooperatives are entirely voluntary organizations and their membership is open to anyone irrespective of the community boundary; and
- iv) Both community-based cooperatives and specialized cooperatives are autonomous, not belonging to any administrative chain.

Figure 1 gives an overview of cooperatives at the present time. Under the government's leadership, many cooperatives were formed, especially since 1987. As of 1990, 55% of communes in the whole country had the community-based cooperatives. The functions of these community-based cooperatives include irrigation, plant protection, soil preparation and fertilizer supply.

Community-based cooperatives have been promoted in the framework of the "two-tier management system" of Chinese agriculture. While the first level of the management system is comprised of individual households direct production through contracts, the second level consists of the community-based cooperatives which are expected to provide technical and managerial services to individual households. The success of these cooperative organizations however heavily depends on the availability of financial resources of the respective village and township governments. This also explains the fact that many successful cooperatives are located in the eastern part of the country.

Figure 1 Cooperatives in Rural China



Source: Yen, Chang Ping "The Situation and the Role of Cooperatives in Rural China" 1995.

2. Saemaul Movement in the Republic of Korea and Its Relationship with Cooperatives

The Saemaul Movement ("Saemaul" means "new village") started in 1970. It was an epoch making movement in South Korea and contributed to the modernization of rural society and enhanced the income of small poor farmers by introducing new production technology and off the farm job opportunities.

The Saemaul Movement was a mass movement called by the then President Park and was fully supported by the government. The government provided funds and construction material, while rural people provided their labour. The movement also has a spiritual aspect based on three virtues, namely, diligence, self-help and cooperation. It was basically an economic movement which included not only the modernization of production but also infrastructure construction.

In practice the movement consisted of many projects. Each project is divided into the following stages:

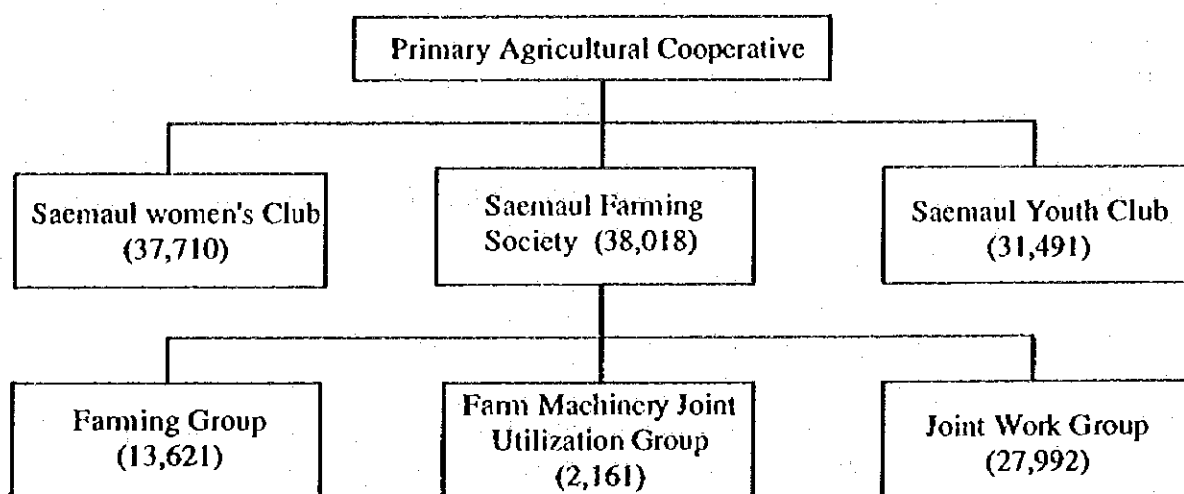
- i) Supply of materials including cement, steel bars and rods to initiate the movement;
- ii) Selection of development projects at the village level based upon the consensus of a general assembly meeting of villagers;
- iii) Formulation of development plans;
- iv) Actual implementation of the development plans by the joint efforts of villagers; and
- v) Gaining pride and self-confidence, to start new development projects.

The goals of the Movement however changed during the course of the movement. In the first stage, it focused on the improvement of living conditions, namely, repairing and expanding village roads, repairing house walls, digging common wells, building bridges, and

education programmes for farmers. In the mid 70s, the Movement put emphasis on the projects for increasing agricultural production and farm incomes. These projects included construction of farm roads, development of water resources for agricultural use, encouragement of farmers to grow cash crops, setting up of agro-based factories and modernization of marketing facilities for farm products. In the latter part of the 70s, the focus of the movement was put on community, residential and general welfare improvements.

In the course of the implementation of projects, the Saemaul Movement closely cooperated with agricultural cooperatives, particularly at the level of primary cooperatives as shown in Figure 2. Cooperatives contributed to the success of the movement : (a) in providing training to the concerned personnel at the central level; (b) in providing funds, equipment, and buildings to carry out the movement's projects; and (c) through increase in food production, mobilization of rural savings and modernization of marketing. In return, the movement contributed to the cooperatives' activities in enhancing the cooperative spirit among rural people and improving rural infrastructure.

Figure 2 Farmers Organizations in Primary Agricultural Cooperatives



Note: As of the End of 1986

Source: Kun, Hwan Yun "Agricultural Cooperative in Korea", 1987

3. Small Farmer Groups and Their Role in the Development of Agricultural Cooperatives in Japan

With the development of commercial agriculture in Japan, small farmer groups were increasingly involved in the activities which cannot be fully dealt with by individual households. The government and cooperatives were aware of the need of these small farmer groups and gave assistance to them.

Two types of small farmer groups may be worth mentioning. One is those based on the people's strong sense of solidarity in a hamlet, called the "farming practice associations" ("Noji Jikko Kumiai"). The history of these community-based groups goes back to around 1890.

Later in the midst of the rural economic crisis caused by the Great Depression (1929), many small farmer groups were set up and played a central role in the economic rehabilitation movement. Their activities were divided into two categories: those engaged in farming activities in general including technology improvement and transfers, and those specialized in specific areas such as horticulture, sericulture and marketing. Small farmer groups based on hamlets still form the core of present cooperatives.

Another type of small farmer groups is called "farming corporation" ("Noji Kumiai hojin") which have a juridical status according to the Agricultural Cooperative Law. These groups however simply aim at group production, not other activities that an ordinary agricultural cooperatives undertake. Therefore the management and control of the farming corporations are much simpler and so is the supervision of the concerned administrative bodies. Their establishment, amendment of statutes, desolution and merger are approved by their members, with no need of authorization.

Activities that these farming corporation can carry out include: (a) construction of joint utility facilities such as warehouses, irrigation facilities relating to agriculture, or those related to group farming such as the joint purchase and use of tractors; (b) management of farm enterprises; and (c) other activities relating to the above activities such as processing of agricultural products. Moreover the farming corporation could become a member of an agriculturalcooperative.

4 Agricultural Cooperatives with Credit Provision Activity

Agricultural cooperatives of Japan, Republic of Korea, Taiwan and Thailand generally engage in a credit provision service in addition to the ordinary economic activities such as joint purchases and joint marketing. In Japan when the Agricultural Cooperative Law was first enacted in 1900, credit activity could not be carried out together with other types of activities. This was aimed at avoiding the risk that the profits gained in the credit services would be diverted to other economic activities which would in turn have a negative effect on the credit activities.

In view of the diversified needs of farmers from cooperatives, in 1906 the Law was amended and the combination of credit activity with other activities was permitted. Since then, the multi-purpose agricultural cooperatives encompassing activities including credit, sales, purchase and utilization have become the prevailing type.

In Japan, the combination of credit services has positively affected the development of cooperatives, because credit activity is stable and earned money which compensated for occasional deficits in other economic activities. The cooperatives could thus develop as a whole.

After World War II, agricultural cooperatives in Republic of Korea were unable to combine other economic activities with financial ones. Rural credit was provided by the Agricultural Bank. In 1961, agricultural cooperatives and the Agricultural Bank merged, and the current multi-purpose agricultural cooperatives were created. This merger can be considered to be instrumental to the development of agricultural cooperatives in Korea.

It is argued sometimes that multi-purpose cooperatives, in spite of their advantages, have a shortcoming in that they prevent cooperatives from specializing in individual activities and so credit services should be separated from other economic activities.

Summary of Findings of the Farm Household Survey

1. Overview of the Survey

(i) Objectives

The survey aims at characterizing the present situation of Vietnamese agriculture and farmers in different parts of the country; and identifying directions for the government's policies in the future. The survey was held in January 1996 for selected farm households following the method as described below.

(ii) Method of the Survey

From surveyed villages in three provinces - Thai Binh, Dak Lak and Can Tho provinces - respectively representing the Red River delta, the Central Plateau and the Mekong River delta, 50 farm households from each were selected. The selection of the farm households was carried out giving consideration to balancing the distribution among various classes in each village.

(iii) Survey Items

- (i) Overview of farm economy: family composition; income and employment structure; and asset holding.
- (ii) Farm activities: land ownership and tenure; land utilization; production, and marketing of agricultural products.
- (iii) Farmer organizations including agricultural cooperatives.
- (iv) Rural and agricultural credit
- (v) Future prospect of farm economy: prospect of non-agricultural activities; migration to urban areas.

2. General Situation of the Surveyed Villages.

(i) The Fourth Hamlet, Dong Giang Commune, Thai Binh Province

A typical village in the populated Red River delta. Thai Binh province has the highest rice yield per unit of land with high intensification of production. The province also produces rush mats, thus having cottage industries. The survey village is far from the cities and not favourably located for the marketing of its products. (This village is hereby referred to "Thai Binh").

(ii) The First Hamlet, Quang Phuoc Commune, and Buon Phong Hamlet, Eatul Commune, both in Dak Lak Province

Two communes were selected from Dak Lak province. Quang Phuoc commune is the typical coffee producing village. The commune was initially created for encouraging the migration of the Kinh people (the Vietnamese in the narrow sense) from the poor coastal areas by the then Saigon regime. (This village is hereby referred to "Dak Lak - Kinh").

Eatul Commune is also engaged in coffee production. It is the village of the Ede ethnic minorities. The Edes are used to carry out slash and burn farming (and had a matriarchal system), but their traditional society has been changing with modernization. (This village is hereby referred to "Dak Lak - Ede").

(iii) My Loi Hamlet, Hiep Hung Commune, Can Tho Province

A typical example of the Mekong River delta villages in the rice-bowl of the country. It was a colony created by reclaiming swamp land by drainage, with houses lining canals. Rice yields are relatively low due to the acidic soil and the sugarcane- rice cropping system prevails. (The village is hereby referred to "Can Tho").

3. Summary of the Results of the Survey

(1) General Situation of Farm Households

(i) Size of farm households

The average family size is 5.3 persons: Thai Binh 4.6, Dak Lak - Kinh 5.7, Dak Lak - Ede 5.7, and Can Tho 5.8 (Table 1). While in Thai Binh families concentrate in 4 - 5 members, in other communes members spread in wider ranges which implies the various types of families are living in the villages.

In Thai Binh, inheritance by the eldest son is the norm, and in Dak Lak - Kinh and Can Tho inheritance by the youngest son is the norm. This difference affects the size of a family. A family in which inheritance by the eldest son is the norm (Thai Binh) tends to become bigger than one in which inheritance by the youngest son is the norm (Dak Lak - Kinh and Can Tho). However according to this survey, families in Thai Binh are smaller. The reason is not clear but is assumed to be due to a higher education level, land distribution pattern under agricultural cooperatives and the land reforms.

(ii) Average age of family heads

Thai Binh 46.6 years old, Dak Lak - Kinh 40.9, Dak Lak - Ede 43.7, and Can Tho 47.7 (Table 2).

(iii) Education level of family heads

The average schooling period is 5.6 years (Table 3). The Ede people have the least period education. This may be due to the under-developed education conditions but may also be affected by the fact that many families are headed by females because of their matriarchal society. Dak Lak - Kinh has the highest education level which is probably caused by migrated people who are progressive and relatively better off and can afford to invest in education. In Thai Binh, the schooling period concentrates in the range of 4 to 7 years which demonstrates a homogenous society even in education. Can Tho is lower but has one university educated person. A wide difference among households is observed.

(2) Income and Employment Structures

(i) The major income sources

Agriculture is the major source of income without exception. In Dak Lak where commercial agriculture is developed, off-farm employment opportunities like service industries exist and provide a source of income (Table 4).

In Thai Binh and Can Tho, non-agricultural activities represent the second important income source (Table 5). Thai Binh has a mat manufacturing industry, while Can Tho has a sizable service industry.

It is noted that in Thai Binh products other than rice are often marketed by farmers themselves. This is perhaps caused by the fact that merchants have not yet penetrated into villages and farmers are keen to sell small amounts of a variety of products by themselves so as to take the sales margins.

(ii) Employment structure

Family heads predominantly engage in agriculture. In Dak Lak, trading is more common than in other survey locations (Table 6). The average number of working persons is 2.9 (Table 7). In Can Tho where the family size is the largest, the number of the working persons is also the largest. In Thai Binh where the farm size is small, 26% of households are engaged in professions other than farming (Table 8).

(3) Asset Possession

(i) Housing

Virtually all households own a house. More than 10% of households in Can Tho have two houses. It may be possible that in the south, houses are made of palm leaves at a low cost and the family size is relatively large.

(ii) Pig barn

In Thai Binh where almost all farm households raise pigs, nearly all households own a pig barn (Table 10).

(iii) Other buildings

Nearly 10% of households have warehouses, while 3.3% of households have shops and 0.7% factories.

(iv) Production assets

The situation varies depending on the extent of commercialization and profitability of main products. 60% of coffee farmers in Dak Lak - Kinh and 40% in Dak Lak - Ede own tractors (Table 11). While there are a few in Can Tho, there are no individual owners of tractors in Thai Binh. Instead, in Thai Binh there are 6 hand tractors jointly owned by several farmers for mechanized farming work. As a result buffalo as draught animals have been rapidly decreasing in this region.

Other productive assets include sprayers which are owned by about a half of farmers: Thai Binh 46%, Dak Lak - Kinh 46%, Dak Lak - Ede 15%, Can Tho 58%, which underlines the extensive practicing of pest and disease control (Table 12). Threshers and pumps have also become popular. In Can Tho, owners rent out the machines, some being specialized in the business. These phenomena suggest the mechanization is more widespread than the ownership ratio suggests (Table 13 and 14).

(v) Durable consumer goods

Durable consumer goods are spread relatively widely. Television sets 37% (Thai Binh 34%, Dak Lak - Kinh 63%, Dak Lak - Ede 23%, Can Tho 34%). Radios: 48%: (40%, 63%, 31%, and 58% respectively) (Table 15 and 16). But refrigerators have just begun to be introduced: only one in Thai Binh, and as for telephones each one in Dak Lak - Kinh and Can Tho. In Can Tho, sewing machines are popular (36% of the households) suggesting an income source for housewives (Table 17).

Bicycles are already popular (Table 18), but motor bikes have started to appear though regional differences are observed: Thai Binh 6%, Dak Lak - Kinh 66%, Dak Lak - Ede 31%, and Can Tho 0% (Table 19). There are some even having cars in Dak Lak. Since in Can Tho people rely on water transportation, no motor bikes are owned.

(4) Situation of Farm Management

(i) Land ownership

The land ownership structure varies widely among regions. In Thai Binh, the average size of farm land is only 0.31 ha per farm household, while in Can Tho it is 1.44 ha, more than four times of that in Thai Binh. In Dak Lak it is intermediate.

Land acreage distribution among households also varies by region. In Thai Binh as land was distributed according to the number of family members in 1933, the sizes range 0.25 - 0.50 ha, while in Dak Lak and Can Tho, ownership distribution is characterized by a wide variation from landless to over 5 ha (Table 20).

(ii) Cultivating average

Cultivating acreage is close to the owned acreage, but in Thai Binh and Dak Lak - Ede the former is slightly larger than the latter (Table 21).

(iii) Land tenure

More than a half of the households in Thai Binh have rented land (Table 22). The owners are agricultural cooperatives and People's Committee, and some from other farm households. The rent amounts to VND 120,000 - VND 360,000 per "sao" (0.036 ha), which means US\$ 303-909/ha (US\$ 1=11,000VND) but cooperatives rent out at VND 240,000 per sao (US\$ 606 per ha). According to the talks with surveyed farmers, cases of rent in kind of 100 kg per "sao" for one crop season (or 200 kg per year) still exist (This level is equivalent to US\$ 860/ha a year, given 1,700 VND per 1 kg of paddy).

The rent corresponds to 46% of the output as the yield per ha is at best 12 t/ha though the agricultural tax and irrigation fee are borne by land owners.

No information regarding the rent was obtained in Dak Lak. No farmer was recorded as renting land in Can Tho, but it is said that the rent amounts to VND 5 million/ha (US\$ 455). The ratio of the rent to gross income in case of the standard cropping pattern of sugarcane/rice, is 20 - 30%, lower than that in Thai Bin.

The higher rents in Thai Binh than in Can Tho could be explained by the higher demand for land. Fewer tenureships in Can Tho in spite of the lower rent would be explained by a relatively low price of land use rights i.e. farmers prefer buying the rights to renting.¹⁾

(iv) Leased out land

There is little land leased-out between farm households (Table 23). These figures however have to be viewed with doubt e.g. for Dak Lak and Can Tho. For instance, it is reported that land transfers called "cam co"²⁾ (mortgage) are relatively popular along with renting farmland. Such informal transfers are generally difficult to catch in a quick survey such as this one. It is estimated that land transfers through various means take place to a greater extent than that shown in the survey.

(v) Transactions in land use rights

Such transactions do not take place in Thai Bin where land distribution and the issue of certificates of land tenure were carried out only recently. On the other hand, in Dak Lak and

¹⁾ According to the information provided at the People's Committee, yields of sugarcane and paddy are 100 t/ha and 4 t/ha respectively. Given that the farmgate prices are VND 160/kg and 1,700 /kg respectively, the gross income is estimated to be VND 22.8 million, i.e., the rent corresponds to 21.9% of gross income. Farmers report lower yields than those above, 70 t/ha for sugarcane and 3.5 t/ha for paddy. Under these assumptions, the ratio is 29.2%.

²⁾ "cam co" is a practice giving the land use rights as a mortgage to a loan. Until the loan is repaid, the land is used by the lender. This type of lending carries no interest and no repayment period. Instead, the lender can obtain the profit from the mortgaged land. This type of loan does not bear usurious conditions, but rather is regarded as a means of mutual help. The value of land in the case of "cam co" is VND 10 - 15 million per ha, which is nearly a half the price of land use rights (VND 25 million).

Can Tho where land collectivization was not extensive and commercial agriculture developed, transactions in land use rights are observed (Table 24 and 25). The acreage of each transaction is relatively large, 0.5 - 2.0 ha, and farm land use rights are actively transferred. In Can Tho, the transfer price of, VND 25 million per hectare is close to the gross income from one hectare of land (VND 22.8 million according to the People's Committee and VND 17.2 million/ha according to the survey). The "ap" (village) head said that farm lands were equally distributed among households in 1982. The relatively low land prices may be responsible for the frequent land transactions and the present wide differences in land ownership among households.

(2) Overview of farm activities

(i) Principal farming patterns

Tables 26 and 27 show the principal crops (including livestock and fisheries) in farming.

In Thai Binh, cultivation is considered as the most important crop which clearly implies paddy / rice. For 84% of the total farm households, paddy / rice is the most important crop. As the second most important crop, livestock is predominant which indicates the prevailing farming pattern in the area, rice - livestock (pig).

In Dak Lak Kinh, coffee establishes itself the most important commercial crop. While some farmers raise rice as the second most important crop. Half the farmers do not respond in this instance. This may be interpreted to mean that many farms specialize in coffee production.

Farms in Lak Dak-Ede are divided into those indicating coffee as the most important crop (53.8%) and those indicating rice (46.2%). This may reflect the polarization towards these two types of specialization. However, as see in Table 35, many farmers intend to increase coffee production which implies that the agriculture of the area is in transition from a subsistence one with paddy to a commercial one with coffee.

In Can Tho, an overwhelming number of farmers respond with paddy as the most important and sugarcane as the second most important. This reflects the prevailing farming pattern of paddy - sugarcane in the village.

(ii) Sales of products

Turn-overs of farms differ considerably by region (Table 28). In Dak Lak - Kinh, the average annual sales proceeds per farm amounts to VND 31,283,000 (US\$ 2,844). Applying the estimated income ratio of 40% obtained at farms to this figure, the average annual income amounts to VND 12,513,200 or US\$ 1,140. In Dak Lak - Ede, where they grow coffee as well, the average sales are only 14% of the above figure (VND 1,743,200 or US\$ 158).

In Can Tho, the average value of sales is VND 15,034,000 (US\$ 1,367), thanks to large farm sizes and sugarcane production. As both crops have an income ratio of about 50%, the average income is estimated as VND 7,517,000 (US\$ 680).

In Thai Binh the sales value is low, higher only than Dak Lak - Ede. Due to the tiny

acreage of farms in spite of the highest level of rice yields, average farm sales are only VND 4,418,000 (US\$ 402). Assuming the income ratio of 50%, the agricultural income would be VND 2,214,000 (US\$ 200). The ratio of rice in the total sales is as high as 42.3%, although diversification has increased. Livestock products, specifically pork, is important, and maize, potato, vegetables and aquaculture provide additional income.

To be exact, farm incomes should include that for home consumption. Thus the net income from rice is estimated to amount to VND 1,398,000 (US\$ 127) in Thai Binh, VND 183,000 (US\$ 17) in Dak Lak - Kinh, VND 32,000 (US\$ 29) in Dak Lak - Ede, and VND 1,560,000 (US\$ 142) in Can Tho respectively. Combining the incomes together, the total agricultural incomes are: roughly US\$ 330 in Thai Binh, US\$ 1,160 in Dak Lak - Kinh, US\$ 190 in Dak Lak - Ede, and US\$ 822 in Can Tho.

(iii) Difference in the sales proceeds among farmers

Farm households in each survey location are classified into five strata, so that each group consists 20% of the total numbers according to their sales value of agro-products (Table 29).

The difference in sales value of agricultural products among these groups is the closest in Thai Binh where sales of the highest group is 6 times the lowest. In Dak Lak - Ede the difference is wider; the highest group earns 3.87 times the average sales. This means that some farmers have introduced coffee, while some remain in the subsistence stage. As for Dak Lak - Kinh, there is as well a wide difference between those who settled there earlier and grow coffee and those settled later on less fertile and smaller lands.

In Can Tho, there is a big difference if not wider than Dak Lak. The highest group sells 2.67 times of the average and 14 times of the lowest. This difference is largely caused by farm sizes, since rice and sugarcane, are the sole sources of income of almost all farmers.

(iv) Marketing channels

Merchants dominate particularly in the marketing of rice, sugarcane, and coffee. In Thai Binh all farms but one, which sells to the agricultural cooperative, sell rice to merchants (Table 30). Sugarcane in Can Tho is sold to traders. Most traders are Vietnamese but some may be ethnic Chinese.

Coffee beans in Dak Lak - Ede are sold to private traders, while those in Dak Lak - Kinh mostly to the state companies. This is due to the fact that coffee producers purchase fertilizer on credit from cooperatives and in return they sell the products to cooperatives. Thus they consider agricultural cooperatives as indispensable.

Market channels of livestock products, vegetables, fruits and fish, on the other hand, are not firmly established. Sometime private traders deal in them, while at other times farmers often bring the products to markets by themselves, or sell to the people in the villages at other times. In Hai Hung province where a testing survey was held, the agricultural cooperative plays an intermediate role between farmers and exporters to produce and market cucumbers in the dry season.

(v) Profitable and unprofitable crops and activities

In response to the question of the profitable crops (including livestock and fisheries) in Thai Binh, rice (48%), other food crops (18%) and livestock (10%) are indicated. In Dak Lak, 80% of farmers indicated coffee as the most profitable, and in Can Tho the responses indicated sugarcane (68%) and rice (28%). The response showing rice as the most profitable crop may reflect its recently increased prices (Tables 31 and 32).

The unprofitable crops, on the other hand, include livestock, rice and aquaculture in the descending order in Thai Binh. Rice is the most unprofitable crop in Dak Lak which is grown in rained conditions for own consumption (Table 33). In Can Tho, "garden" is indicated as the most unprofitable crop. This means those things grown in home gardens like vegetables and fruits which cannot be sold due to the location of the village (i.e. far from the market), while sugarcane is easily and profitably sold.

(vi) Willingness to expanding farm size

In the whole, the answers are nearly equally divided into those who wish to expand the farm size and those who wish to maintain it (Table 34). The difference among regions is however big. In Thai Binh where farm land is highly limited and difficult to expand, many express a willingness to keep the present size. The similar situation is observed in Dak Lak - Kinh, though 20% of farmers are willing to expand.

On the contrary, the Dak Lak - Ede farmers wish to expand their farm sizes, showing a strong inclination towards coffee production. Similarly in Can Tho, many wish to expand. Higher prices for rice together with brisk land transfers are assumed to have affected the responses.

(vii) Crops to be expanded

To the question of what kind of crops are to be expanded, farmers in Dak Lak respond with an overwhelming 96.2% as coffee (Table 35). In Can Tho, many indicate as "cultivation" which probably means rice and sugarcane, i.e., a further expansion of the currently grown crops.

On the other hand, farmers in Thai Binh and Dak Lak - Kinh who want to maintain the present farm sizes naturally give no response. Those farmers who express a willingness to expand in Dak Lak - Ede indicate coffee as the favoured crop.

In Thai Binh, some indicate food crops such as maize, potato, aquaculture, livestock as the expansion crops, but only a few mention rice. This may be interpreted as meaning that they wish to intensify the land use by introducing these crops in the autumn - winter season at which time the land is not being cultivated, or livestock and fish which do not need land.

(viii) Problems for continuing farming

Shortage of funds is mentioned as the biggest problem (79.3% of the total answers) (Table 36). This demonstrates that to diversify and intensify farming, funds are badly required. Next comes the problem of "no market is readily available". It appears that while for such crops as rice the marketing channels are established, newly marketed crops

like vegetables have no established channels. This implies that agricultural diversification needs to be accompanied by improvements and modernization of the marketing mechanisms and facilities.

(3) Farmer Organizations including Agricultural Cooperatives

(i) Participation in farmer organizations

All farm households surveyed participate in agricultural cooperatives in Thai Binh and Dak Lak - Kinh, while only 6% in Can Tho and no households in Dak Lak - Ede (Table 37). Since in the latter two villages nearly a half of the farm households report that they had participated in agricultural cooperatives in the past, it is assumed that cooperatives in these two villages have been dissolved. However, in Can Tho, 42% of households are participating in other farmer organizations than cooperatives, which are presumed to be agricultural production groups (Table 38). There is conflicting information regarding the production groups in Can Tho. According to the People's Committee, these groups are carrying out irrigation and technology extension activities, while the surveyed farmers said that they practically conduct no activity and the maintenance of irrigation and drainage canals are organized by the village chief.

In Thai Binh, "ho" as an informal savings organization has developed and many farmers have joined.

(ii) Need for agricultural cooperatives

A noticeable difference among regions is observed. In spite of the fact that all farm households have joined the cooperative in Thai Binh, its reputation is not good. While 26% of farm households respond as "agricultural cooperative is necessary", 52% answered "not necessarily required" (Table 39). Among those responded saying there was no need for cooperatives, however, many recognize a need for the irrigation operations currently managed by the cooperative.

The main reason for the unpopularity of the agricultural cooperative in Thai Binh is the fact that the cooperative in the commune is not particularly active except for irrigation works, and farmers feel that they gain less compared to the fee charged to them. Farmers feel inefficient cooperatives are burdensome.

On the other hand, the cooperative in Dak Lak - Kinh engages actively in various services such as fertilizer sales on credit. This is reflected in its high acceptance i.e. 92% of farm households responding that "the agricultural cooperative is necessary".

Despite the fact that 60% of the farm households in Can Tho see the cooperative as useful, the agricultural cooperative was dissolved and the production group stopped functioning. It is assumed that (as expressed by some interviewed farmers) they need a kind of organization working as a labour exchange to alleviate the labour shortage in some farm households. This implies that even in the Mekong River delta where farmer organizations have not developed, farmers need farmer organizations to resolve the problems that cannot be coped with by individuals.

(iii) Need for informal farmer organizations

In Dak Lak - Ede and Can Tho where no formal farmer organizations exist, many farmers express a need for informal organizations (Table 40). Future studies are required to identify and specify the farmers needs from farmers organizations.

(4) Rural and Farm Credit

(i) Need for loans

Overwhelmingly many farmers express the need for loans for farm investment (Table 41).

(ii) Lenders of loans

The Viet Nam Bank for Agriculture (VBA) is the major supplier of loans to 44.7% of the total borrowers (Table 42). The share of the VBA however varies by region. It provides a large part of loans in Can Tho. On the other hand, in Dak Lak - Ede farmers rely for their funds on friends and relatives, and in Dak Lak - Kinh they borrow from both the VBA and the State Bank.

Money lenders have a noticeable share in rural credits. They have advantages in a simple procedures and quick availability compared to the VBA and other official sources, but charge higher interest rates. Limited access to official financing sources which make farmers reliant on money lenders is an important issue to be further addressed.

(iii) Problems with the VBA

Among the issues of VBA, "the procedures of lendings is cumbersome" is the most frequently pointed (Table 43). This is particularly stressed in Dak Lak - Ede where farmers are less educated. Also the same farmers point out the difficulty of access to VBA, which implies a need for improvement in the ways and means of loan provision in mountainous and remote areas.

The number of farmers who complain about high interest rates is less than expected. Those who usually borrow from friends and relatives, as in Dak Lak - Ede, feel the interest rates of the VBA are not high since loans from unofficial sources carry higher rates than those of the VBA. On the other hand, in Can Tho where many farmers borrow from the VBA, its interest rate is felt to be high.

Few farmers point out a delay in the insurance of land tenure certificates as an obstacle to landings, since in the surveyed villages the certificates were already issued to most farmers. A shortage of mortgages is pointed out in Can Tho however where many farmers do not own land.

(iv) Savings

This survey, not unusually regarding savings, fails to collect enough information as shown in the answer of "no money for savings".

The only responses were in Thai Binh where "ho" is common as a means of savings, in which about 18% of the surveyed farmers participate (Table 44). The payments are generally made in rice, while in Dak Lak this is in coffee. The objective of joining "ho" is largely to obtain the money for house construction or reconstruction.

(5) Future Prospect of Farm Economy

(i) Shift to non-agricultural activities

Only a few farmers (4.0%) intend to partially shift their activities to non-agricultural ones while 41% of farmers want to expand of farm sizes. None of them intends to change entirely from farming (Table 34).

Regarding the kinds of non-agricultural activities, though the answers are few, the service sector including transportation, trading and sewing is the most in number (Table 45). In Can Tho, some farmers wish to purchase pumps and small cultivators perhaps with the aim of leasing.

(ii) Settlement in the villages

Almost all family heads (98.6%) hope to live in the same villages in the future. They wish to continue farming as nobody has an intention to move away from farming (Table 46).

However answers for children are different. Among the farmers who answered, 53.4% expect that their eldest son will "stay in the village in the future", while this figure is 45.3% for other children. 8.6% of eldest sons and 13.3% of other children are expected to move to nearby towns and cities. It suggests high possibility that some of the next generation of rural people will move into urban areas. As the urban population is currently only 20% of the total, this may imply a rapid increase in the urban population.

Summary of Findings of the Farm Household Survey : Tables

Table 1. Family Number

(household, %, person)

	Total	Total family Number (persons)										Average Number
		1	2	3	4	5	6	7	8	9	10-	
Total	150		3	13	33	34	29	15	11	7	5	5.5
	100.0		2.0	8.7	22.0	22.7	19.3	10.0	7.3	4.7	3.3	
Thai Binh	50		1	6	17	13	9	1	2	1		4.8
	100.0		2.0	12.0	34.0	26.0	18.0	2.0	4.0	2.0		
DL Kinh	24		1	1	4	5	6	2	2	1	2	5.9
	100.0		4.2	4.2	16.7	20.8	25.0	8.3	8.3	4.2	8.3	
DL Ede	26			1	4	7	4	8		1	1	5.9
	100.0			3.8	15.4	26.9	15.4	30.8		3.8	3.8	
Can Tho	50		1	5	8	9	10	4	7	4	2	5.9
	100.0		2.0	10.0	16.0	18.0	20.0	8.0	14.0	8.0	4.0	

Note: 'Total Family Number' here includes unmarried children who live separately.
Thus it does not strictly coincide with the notion of 'household'.

Table 2. Age of Household Head

(household, %, age)

	Total	Age of Household Head							Average Age
		20s	30s	40s	50s	60s	70s-		
Total	150	11	39	53	24	20	3		45.4
	100.0	7.3	26.0	35.3	16.0	13.3	2		
Thai Binh	50	1	15	17	9	8			46.0
	100.0	2.0	30.0	34.0	18.0	16.0			
DL Kinh	24	2	8	12	1	1			40.9
	100.0	8.3	33.3	50.0	4.2	4.2			
DL Ede	26	4	6	9	3	2	2		43.7
	100.0	15.4	23.1	34.6	11.5	7.7	7.7		
Can Tho	50	4	10	15	11	9	1		47.7
	100.0	8.0	20.0	30.0	22.0	18.0	2.0		

Table 3. Education of Household Head

(household, %)

	Total	Years of School Attendance						Average years
		0	1-3	4-7	8-10	10-15	16-	
Total	150	9	32	79	20	9	1	5.6
	100.0	6.0	21.3	52.7	13.3	6.0	0.7	
Thai Binh	50		1	38	10	1		7.1
	100.0		2.0	76.0	20.0	2.0		
DL Kinh	24		2	12	2	8		8.0
	100.0		8.3	50.0	8.3	33.3		
DL Ede	26	5	13	3	5			3.2
	100.0	19.2	50.0	11.5	19.2			
Can Tho	50	4	16	26	3		1	4.3
	100.0	8.0	32.0	52.0	6.0		2.0	

Table 4. Most Important Income Source of the Households

(household, %)

	Total	First Income Source									
		Agriculture	Service	External	Subsidy	Trade	Carpenter	Pension	Sewing	Mat Making	Others
Total	150	138	6	1		2	2				1
	100.0	92.0	4.0	0.7		1.3	1.3				0.7
Thai Binh	50	49		1							
	100.0	98.0		2.0							
DL Kinh	24	19	2			1	1				1
	100.0	79.2	8.3			4.2	4.2				4.2
DL Ede	26	23	3								
	100.0	88.5	11.5								
Can Tho	50	47	1			1	1				
	100.0	94.0	2.0			2.0	2.0				

Notice: 1. "Agriculture" here includes fishery.

2. "Service" here includes employees.

3. "External" and "Service" are not clear in meaning

Table 5. Second Most Important Income Source of the Households

(household, %)

	Total	Second Income Source										
		Agriculture	Service	External	Subsidy	Trade	Carpenter	Pension	Sewing	Mat Making	Others	N.A.
Total	150	41	16	2	4	2	1	3	2	8		71
	100.0	27.3	10.7	1.3	2.7	1.3	0.7	2.0	1.3	5.3		47.3
Thai Binh	50	34	2	1	1			2		8		2.0
	100.0	68.0	4.0	2.0	2.0			4.0		16.0		4
DL Kinh	24	2	3					1				18
	100.0	8.3	12.5					4.2				75
DL Ede	26	2	2									22
	100.0	7.7	7.7									84.6
Can Tho	50	3	9	1	3	2	1		2			29
	100.0	6	18.0	2.0	6.0	4.0	2.0		4.0			58

Note: "N.A." means "No Answer"

Table 6. Main Occupation of Household Head

(household, %)

	Total	Main Occupation of Household Head		
		Agriculture	Non-agn	N.A.
Total	150	142	8	
	100.0	94.7	5.3	
Thai Binh	50	50		
	100.0	100.0		
DL Kinh	24	19	5	
	100.0	79.2	20.8	
DL Ede	26	25	1	
	100.0	96.2	3.8	
Can Tho	50	48	2	
	100.0	96.0	4.0	

Table 7. Total Number of Working Persons in the Households

(household, % persons)

	Total	Total Number of Working persons in the Household							Average Persons
		0	1	2	3	4	5	6	
Total	150	2	4	69	31	25	14	5	2.9
	100.0	1.3	2.7	46	20.7	16.7	9.3	3.3	
Thai Binh	50	1	2	25	7	8	5	2	2.9
	100.0	2.0	4.0	50.0	14.0	16.0	10.0	4.0	
DL Kinh	24			14	7	2	1		2.6
	100.0			58.3	29.2	8.3	4.2		
DL Ede	26	1	1	14	5	3	1	1	2.6
	100.0	3.8	3.8	53.8	19.2	11.5	3.8	3.8	
Can Tho	50		1	16	12	12	7	2	3.3
	100.0		2.0	32.0	24.0	24.0	14.0	4.0	

Table 8. Number of Persons Working in Non-Agriculture

(household, % person)

	Total	Persons Working in Non-Agriculture					Average Persons
		0	1	2	3	4-	
Total	150	120	17	11		1	0.1
	100.0	80.0	11.3	7.3		0.7	
Thai Binh	50	37	7	4		1	0.2
	100.0	74.0	14.0	8.0		2.0	
DL Kinh	24	19	3	2			0.1
	100.0	79.2	12.5	8.3			
DL Ede	26	23	2	1			0.1
	100.0	88.5	7.7	3.8			
Can Tho	50	41	5	4			0.1
	100.0	82.0	10.0	8.0			

Table 9. Households Owning Dwelling House

(household, %)

	Total	Households Owning Dwelling House		
		1	2	3-
Total	150	142	8	
	100.0	94.7	5.3	
Thai Binh	50	50		
	100.0	100.0		
DL Kinh	24	23	1	
	100.0	95.8	4.2	
DL Ede	26	26		
	100.0	100		
Can Tho	50	43	7	
	100.0	86.0	14.0	

Table 10. Households Owning Hog Barn

(household, %)

	Total	Households Owning Hog Barn		
		0	1	2-
Total	150	77	73	
	100.0	51.3	48.7	
Thai Binh	50	1	49	
	100.0	2.0	98.0	
DL Kinh	24	12	12	
	100.0	50	50	
DL Ede	26	19	7	
	100.0	73.1	26.9	
Can Tho	50	45	5	
	100.0	90.0	10.0	

Table 11. Households Owning Tractors

(household, %)

	Total	Households Owning Tractors		
		0	1	2-
Total	150	124	24	2
	100.0	82.7	16.0	1.3
Thai Binh	50	50		
	100.0	100.0		
DL Kinh	24	9	13	2
	100.0	37.5	54.2	8.3
DL Ede	26	16	10	
	100.0	61.5	38.5	
Can Tho	50	49	1	
	100.0	98.0	2.0	

Table 12. Households Owning Sprayers

(household, %)

	Total	Households Owning Sprayers						
		0	0.1-0.3	0.3-0.5	0.5-0.99	1	1.1-2.0	2-
Total	150	83	1		2	61		3
	100.0	55.3	0.7		1.3	40.7		2.0
Thai Binh	50	27	1		2	20		
	100.0	54.0	2.0		4.0	40.0		
DL Kinh	24	13				9		2.0
	100.0	54.2				37.5		8.3
DL Ede	26	22				4		
	100.0	84.6				15.4		
Can Tho	50	21				28		1
	100.0	42.0				56.0		2.0

Notice: The number of owned sprayer less than 1 means that plural households share one sprayer

Table 13. Households Owning Thresher

(household, %)

	Total	Households Owning Thresher			
		0	1	2-	N.A.
Total	150	140	4	5	1
	100.0	93.3	2.7	3.3	0.7
Thai Binh	50	48	2		
	100.0	96.0	4.0		
DL Kinh	24	22		2	
	100.0	91.7		8.3	
DL Ede	26	26			
	100.0	100.0			
Can Tho	50	44	2	3	1
	100.0	88.0	4.0	6.0	2.0

Table 14. Households Owning Pumps

(household, %)

	Total	Households Owning Pumps		
		0	1	2-
Total	150	129	21	
	100.0	86.0	14.0	
Thai Binh	50	49	1	
	100.0	98.0	2.0	
DL Kinh	24	14	10	
	100.0	58.3	41.7	
DL Ede	26	23	3	
	100.0	88.5	11.5	
Can Tho	50	43	7	
	100.0	86.0	14.0	

Table 15. Households Owning TVs

(household, %)

	Total	Households Owning TVs		
		0	1	2-
Total	150	95	55	
	100.0	63.3	36.7	
Thai Binh	50	33	17	
	100.0	66.0	34.0	
DL Kinh	24	9	15	
	100.0	37.5	62.5	
DL Ede	26	20	6	
	100.0	76.9	23.1	
Can Tho	50	33	17	
	100.0	66.0	34.0	

Table 16. Households Owning Radios

(household, %)

	Total	Households Owning Radios		
		0	1	2-
Total	150	78	72	
	100.0	52.0	48.0	
Thai Binh	50	30	20	
	100.0	60.0	40.0	
DL Kinh	24	9	15	
	100.0	37.5	62.5	
DL Ede	26	18	8	
	100.0	69.2	30.8	
Can Tho	50	21	29	
	100.0	42.0	58.0	

Table 17. Households Owning Sewing Machines

(household, %)

	Total	Households Owning Sewing Machines		
		0	1	2-
Total	150	125	24	1
	100.0	83.3	16.0	0.7
Thai Binh	50	48	2	
	100.0	96.0	4.0	
DL Kinh	24	21	3	
	100.0	87.5	12.5	
DL Ede	26	24	2	
	100.0	92.3	7.7	
Can Tho	50	32	17	1
	100.0	64.0	34.0	2.0

Table 18. Households Owning Bicycles

(household, %)

	Total	Households Owning Bicycles		
		0	1	2
Total	150	29	66	55
	100.0	19.3	44.0	36.7
Thai Binh	50	2	12	36
	100.0	4.0	24.0	72.0
DL Kinh	24	6	14	4
	100.0	25.0	58.3	16.7
DL Ede	26	7	14	5
	100.0	26.9	53.8	19.2
Can Tho	50	14	26	10
	100.0	28.0	52.0	20.0

Table 19. Households Owning Motor Bikes

(household, %)

	Total	Households Owning Motor Bikes			
		0	1	2+	N.A.
Total	150	122	24	3	1
	100.0	81.3	16.0	2.0	0.7
Thai Binh	50	46	3		1
	100.0	92.0	6.0		2.0
DL Kinh	24	8	13	3	
	100.0	33.3	54.2	12.5	
DL Ede	26	18	8		
	100.0	69.2	30.8		
Can Tho	50	50			
	100.0	100.0			

Table 20. Total Owned Cultivated Land

(household, %)

	Total	Total Owned Cultivated Land (ha)										Average Area(ha)
		0	0.01-0.25	0.25-0.50	0.50-0.75	0.75-1.00	1.00-1.50	1.50-2.00	2.00-3.00	3.00-5.00	5.00+	
Total	150	2	17	51	20	11	16	11	15	4	3	0.90
	100.0	1.3	11.3	34.0	13.3	7.3	10.7	7.3	10.0	2.7	2.0	
Thai Binh	50		12	36	2							0.31
	100.0		24.0	72.0	4.0							
DL Kinh	24	1	3	1	6	1	5	1	4	1	1	1.39
	100.0	4.2	12.5	4.2	25.0	4.2	20.8	4.2	16.7	4.2	4.2	
DL Ede	26		1	8	7	3	2	2	1	1	1	0.66
	100.0		3.8	30.8	26.9	11.5	7.7	7.7	3.8	3.8	3.8	
Can Tho	50	1	1	6	5	7	9	8	10	2	1	1.44
	100.0	2.0	2.0	12.0	10.0	14.0	18.0	16.0	20.0	4.0	2.0	

Table 21. Total Farming Land

(household, %)

	Total	Total Farming Land (ha)										Average Area(ha)
		0	0.01-0.25	0.25-0.50	0.50-0.75	0.75-1.00	1.00-1.50	1.50-2.00	2.00-3.00	3.00-5.00	5.00+	
Total	150	2	11	53	24	11	16	10	16	4	3	1.00
	100.0	1.3	7.3	35.3	16.0	7.3	10.7	6.7	10.7	2.7	2.0	
Thai Binh	50		6	38	6							0.35
	100.0		12.0	76.0	12.0							
DL Kinh	24	1	3	1	6	1	5	1	4	1	1	1.45
	100.0	4.2	12.5	4.2	25.0	4.2	20.8	4.2	16.7	4.2	4.2	
DL Ede	26		1	8	7	3	2	1	2	1	1	1.03
	100.0		3.8	30.8	26.9	11.5	7.7	3.8	7.7	3.8	3.8	
Can Tho	50	1	1	6	5	7	9	8	10	2	1	1.44
	100.0	2.0	2.0	12.0	10.0	14.0	18.0	16.0	20.0	4.0	2.0	

Table 22. Rented Land

(household, %)

	Total	Rented Farming Land (ha)						
		0	0.01-0.10	0.10-0.20	0.20-0.50	0.50-1.00	1.00-2.00	2.00-
Total	150	111	24	5	4	1	3	2
	100.0	74.0	16.0	3.3	2.7	0.7	2.0	1.3
Thai Binh	50	22	24	4				
	100.0	44.0	48.0	8.0				
DL Kinh	24	22			1		1	
	100.0	91.7			4.2		4.2	
DL Ede	26	17		1	3	1	2	2
	100.0	65.4		3.8	11.5	3.8	7.7	7.7
Can Tho	50	50						
	100.0	100.0						

Table 23. Leased Out Agricultural Land

(household, %)

	Total	Leased Out Agricultural Land (ha)						Average Area(ha)
		0	0.01-0.10	0.10-0.20	0.20-0.50	0.50-1.00	1.00-	
Total	150	148			2			0.00
	100.0	98.7			1.3			
Thai Binh	50	49			1			0.00
	100.0	98.0			2.0			
DL Kinh	24	24						0.00
	100.0	100						
DL Ede	26	26						0.00
	100.0	100						
Can Tho	50	49			1			0.01
	100.0	98.0			2.0			

Table 24. Selling Land Use Rights

(household, %)

	Total	Selling Land Use Rights						
		0	0.01-0.10	0.10-0.20	0.20-0.50	0.50-1.00	1.00-2.00	2.00-
Total	150	149				1		
	100.0	99.3				0.7		
Thai Binh	50	50						
	100.0	100.0						
DL Kinh	24	23				1		
	100.0	95.8				4.2		
DL Ede	26	26						
	100.0	100						
Can Tho	50	50						
	100.0	100.0						

Table 25. Purchase of Land Use Rights

(household, %)

	Total	Purchase of Land Use Rights (ha)							Not Certain
		0	0.01-0.10	0.10-0.20	0.20-0.50	0.50-1.00	1.00-2.00	2.00+	
Total	150	143			1	3	3		
	100.0	95.3			0.7	2	2		
Thai Binh	50	49							1
	100.0	98.0							2.0
DL Kinh	24	21				2	1		
	100.0	87.5				8.3	4.2		
DL Ede	26	26							
	100.0	100							
Can Tho	50	46			1	1	2		
	100.0	92.0			2.0	2.0	4.0		

Table 26. Most Important Crop

(household, %)

	Total	Most Important Crop													N.A.
		Rice	Sugarcane	Coffee	Fishery	Livestock	Fruits	Vegetable	Garden	Tea	Pepper	Cultivation	Foodcrop	Others	
Total	150	42	35	31	2	5					1	28	2		4
	100.0	28.0	23.3	20.7	1.3	3.3					0.7	18.7	1.3		2.7
Thai Binh	50	14			2	4						28	2		
	100.0	28.0			4.0	8.0						56.0	4.0		
DL Kinh	24	2		17		1					1				3
	100.0	8.3		70.8		4.2					4.2				12.5
DL Ede	26	12		14											
	100.0	46.2		53.8											
Can Tho	50	14	35												1
	100.0	28.0	70.0												2.0

Table 27. Second Most Important Crop

(household, %)

	Total	Second Most Important Crop													N.A.
		Rice	Sugarcane	Coffee	Fishery	Livestock	Fruits	Vegetable	Garden	Tea	Pepper	Cultivation	Foodcrop	Others	
Total	150	41	11	4	7	46	1						5		35
	100.0	27.3	7.3	2.7	4.7	30.7	0.7						3.3		23.3
Thai Binh	50	5			4	34	1						5		1
	100.0	10.0			8.0	68.0	2.0						10.0		2.0
DL Kinh	24	6		1		5									12
	100.0	25.0		4.2		20.8									50.0
DL Ede	26	4		3		4									15
	100.0	15.4		11.5		15.4									57.7
Can Tho	50	26	11		3	3									7
	100.0	52.0	22.0		6.0	6.0									14.0

Table 28. Sales of Agricultural Products

(1000VND, %)

	Average Amount	Sales of Agricultural Products					
		Rice	Upland Crop 1	Upland Crop 2	Vegetable	Fishery	Livestock
Average	12,245	1,857	9,127	197	138	102	823
	100.0	15.2	74.5	1.6	1.2	0.8	6.7
Thai Binh	4,418	1,868	456	184	402	28	1480
	100.0	42.3	10.3	4.2	9.1	0.6	33.5
DL Kinh	31,283		30,200	763			321
	100.0		96.5	2.4			1.0
DL Ede	4,358		4,340				18
	100.0		99.6				0.4
Can Tho	15,034	3,704	10,172	42	12	279	825
	100.0	24.6	67.7	0.3	0.1	1.9	5.5

Table 29. Sales of Agricultural Products

(1000VND, %)

	Average Amount	Sales of Agricultural Products				
		Highest 20%	Upper 20%	Middle 20%	Lower 20%	Bottom 20%
Average	12,245	28,941	13,559	8,264	3,120	951
	100	236	111	67	25	8
Thai Binh	4,418	8,594	5,255	3,734	2,906	160
	100	195	119	85	66	36
DL Kinh	31,283	79,160	41,700	28,025	6,510	320
	100	253	133	90	21	1
DL Ede	4,358	16,860	3,775	1,054	220	0
	100	387	87	24	5	0
Can Tho	15,034	40,092	17,065	9,217	5,962	2,836
	100	267	114	61	40	19

Table 30-1. Buyers of Rice

(household, %)

	Total	Buyers of Rice						
		Trader	In Hamlet	Payment	State Comp	Cooperative	Market	Others
Total	150	69				1		80
	100.0	46.0				0.7		53.3
Thai Binh	50	42				1		7
	100.0	84.0				2.0		14.0
DL Kinh	24							24
	100.0							100
DL Ede	26							26
	100.0							100
Can Tho	50	27						23
	100.0	54.0						46.0

Table 30-2. Buyers of Main Upland Crops

(household, %)

	Total	Buyers of Main Upland Crops							
		Trader	In Hamlet	Payment	State Comp	Cooperative	Market	Others	N.A.
Total	150	77			10		4		59
	100.0	51.3			6.7		2.7		39.3
Thai Binh	50	5					4		41
	100.0	10.0					8.0		82.0
DL Kinh	24	7			10				7
	100.0	29.2			41.7				29.2
DL Ede	26	18							8
	100.0	69.2							30.8
Can Tho	50	47							3
	100.0	94.0							6.0

Table 30-3. Buyers of Second Main Upland Crops

(household, %)

	Total	Buyers of Second Main Upland Crops							
		Trader	In Hamlet	Payment	State Comp	Cooperative	Market	Others	N.A.
Total	150	24	3		2		7		114
	100.0	16.0	2.0		1.3		4.7		76.0
Thai Binh	50	20					7		23
	100.0	40.0					14.0		46.0
DL Kinh	24	2			2				20
	100.0	8.3			8.3				83.3
DL Ede	26								26
	100.0								100.0
Can Tho	50	2	3						45
	100.0	4.0	6.0						90.0

Table 30-4. Buyers of Vegetables

(household, %)

	Total	Buyers of Vegetables							
		Trader	In Hamlet	Payment	State Comp	Cooperative	Market	Others	N.A.
Total	150	9					6		135
	100.0	6.0					4.0		90.0
Thai Binh	50	9					6		35
	100.0	18.0					12.0		70.0
DL Kinh	24								24
	100.0								100.0
DL Ede	26								26
	100.0								100.0
Can Tho	50								50
	100.0								100.0

Table 30-5. Buyers of Aqua-products

(household, %)

	Total	Buyers of Aqua-products							N.A.
		Trader	In Hamlet	Payment	State Comp	Cooperative	Market	Others	
Total	150	2	5				3		140
	100.0	1.3	3.3				2.0		93.3
Thai Binh	50	2					3		45
	100.0	4.0					6.0		90.0
DL Kinh	24								24
	100.0								100.0
DL Ede	26								26
	100.0								100.0
Can Tho	50		5						45
	100.0		10.0						90.0

Table 31. Most Profitable Crop

(household, %)

	Total	Most Profitable Crop														N.A.
		Rice	Sugarcane	Coffee	Fishery	Livestock	Fruits	Vegetable	Garden	Tea	Pepper	Cultivation	Foodcrop	Others		
Total	150	39	34	38	4	7	4	1				2	9		12	
	100.0	26.0	22.7	25.3	2.7	4.7	2.7	0.7				1.3	6.0		8.0	
Thai Binh	50	24			4	5	3	1				2	9		2	
	100.0	48.0			8.0	10.0	6.0	2.0				4.0	18.0		4.0	
DL Kinh	24	1		17		2									4	
	100.0	4.2		70.8		8.3									16.7	
DL Ede	26			21											5	
	100.0			80.8											19.2	
Can Tho	50	14	34				1								1	
	100.0	28.0	68.0				2.0								2.0	

Table 32. Second Most Profitable Crop

(household, %)

	Total	Second Most Profitable Crop														N.A.
		Rice	Sugarcane	Coffee	Fishery	Livestock	Fruits	Vegetable	Garden	Tea	Pepper	Cultivation	Foodcrop	Others		
Total	150	36	12		10	31					3		5		53	
	100.0	24.0	8.0		6.7	20.7					2		3.3		35.3	
Thai Binh	50	11			7	24							5		3	
	100.0	22.0			14.0	48.0							10.0		6.0	
DL Kinh	24	2				4					3				15	
	100.0	8.3				16.7					12.5				62.5	
DL Ede	26	3				2									21	
	100.0	11.5				7.7									80.8	
Can Tho	50	20	12		3	1									14	
	100.0	40.0	24.0		6.0	2.0									28.0	

Table 33-1. Most Unprofitable Crop

(household, %)

	Total	Most Unprofitable Crop													N.A.
		Rice	Sugarcane	Coffee	Fishery	Livestock	Fruits	Vegetable	Garden	Tea	Pepper	Cultivation	Foodcrop	Others	
Total	150	25			9	25	2		16	2		1	2		68
	100.0	16.7			6.0	16.7	1.3		10.7	1.3		0.7	1.3		45.3
Thai Binh	50	9			8	17	2			2		1	2		9
	100.0	18.0			16.0	34.0	4.0			4.0		2.0	4.0		18.0
DL Kinh	24	1				1									22
	100.0	4.2				4.2									91.7
DL Ede	26	12				1									13
	100.0	46.2				3.8									50.0
Can Tho	50	3			1	6			16						24
	100.0	6.0			2.0	12.0			32.0						48.0

Table 33-2. Second Most Unprofitable Crop

(household, %)

	Total	Second Most Unprofitable Crop													N.A.
		Rice	Sugarcane	Coffee	Fishery	Livestock	Fruits	Vegetable	Garden	Tea	Pepper	Cultivation	Foodcrop	Others	
Total	150	8			2	10	1						3		126
	100.0	5.3			1.3	6.7	0.7						2.0		84.0
Thai Binh	50	8			2	10	1						3		26
	100.0	16.0			4.0	20.0	2.0						6.0		52.0
DL Kinh	24														24
	100.0														100.0
DL Ede	26														26
	100.0														100.0
Can Tho	50														50
	100.0														100.0

Table 34. Future Prospects for Agriculture

(household, %)

	Total	Future Prospects for Agriculture				N.A.
		Enlarge	Stagnate	Expand Off-farm Work	Change to other occupations	
Total	150	62	76	6		6
	100.0	41.3	50.7	4.0		4.0
Thai Binh	50	5	37	3		5
	100.0	10.0	74.0	6.0		10.0
DL Kinh	24	5	18	1		
	100.0	20.8	75.0	4.2		
DL Ede	26	23	2	1		
	100.0	88.5	7.7	3.8		
Can Tho	50	29	19	1		1
	100.0	58.0	38.0	2.0		2.0

Table 35. Crop to Be Expanded Most

(household, %)

	Total	What crop do you want to expand												
		Rice	Sugarcane	Coffee	Fishery	Livestock	Fruits	Vegetable	Garden	Tea	Pepper	Cultivation	Foodcrop	Others
Total	150	4		30	7	10	1					40	12	
	100.0	2.7		20.0	4.7	6.7	0.7					26.7	8.0	
Thai Binh	50	4			6	6	1						12	
	100.0	8.0			12.0	12.0	2.0						24.0	
DL Kinh	24			5										
	100.0			20.8										
DL Ede	26			25										
	100.0			96.2										
Can Tho	50				1	4						40		
	100.0				2.0	8.0						80.0		

Table 36. Biggest Problem to Continue Farming

(household, %)

	Total	Biggest Problem to Continue Farming									
		Lack of capital	Lack of land	Lack of labor	Lack of technique	Lack of irrigation	Product's Low price	No market	Lack of good seed	Others	N.A.
Total	150	119	2		1	1	3	7	1	1	15
	100.0	79.3	1.3		0.7	0.7	2.0	4.7	0.7	0.7	10.0
Thai Binh	50	32	2		1		3	5		1	6
	100.0	64.0	4.0		2.0		6.0	10.0		2.0	12.0
DL Kinh	24	21									3
	100.0	87.5									12.5
DL Ede	26	26									
	100.0	100.0									
Can Tho	50	40				1		2	1		6
	100.0	80.0				2.0		4.0	2.0		12.0

Table 37. Participation in Agricultural Cooperatives

(household, %)

	Total	Participation in Cooperatives				
		Participating at present	Participated in the past	Will participate in future	Did not participate and will not	N.A.
Total	150	77	39	1	33	
	100.0	51.3	26.0	0.7	22.0	
Thai Binh	50	50				
	100.0	100.0				
DL Kinh	24	24				
	100.0	100.0				
DL Ede	26		13		13	
	100.0		50.0		50.0	
Can Tho	50	3	26	1	20	
	100.0	6.0	52.0	2.0	40.0	

Table 38. Participation in Other Organizations

(household, %)

	Total	Participation in Other Organizations				N A
		Participating at present	Participated in the past	Will participate in future	Did not participate and will not	
Total	150	21	1		28	100
	100.0	14.0	0.7		18.7	66.7
Thai Binh	50					50
	100.0					100.0
DL Kinh	24					24
	100.0					100.0
DL Ede	26					26
	100.0					100.0
Can Tho	50	21	1		28	
	100.0	42.0	2.0		56.0	

Table 39. Need for Agricultural Cooperatives

(household, %)

	Total	Need for Agricultural Cooperatives			
		Indispensable	No special need	No particular opinion	N.A.
Total	150	77	33	31	9
	100.0	51.3	22.0	20.7	6.0
Thai Binh	50	13	26	3	8
	100.0	26.0	52.0	6.0	16.0
DL Kinh	24	22	2		
	100.0	91.7	8.3		
DL Ede	26	12	1	12	1
	100.0	46.2	3.8	46.2	3.8
Can Tho	50	30	4	16	
	100.0	60.0	8.0	32.0	

Table 40. Need for Informal Organizations

(household, %)

	Total	Need for Informal Organizations			
		Indispensable	No special need	No particular opinion	N.A.
Total	150	57	5	9	79
	100.0	38.0	3.3	6.0	52.7
Thai Binh	50		1		49
	100.0		2.0		98.0
DL Kinh	24		3	1	20
	100.0		12.5	4.2	83.3
DL Ede	26	14		2	10
	100.0	53.8		7.7	38.5
Can Tho	50	43	1	6	
	100.0	86.0	2.0	12.0	

Table 41. Field of Credit Need

(household, %)

	Total	Field of Credit Need			
		Agriculture	Non-agriculture	Household consumption	N.A.
Total	150	117	4	3	26
	100.0	78.0	2.7	2.0	17.3
Thai Binh	50	32	2	2	14
	100.0	64.0	4.0	4.0	28.0
DL Kinh	24	22	2		
	100.0	91.7	8.3		
DL Ede	26	25			1
	100.0	96.2			3.8
Can Tho	50	38		1	11
	100.0	76.0		2.0	22.0

Table 42-1. Main Source of Credit Procurement

(household, %)

	Total	Main Source of Credit Procurement							
		VBA	Relative	Neighbor	Friends	Money lender	Bank	Others	N.A.
Total	150	67	5	1	8	6	11		52
	100.0	44.7	3.3	0.7	5.3	4.0	7.3		34.7
Thai Binh	50	20			2	3			25
	100.0	40.0			4.0	6.0			50.0
DL Kinh	24					1	8		15
	100.0					4.2	33.3		62.5
DL Ede	26		4		6	2	3		11
	100.0		15.4		23.1	7.7	11.5		42.3
Can Tho	50	47	1	1					1
	100.0	94.0	2.0	2.0					2.0

Table 42-2. Second Main Source of Credit Procurement

(household, %)

	Total	Second Main Source of Credit Procurement							
		VBA	Relative	Neighbor	Friends	Money lender	Bank	Others	N.A.
Total	150	3	1		5	4	1		136
	100.0	2.0	0.7		3.3	2.7	0.7		90.7
Thai Binh	50	2			1	4			43
	100.0	4.0			2.0	8.0			86.0
DL Kinh	24								24
	100.0								100
DL Ede	26						1		25
	100.0						3.8		96.2
Can Tho	50	1	1		4				44
	100.0	2.0	2.0		8.0				88.0

Table 43-1. Problems with the VBA (procedure)

(household, %)

	Total	Problem with the VBA (procedure)			
		Most difficult	Very difficult	Fairly difficult	Not difficult
Total	150	55	14	20	61
	100.0	36.7	9.3	13.3	40.7
Thai Binh	50	6	4	1	39
	100.0	12.0	8.0	2.0	78.0
DL Kinh	24	13	2	9	
	100.0	54.2	8.3	37.5	
DL Ede	26	24	2		
	100.0	92.3	7.7		
Can Tho	50	12	6	10	22
	100.0	24.0	12.0	20.0	44.0

Table 43-2. Problems with the VBA (physical access)

(household, %)

	Total	Problems with the VBA (physical access)			
		Most difficult	Very difficult	Fairly difficult	Not difficult
Total	150	18	39	19	74
	100.0	12.0	26.0	12.7	49.3
Thai Binh	50	1	3	1	45
	100.0	2.0	6.0	2.0	90.0
DL Kinh	24	4	5	11	4
	100.0	16.7	20.8	45.8	16.7
DL Ede	26	2	24		
	100.0	7.7	92.3		
Can Tho	50	11	7	7	25
	100.0	22.0	14.0	14.0	50.0

Table 43-3. Problems with the VBA (interest rate)

(household, %)

	Total	Problems with the VBA (interest rate)			
		Most difficult	Very difficult	Fairly difficult	Not difficult
Total	150	15	19	1	115
	100.0	10.0	12.7	0.7	76.7
Thai Binh	50	4	4	1	41
	100.0	8.0	8.0	2.0	82.0
DL Kinh	24				24
	100.0				100.0
DL Ede	26				26
	100.0				100.0
Can Tho	50	11	15		24
	100.0	22.0	30.0		48.0

Table 43-4. Problems with the VBA (lack of collateral)

(household, %)

	Total	Problems with the VBA (lack of collateral)			
		Most difficult	Very difficult	Fairly difficult	Not difficult
Total	150	5	11	2	132
	100.0	3.3	7.3	1.3	88.0
Thai Binh	50		2		48
	100.0		4.0		96.0
DL Kinh	24				24
	100.0				100.0
DL Ede	26				26
	100.0				100.0
Can Tho	50	5	9	2	34
	100.0	10.0	18.0	4.0	68.0

Table 44. Ways of Saving (Main Way)

(household, %)

	Total	Ways of Saving (Main Way)						
		Ho	Brothers	Bank	Gold	Cash	Lend others	Others
Total	150	9					1	
	100.0	6.0					0.7	
Thai Binh	50	9						
	100.0	18.0						
DL Kinh	24							
	100.0							
DL Ede	26							
	100.0							
Can Tho	50						1	
	100.0						2.0	

Table 45. Expected Field of Off-farm Expansion

(household, %)

	Total	Expected Field of Off-farm Expansion				
		Buy Machine	Service	Trade	Weaving Mat	Others
Total	150	2	18	1	1	
	100.0	1.3	12.0	0.7	0.7	
Thai Binh	50		1	1	1	
	100.0		2.0	2.0	2.0	
DL Kinh	24		2			
	100.0		8.3			
DL Ede	26		9			
	100.0		34.6			
Can Tho	50	2	6			
	100.0	4.0	12.0			

Table 46-1. Future Strategy (household head)

(household, %)

	Total	Future Strategy (household head)				
		Stay home and farming	Stay home and non-farming	Move to nearby town	Move to big city	N.A.
Total	150	143	5	1		1
	100.0	95.3	3.3	0.7		0.7
Thai Binh	50	48	1			1
	100.0	96.0	2.0			2.0
DL Kinh	24	22	2			
	100.0	91.7	8.3			
DL Ede	26	26				
	100.0	100.0				
Can Tho	50	47	2	1		
	100.0	94.0	4.0	2.0		

Table 46-2. Future Strategy (eldest son)

(household, %)

	Total	Future Strategy (eldest son)				
		Stay home and farming	Stay home and non-farming	Move to nearby town	Move to big city	N.A.
Total	150	70	10	8	5	57
	100.0	46.7	6.7	5.3	3.3	38
Thai Binh	50	17	4	3	3	23
	100.0	34.0	8.0	6.0	6.0	46.0
DL Kinh	24	13	2			9
	100.0	54.2	8.3			37.5
DL Ede	26	4	1	1		20
	100.0	15.4	3.8	3.8		76.9
Can Tho	50	36	3	4	2	5
	100.0	72.0	6.0	8.0	4.0	10.0

Table 46-3. Future Strategy (other children)

(household, %)

	Total	Future Strategy (other children)				
		Stay home and farming	Stay home and non-farming	Move to nearby town	Move to big city	N.A.
Total	150	54	14	11	9	62
	100.0	36.0	9.3	7.3	6.0	41.3
Thai Binh	50	8	4	5	5	28
	100.0	16.0	8.0	10.0	10.0	56.0
DL Kinh	24	12	2			10
	100.0	50	8.3			41.7
DL Ede	26	5	1			20
	100.0	19.2	3.8			76.9
Can Tho	50	29	7	6	4	4
	100.0	58.0	14.0	12.0	8.0	8.0

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Table 1 Land Use in 1990 and 1994

Type of Land	1990	1994	(thousand ha)
			Increase / Decrease(-) for 1990-1994
Total	33,103	33,104	1
Agricultural land	6,993	7,367	374
Rice land	4,109	4,230	121
Annual crop land	1,230	1,234	4
Perennial cropland	1,045	1,348	303
Grass for feeds	342	221	(-)121
Cultivated water surface area	267	335	68
Forest land	9,395	9,915	520
Special land	972	1,121	149
Inhabited land	818	718	(-)100
Waste land	14,925	13,982	(-)943

Source : Ministry of Planning and Investment

Notes : Annual crops : Annual industrial crops, subsidiary crops,
vegetables and others

Special land : Construction, roads, irrigation, historic &
cultural vestiges, mines, brick & tile production,
cemetery, salt production and others

Waste land : Plain, hill & mountain, water surface area, river &
stream, stone mountain and others

Table 2. Paddy Production by Region : 1985 and 1990 - 1994

	Unit	1985	1990	1991	1992	1993	1994	1995(est)
Whole Country	Area Thous. ton Yield ton/ha Production Thous. ton	5,703.9 2.78 15,874.8	6,027.7 3.19 19,225.2	6,302.7 3.11 19,621.9	6,745.4 3.33 21,590.3	6,559.4 3.48 22,836.6	6,598.5 3.56 23,528.2	6,600 3.63 24,000
North	Area Thous. ton Yield ton/ha Production Thous. ton	741.5 2.28 1,694.5	748.9 2.27 1,701.9	820.5 1.95 1,584.0	810.4 2.48 2,013.5	811.8 2.83 2,299.8	799.8 2.75 2,207.0	
Mountain & Midland	Area Thous. ton Yield ton/ha Production Thous. ton	1,051.8 2.94 3,091.9	1,057.5 3.42 3,618.1	1,013.8 2.93 3,038.3	1,024.7 4.00 4,101.6	1,033.5 4.68 4,843.3	1,026.8 4.01 4,121.3	
Red River Delta	Area Thous. ton Yield ton/ha Production Thous. ton	708.2 2.13 1,506.1	677.0 2.42 1,642.4	675.2 2.42 1,635.2	687.0 2.58 1,770.0	674.1 2.71 1,829.9	680.1 2.81 1,914.1	
North Central Coast	Area Thous. ton Yield ton/ha Production Thous. ton	496.6 3.24 1,609.4	494.9 3.25 1,607.1	511.2 3.42 1,749.2	522.2 3.02 1,583.1	525.2 2.80 1,472.1	518.8 3.42 1,787.9	
South Central Coast	Area Thous. ton Yield ton/ha Production Thous. ton	157.6 2.20 346.3	165.3 2.33 386.0	170.0 2.53 431.7	179.5 2.39 429.7	186.6 2.37 443.4	181.9 2.47 448.7	
Central Highlands	Area Thous. ton Yield ton/ha Production Thous. ton	297.4 2.587 767.1	304.0 2.60 789.4	305.0 2.73 832.6	326.9 2.27 744.5	335.1 2.63 881.9	353.0 2.63 928.3	
North	Area Thous. ton Yield ton/ha Production Thous. ton	2,250.8 3.05 6,859.5	2,580.1 3.67 9,480.3	2,807.0 3.68 10,350.9	2,924.7 3.74 10,947.9	2,993.1 3.69 11,066.4	3,038.1 3.99 12,121.0	
East of South	Area Thous. ton Yield ton/ha Production Thous. ton							
Mekong River Delta	Area Thous. ton Yield ton/ha Production Thous. ton							

Source : Agriculture of Vietnam 1945-1955 by Statistical Publishing House

Average growth rates in the whole country

	1985-90	1990-95
Sown area	1.1% p.a.	1.8% p.a.
Yield	2.8% p.a.	2.6% p.a.
Output	3.9% p.a.	4.5% p.a.

Table 3 Paddy Production by Region and by Season : 1985, 1990 and 1994

	Unit	Total			Spring			Autumn			Winter		
		1985	1990	1994	1985	1990	1994	1985	1990	1994	1985	1990	1994
Whole Country	Area Yield Production	5,694.9 9.1 15,904.8	6,027.7 3.19 19,225.2	6,598.5 3.56 23,528.2	1,756.0 3.51 6,191.3	2,073.7 3.78 7,845.8	2,381.4 4.41 10,504.0	856.6 3.33 2,885.3	1,215.6 3.38 4,110.4	1,577 3.57 5,630	3,082.3 2.22 6,828.2	2,738.4 2.65 7,269.0	2,640.2 2.80 7,394.8
North	Area Yield Production	741.5 4.8 1,656.8	748.9 2.27 1,701.9	799.8 2.75 2,207.0	247.6 2.78 651.4	253.7 2.57 651.4	280.5 3.16 887.5	- - -	- - -	- - -	493.9 2.04 1,005.4	495.0 2.12 1,050.6	519.3 2.54 1,319.5
Mountain & Midland	Area Yield Production	1,051.8 6.0 3,100.9	1,057.5 3.42 3,618.1	1,026.8 4.01 4,121.3	502.9 3.80 1,921.1	513.1 3.59 1,844.5	509.8 4.97 2,533.3	- - -	- - -	- - -	548.9 2.15 1,179.8	544.6 3.25 1,733.6	517.0 3.07 1,588.0
Red River Delta	Area Yield Production	708.2 6.3 1,506.1	677.0 2.42 1,642.4	680.1 2.81 1,914.1	316.5 2.53 800.9	312.3 2.86 894.2	317.2 3.18 1,009.6	89.2 2.00 178.7	120.7 2.10 254.2	117.5 2.86 335.5	302.5 1.74 526.5	244.1 2.02 493.9	245.4 2.32 569.0
North Central Coast	Area Yield Production	496.6 9.9 1,602.9	494.9 3.25 1,607.1	518.8 3.42 1,787.9	173.1 3.43 586.4	168.6 3.48 586.4	176.8 3.62 639.7	134.0 3.84 515.2	135.2 3.69 499.1	140.9 4.14 583.7	189.5 2.65 501.3	191.2 2.73 521.6	201.1 2.81 564.5
South Central Coast	Area Yield Production	157.6 5.5 346.3	165.3 2.33 386.0	181.9 2.47 448.7	23.6 3.48 81.8	25.6 3.72 95.3	30.0 4.44 133.1	- - -	- - -	- - -	134.0 1.97 264.5	139.7 2.08 290.8	151.9 2.08 315.6
Central Highlands	Area Yield Production	296.4 8.5 767.0	304.0 2.60 789.4	353.0 2.63 928.3	40.2 3.27 131.1	48.0 2.97 142.7	56.8 3.33 189.3	52.4 2.85 149.2	52.0 2.88 149.9	67.3 2.99 201.3	203.8 2.38 486.7	204.0 2.43 496.6	228.9 2.35 537.7
North East of South	Area Yield Production	2,250.8 10.1 6,859.5	2,580.1 3.67 9,480.3	3,038.1 3.99 12,121.0	461.1 4.30 1,983.3	752.4 4.82 3,631.3	1,010.3 5.00 5,111.5	581.0 3.46 2,012.2	907.7 3.53 3,207.2	1,251.2 3.60 4,509.0	1,208.7 2.37 2,864.0	919.8 2.87 2,641.9	776.6 3.22 2,500.5
Mekong River Delta	Area Yield Production	2,250.8 10.1 6,859.5	2,580.1 3.67 9,480.3	3,038.1 3.99 12,121.0	461.1 4.30 1,983.3	752.4 4.82 3,631.3	1,010.3 5.00 5,111.5	581.0 3.46 2,012.2	907.7 3.53 3,207.2	1,251.2 3.60 4,509.0	1,208.7 2.37 2,864.0	919.8 2.87 2,641.9	776.6 3.22 2,500.5
Growth rate 1990 to 1994													
	Sown area	2.3% per year			3.5% per year			6.7% per year			10.9% per year		
	Yield	2.8% per year			3.9% per year			1.4% per year			1.4% per year		
	Output	5.2% per year			7.6% per year			8.2% per year			0.4% per year		

Source : Agriculture of Vietnam 1945-1995 by Statistical Publishing House

Table 4 Major Food Crop Production by Region : 1985, 1990 and 1994

	Unit	Maize			Sweet potato			Cassava		
		1985	1990	1994	1985	1990	1994	1985	1990	1994
Whole Country	Area Thous. ton ton/ha	397.3 1.47	431.8 1.55	534.6 2.14	320.0 5.55	321.1 6.01	343.7 5.54	335.0 8.77	256.8 8.86	262 8.62
	Production Thous. ton	587.1	671.0	1,143.8	1,777.7	1,929.0	1,905.8	2,239.8	2,275.8	2,260
North	Area Thous. ton ton/ha	169.2 1.28	183.8 1.34	229.3 1.65	45.7 4.08	58.5 5.90	85.1 4.44	89.5 99.10	78.7 9.51	89.9 7.10
Mountain & Midland	Production Thous. ton	216.0	246.5	379.0	230.7	347.0	377.8	887.1	748.8	646.8
Red River Delta	Area Thous. ton ton/ha	33.7 1.83	69.3 2.13	75.7 2.65	47.5 6.13	63.1 7.70	74.7 7.81	23.7 66.90	19.3 7.20	7.0 8.39
	Production Thous. ton	61.4	148.1	200.2	291.8	486.3	583.6	158.5	139.4	59.0
North	Area Thous. ton ton/ha	38.3	44.9	61.0	115.4	117.9	121.1	63.6	42.8	42.5
Central	Yield ton/ha	1.07	1.29	1.74	4.91	4.84	4.60	6.36	6.83	6.71
Coast	Production Thous. ton	41.0	58.3	106.2	567.0	571.1	556.9	404.1	292.2	285.1
South	Area Thous. ton ton/ha	34.1 0.99	28.2 1.04	34.1 1.59	63.3 5.07	40.6 4.77	38.9 3.80	71.9 8.91	59.3 8.57	41.5 100.50
Central	Yield ton/ha	33.9	29.3	54.2	320.9	193.3	147.7	641.4	507.9	417.4
Highlands	Production Thous. ton	53.5	45.9	46.8	19.1	13.4	14.4	21.1	21.2	28.9
	Area Thous. ton ton/ha	1.88	1.99	2.34	6.35	7.13	4.59	8.97	9.63	8.26
	Production Thous. ton	100.8	91.5	109.3	121.2	95.0	66.1	197.2	204.9	239.1
North	Area Thous. ton ton/ha	57.0 2.01	48.5 1.48	65.6 3.19	9.7 52.60	7.9 5.55	5.4 5.04	50.4 10.55	23.4 12.01	42.0 12.55
East of South	Yield ton/ha	114.8	71.7	200.6	50.4	43.7	27.4	531.5	281.1	527.1
Mekong River	Production Thous. ton	11.5	11.2	22.2	19.4	19.4	12.9	14.8	12.1	10.2
Delta	Area Thous. ton ton/ha	1.66	2.31	3.80	10.09	9.91	11.29	80.90	8.38	8.28
	Production Thous. ton	19.1	25.6	84.3	195.6	192.6	145.9	120.0	101.5	84.8
Growth rates 1990 to 1994		5.5% per year 8.4% per year 14.3% per year			1.7% per year A)2.0% per year A)0.3% per year			0.5% per year A)0.7% per year A)0.2% per year		
Sown area										
Yield										
Output										

Source : Agriculture of Vietnam 1945-1995 by Statistical Publishing House

Table 5. Major Industrial Crop Production by Region : 1985, 1990 and 1995

	Unit	Tea			Coffee			Rubber		
		1985	1990	1995	1985	1990	1995	1985	1990	1995
Whole Country	Area Thous.ha	41.6	44.3	55.0	14.06	61.8	120.0	63.65	81.1	160.0
	Yield kg/ha	678	729	727	878	715	1883	752	1036	844
	Production Thous.ton	28.2	32.2	40.0	12.3	63.1	220.0	47.9	57.9	135.0
North	Area Thous.ha	30.5	26.6	35.9	-	-	2.5	-	-	-
Mountain & Midland	Yield kg/ha	583	651	699	-	-	880	-	-	-
	Production Thous.ton	17.8	17.3	25.1	-	-	2.2	-	-	-
Red River Delta	Area Thous.ha	-	2.6	1.9	-	-	-	-	-	-
	Yield kg/ha	-	618	632	-	-	-	-	-	-
	Production Thous.ton	-	1.6	1.2	-	-	-	-	-	-
North Central Coast	Area Thous.ha	-	3.7	4.0	1.8	1.3	-	4.6	3.6	4.7
	Yield kg/ha	-	462	575	258	556	-	669	835	8.70
	Production Thous.ton	-	1.7	2.3	0.47	3.0	-	2.41	0.7	2.0
South Central Coast	Area Thous.ha	-	0.9	1.0	0.1	0.6	0.6	0.0	0.1	-
	Yield kg/ha	-	426	474	400	807	1167	1143	931	-
	Production Thous.ton	-	0.40	0.45	0.0	0.46	0.7	0.0	0.05	-
Central Highlands	Area Thous.ha	6.5	10.4	12.3	7.8	37.4	90.8	3.3	5.4	16.0
	Yield kg/ha	802	778	894	809	1050	1833	742	734	813
	Production Thous.ton	5.2	8.1	11.0	6.3	39.2	166.5	2.4	4.0	13.0
North East of South	Area Thous.ha	-	-	-	4.2	19.7	19.6	56.8	71.8	138.8
	Yield kg/ha	-	-	-	1211	1192	1869	758	709	847
	Production Thous.ton	-	-	-	5.1	23.5	36.7	43.0	50.9	117.7
Mekong River Delta	Area Thous.ha	-	-	-	-	-	-	-	-	-
	Yield kg/ha	-	-	-	-	-	-	-	-	-
	Production Thous.ton	-	-	-	-	-	-	-	-	-

Source : Agriculture of Vietnam 1945-1995 by Statistical Publishing House

Notes : Area represents the acreage under harvesting. Yield and production represents the amount : tea in dried leaves, coffee in beans and rubber in dry latex.

Table 6 Number of Livestock : 1985, 1990 and 1994

	(thousand head)		
	1985	1990	1994
Buffaloes	2,590	2,854	2,971
(in which draught)	(1,734)	(1,938)	(2,077)
Cattles	2,598	3,117	3,467
(in which draught)	(1,007)	(1,421)	(1,590)
Pig	11,808	12,260	15,569
(in which sow)	(1,490)	(1,572)	(2,180)
Poultry	51,200	107,400	137,700
Chicken	24,817	80,184	99,627
Duck	22,986	23,636	32,041
Others	3,397	3,580	6,032
Goat	403	372	428

Source : Agriculture of Vietnam 1945-1995

Table 7. Balance Sheet of the People's Credit Fund (The Central Unit) as of 31 December 1995.

Liabilities		Assets		(VND 000)	
	Amount		Amount		Amount
1. Capital and funds	103,658,858	1. Loans to customers			63,665,000
Legal capital	103,282,860	Short-term loans			63,665,000
Funds	375,998	2. Loans to credit organizations			0
2. Mobilized capital	11,767,600	Short-term loans			0
Customer's fixed deposits	11,767,500	3. Deposits in State Bank			3,236,921
Fixed deposits of domestic credit institutions	0	4. Deposits in other credit institutions			51,208,014
Issue of Bonds	0	5. Cash			102,031
3. Loans from State Bank	0	6. Cheque payment			0
4. Loans from domestic credit institutions	0	7. Debts to be collected			393,500
5. Loans from foreign credit institutions	0	8. Fixed assets			556,465
6. Debts to pay	102,518	9. Shares contributed to provincial people's credit funds			385,000
7. Other capitals	5,687,793	10. Other assets			1,669,838
Total	121,216,769	Total			121,216,769

Source : People's Credit Fund

Table 8 External Aid for Agricultural and Rural Development : 1990 - 1995

(Mill. US\$)

Year	For the whole economy (disbursed)	Grant		Loan		Total disbursed fund	% in total fund for the economy
		Disbursed	Projected	Disbursed	Projected		
1990	428.8	28.8	111	55.2	11	83.9	19.6
1991	314.6	37.3	148	-	-	37.3	11.9
1992	191.9	37.2	114	8.7	3	45.9	23.9
1993	283.9	33.3	94	9.9	3	43.2	15.2
1994(estimated)	400.0	45.0	110	81.0	9	126.0	31.5
Total for 1990-1994	1619.2	181.6	580	154.8	26	336.3	20.8
1995(planned)	700	61	125	112	10	173	24.7

Source : Dr. Dang Xuong, Actual Situation of Rural Credit System of Vietnam Before Renovation and in the Present Period, 1995

Table 9. Per Capita Food Consumption by Region in 1993

Region	RURAL										URBAN				(gram/day/person)
	North mountain	North midland	Red River delta	North central coast	South central coast	Central highland	North East South	Mekong river delta	Average of Rural	Ha Noi	Ho Chi Minh City	Average Whole country			
Food Item															
Number Household	1620	360	5040	1440	1080	206	1080	1080		740	143	12789			
- Rice	403	425	480	414	406	407	463	482	457.5	404	404.9	453.6			
- Cereal	6.6	59.9	2.8	9.3		0.2	0.8	28	8.5	13.5	32.2	9.8			
- Tuber	44	46	62.9	106	42.1	28.3	9.2	5.66	32.2	12	24.2	36.8			
- Sugar			0.5	0.1	0.4	0.3	0.2	0.5	0.4	3.4	8.9	0.9			
- Oil seed	19.7	8.1	4	4.8	1.2	0.1	6.6	3.3	5.5	8.6	4.8	5.5			
- Beans	8.3	19.5	2	0.8	0.9		1.5	2.4	4.7	29.6	10.3	5.4			
- Vegetable	265	245	259.4	186	106	184	200	125	186.4	213	122.7	185.3			
- Fruit			1	0.6	1.5	14.8	2.4	1.7	1.7	5.8	16.7	2.6			
- Meats	27.8	17.6	10.7	14.2	13	24.2	272	15.4	16.8	67	49.4	19.4			
- Eggs	1.6	1.2	1.8	0.8	1.2	0.5	4.4	2.3	1.7	10.3	1.8	2.2			
- Fish	13.1	27.5	39.2	61.8	112	55.3	78.7	99.5	67.2	32.9	55.6	65.9			
- Lard, cooking oil	5	3.6	2.6	1.6	3.7	0.4	4	2.2	2.8	7.4	10.3	3.3			
- Milk										5.3	5.5				
- Fish sauce	23.4	21	38.3	18.5	36.2	4.3	22.1	26.7	26.4	12.7	13.7	25.4			

Source : National Research Institute for Nutrient

Table 10 Agricultural Products for Export: 1985, 1990 - 1994

	Unit	1985	1990	1991	1992	1993	1994
Rice	1000ton	59.4	1624.0	1032.9	1950	1722	1950
Tea	"	10.4	16.1	8.0	13.0	21.2	17.3
Coffee	"	9.2	89.6	93.5	116.2	122	156
Rubber	"	35.2	75.0	62.9	81.90	96.7	108.1
Peanut	"	61.1	70.8	78.9	62.8	105	100.8
Jute	"	10.4	12.4	9.3	1.3	-	-
Canned fruits	"	19.4	24.2	13.0	11.2	-	-
Pineapple	"	3.5	1.9	0.5	0.3	-	-
Banana	"	11.7	2.9	10.7	3.0	-	-
Maize	"	-	36.0	60.6	76.8	85	90
Beans	"	-	31.0	10.2	13.6	-	-
Frozen meats	"	-	16.2	25.0	12.8	19.7	10.5
Soyabeans	"	-	31.2	12.6	8.5	-	-
Vegetable	1000USD	-	-	33173	32255	-	-
Fruits	1000ton	-	24.2	11.9	5.4	-	-
Frozen Fruits	ton	-	20949	2749	1679	-	-
Jute carpet	1000m ²	1742	4296	1198	135	-	-
Garlics	ton	-	-	160	1978	-	-
Cinnamon	"	-	2097	2885	2075	-	-
Anise oil	"	-	-	50	35	-	-
Sesame	"	-	-	6270	3648	-	-
Anise flowers	"	-	690	415	607	-	-
Fibre Jute	1000ton	-	21	-	1.3	-	-
Articles of wood	1000USD	-	-	562	9903	88900	80000
Flooring wood	1000m ³	-	43	36	246	-	-
Silk	Ton	-	-	-	-	430	750
Cashew nuts	"	-	24749	30708	51659	53851	60000
Pepper	"	-	-	16252	22347	20138	-
Hair of duck	"	-	734	274	1733	-	-
Chilli	"	-	-	1142	1504	427.2	489.0
Aquatic Products	Mill.USD	-	-	285.4	307.6	-	-
Frozen shrimps	ton	-	37635	41577	39744	-	-
Frozen fish	"	-	4387	10146	17390	-	-

- : not available

Source : Agriculture of VIETNAM 1945-1995

Table 11 Japan : Natural Rubber Imports from Main Producing Countries: 1989 - Nov. 1995

From	In	1989		1990		1991		1992		1993		1994		Jan. ~ Nov. 1995	
		M/T	%	M/T	%	M/T	%	M/T	%	M/T	%	M/T	%	M/T	%
Malaysia		123,799	18.6	117,462	17.7	113,099	16.8	84,366	12.5	75,969	12.0	65,363	10.1	59,769	9.4
Thailand		440,977	66.3	437,384	66.0	467,663	72.7	491,192	72.7	473,915	74.8	503,455	78.2	505,245	79.1
Indonesia		90,520	13.6	95,835	14.4	96,013	13.2	89,033	13.2	72,178	11.4	61,985	9.6	60,051	9.4
Singapore		6,620	1.0	8,310	1.3	7,101	1.0	7,090	1.0	6,682	1.1	6,748	1.1	7,255	1.1
Sri Lanka		3,335	0.5	3,619	0.5	3,660	0.5	3,349	0.5	3,395	0.5	3,249	0.5	3,051	0.5
Philippines		-	-	18	0.0	-	-	-	-	-	-	-	-	59	0.0
Viet Nam		32	0.0	-	-	-	0.0	38	0.0	1,313	0.2	2,748	0.4	3,261	0.5
Myanmar		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Others		144	0.0	476	0.1	141	0.0	629	0.1	154	0.0	716	0.1	25	0.0
	M/T	665,427	100	663,104	100	390,677	100	675,697		633,616	100	644,300	100	638,716	100
	\$1,000	673,082		579,150		593,345		581,412		558,296		662,207		1,014,312	
	a million yen	91,983		83,942		79,898		73,558		62,578		67,354		93,937	

Source : Customs Division, Ministry of Finance, Japan

Note : Latex - DRC Weight

References:

Agricultural Development Consultants Association: Report of Information and Data Collection on Agriculture and Rural Development by Countries, March 1993.

Asian Development Bank: Report of Proposed Loan and Technical Assistance to The Socialist Republic of Vietnam for The Agriculture Sector Program, November 1994.

Association for International Cooperation of Agriculture and Forestry: Situation and issue of Agriculture in Vietnam, March 1991.

Association for International Cooperation of Agriculture and Forestry: A Review of Food Research in Vietnam, with Emphasis on Postharvest Losses, August 1994.

BULOG, Statistik Bulog Tahun 1983-1993, February 1993.

Chu Van Lam: The Development Path of the Rural Economy, Vietnam's Socioeconomic Development, A Social Science Review No.4, Winter 1995.

Cuulong Delta Rice Research Institute: Agriculture and Agriculture Research in the Mekong Delta, 1995.

Dang Duc Dam: Vietnam's Economy 1986-1995, The Gioi Publishers, 1995.

FAO: Agricultural Support Service in Vietnam, January 1995

FAO: Production Yearbook, 1993.

FAO: Reports of Committee on Commodity Problems, Intergovernmental Group on Rice, The Rice of Policy of Thailand, March 1983.

General Department of Land Administration, Government of Vietnam: Vietnam Land Administration System, December 1994.

Government of Vietnam: Decision of the Prime Minister on the Putting in Operation of the Testing Project of People's Credit funds, July 1993.

Government of Vietnam: Decision of the Prime Minister on the Establishment of the Central Directive Committee on Testing People's Credit Funds, June 1992.

Government of Vietnam: Draft Decree of the Issuing of Agricultural Cooperative Statute, January 1996.

Government of Vietnam, Socio-Economic Development and Investment Requirements for the Five Years 1996-2000: Government Report to the Consultive Group Meeting, October 1996.

Harnis, Bernd: Report on a Consultancy Mission: Assistance in Developing a New Co-operative System, FAO, 1995

Henmi, K. et. al: Industrialization of Asia and the processing of Primary Products, Institute of Developing Economics, 1975

Hirashima, N., Hamanabe T. and Kuchiki A.: Introduction to Primary Products, Institute of Developing Economics, 1990

Hirashima, No. et. al: New Development of the Issues Relating to Primary Products, Institute of Developing Economics, 1989

Hiratsuka, Daisuke: System and Evaluation of Bank for Agriculture and Agricultural Cooperative (BAAC) in Thai Land, (in Japanese), Asia Keizai Vol. 31. No. 6-7, 1990

Idei, Fumi: Structural Change in the Rural Sector under Doi Moi, Dynamic Vietnam, Ide Spot Survey, June 1995

Izumida, Yoichi: Agriculture and Agricultural Credit in Thai Land, (in Japanese), Norin Kinyu Vol. 39. No. 9-10, 1986

JICA: Report of the Committee of the Vietnam Aid Study, March 1995.

Kirch, O.: Assistance in Developing a New Cooperative System, FAO, 1994.

Kun, Hwan Yun: Agricultural Cooperative in Korea, 1987

Le Dang Doanh and Nguyen Xuan Nguyen: How Farmers Were Better Off After Market Liberalization, Vietnam's Socio-Economic Development, No.4, Winter 1995.

Le Thanh Duong and Kenji Cho: Farm Management and Farming Systems, Journal of Agriculture, Kyushu University, 39(1-2), 1-8(1994).

Le Van Toan: Vietnam Socio-Economy 1991-1992 and the First Half of 1993, Statistical Publishing House, 1993.

Ministry of Agriculture and Food Industry: Land Law, 1993.

Ministry of Agriculture and Food Industry: Survey on Agricultural Co-operatives in Vietnam, 1995.

Ministry of Agriculture and Rural Development: Draft Law on Cooperatives, 1995.

Ministry of Foreign Affairs: Study of Rice Production, Post-harvest Processing and Storage in Can Tho, Soc Trang and Thai Binh Provinces, 1994.

Ministry of Planning and Investment: The Report on Agriculture, 1996,

Ministry of Science, Technology and Environment: Red River Delta Master Plan, 1995.

National Institute for Agricultural Planning and Projections: Bare Land in Vietnam, March 1993.

NEDECO: Master Plan for The Mekong Delta in Vietnam, 1993.

Nguyen Sinh Cuc: Review and Analysis of Agricultural Production, 1995.

Nguyen Tri Khien: Rice Farming in the Mekong Delta in Transition; Some Evidence at the Farmer's Level, Cantho University, 1995.

Nguyen Trong Dieu: Geography of Vietnam, Natural Human Economic (2nd edition), The Gioi Publishing House, 1995.

Shiraishi, Kazuyoshi: Reorganization of Agriculture and Rural Society in Present China, (in Japanese), 1992

SIDA: Survey on Rural Credit of Vietnam, August 1992.

Somporn Isvilanonda: Rice Marketing System and Price Policies in Thailand, A paper for a world rice conference organized by the university of Arkansas, February 1996. (Unpublished)

Statistical Publishing House: Agriculture of Vietnam 1945-1995, 1995.

Statistical Publishing House: Statistical Yearbook, 1994.

Takeuchi, T. and Ohtawara T.: Agricultural Cooperatives for Tomorrow, (in Japanese), 1986

Tanahashi, Hatsutarō: A Study on Farmers Small Group, (in Japanese), 1955

Tanaka, Toyotoshi: History of Agricultural Cooperative in Japan, (in Japanese), 1976

Tran The Tue and Le Ba Thang: The Country Paper, Use Method in Market of Purchase, Wholesale, Retails Sale and Services Supporting the Fruit and Vegetable Market, Ministry of Agriculture and Food Industry, February 1994.

Usui, Susumu: A Study on Rice Distribution and Its Control System in Thailand, A report of research result conducted under the International Scientific Research Programme of the Ministry of Education of Japan, March 1993. (Unpublished)

Vietnam Farming Systems Research and Extension Network: Project Completion Reports, Farming Systems in Vietnam, 1995.

Vo Hong Phue, Some of Vietnam's Main Economic Issues During the 1996-2000 Period, Vietnam Economic Review, Vol.31 No.1, February 1996.

Vo Tong Xyan: Meeting the Needs of the Poor Farmers, Prosperity and Environmental in Harmony, International Symposium on Exchange and Cooperation of Science and Technology in Asia, Waseda University, Tokyo, December 1995.

Vu Tuan Anh et al: Vietnam's Economic Reform: Result and Problems, Statistical Publishing House.

Widayati Widiyanto: Trends and Structure of Agricultural Trade: Indonesia, Agricultural Trade Policy, Asian Productivity Organization, 1991.

World Bank: Vietnam Agricultural Marketing Study, 1994.

World Bank, Indonesia: Agricultural Transformation Challenges and Opportunities, Vol. 1 and 2, September 1992.

World Bank: Vietnam Economic Report on Industrialization and Industrial Policy, 1995.

Yen, Chang Ping: The Situation and the Role of Cooperatives in Rural China, (in Japanese), 1995

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