

The Perspective of the Development of Food Crop Sub-Sector Focusing on Rice

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I. Overview of food crops and rice production

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 agriculture sector in 1995, (excluding forestry and fisheries) and provided the staple food to the people.

Among the food crops, paddy/rice is of overwhelming importance. Indeed it is grown by nearly 80% of farmers, supplies three fourths of the total calorie and 70% of the total protein in the people's food. It also brings over US\$ 400 million of foreign exchange earnings a year to the country, as the second single largest item of exports.

In the period of 1990-1994, the output of rice has increased from 19.23 million tons to 23.53 million tons by 24%, and estimated 24 million tons in 1995. This represents an increase at an annual rate of 4.5%. This remarkable achievement is almost entirely explained by the increases in the sown area (1.8% p.a.) and the yield per unit of land (2.6% p.a.). The rice land on the other hand has only marginally increased (0.7% p.a.). In short, it can be said that the production increase in the period has been achieved by the intensification (Table 1).

II. Contributing factors to the increased rice production

Increase in the sown areas of spring and autumn paddies has been a noticeable phenomenon while that of winter (monsoon) paddy has decreased (Figures 1(b)). As shown in Figure 1(c), the yield per unit of the spring paddy crop has been the highest, followed by the autumn crop, while that of the winter crop has been low and only modestly rose.

The increase in rice production through intensification is the combined and intergrated outcome of the various contributing factors. Spring and autumn paddies require irrigation water, since their growing seasons fall out of the rainy season. The investment in irrigation and drainage facilities in the 80's and the early 90's has contributed to the expansion of sown area of these paddy crops. For these crops, an extensive introduction of the high yielding varieties was practiced which demanded higher applications of fertilizer and intensive control against pests and diseases.

In providing the ground framework for the investment and technology adoption, institutional changes initiated earlier by the Party Instruction No. 100 in 1981 and then the Resolution No. 10. in 1988 should be emphasized. Farmers were released from the collective production and brought into a market-oriented economy. Furthermore the Land Law of 1993 defined the land use rights which encouraged farmers to invest

for increasing production in aspiration for improved income and living conditions. Moreover liberalization of rural markets has made prices of agricultural products and inputs to be determined by market forces, thus made farmers to produce and sell products in their own decisions and responsibilities. Rural credit system was re-established through which funds are flowed into individual farm households.

Investment in irrigation and drainage works have been given in Table 2. The average yearly amount in the constant 1989 prices for the 1986-1990 was 163 billion Dong. It has steadily increased in real terms from 191 billion Dong in 1991 to 313 billion Dong in 1995. In fact, the area under irrigation for spring paddy expanded by more than 330,000 ha for 1989-1994, and the area under drainage mainly for winter crop by 370,000 ha.

High yielding varieties (HYV) has been grown in a greater acreage in parallel to the shift to spring and autumn paddy crops. In the Red River Delta, most are the hybrid varieties from China, while in the Mekong River Delta those originated from IRRI. The growing area in the northern part of the country had increased from 11,000 ha in 1992 to more than 60,000 ha in 1995. These HYV require greater fertilizer applications and more intensive plant protection. The fertilizer application level also rose from 121 kg/ha in 1989 to 136 kg/ha in 1993. Compared with other Asian countries, it is located in a relatively high place only after Republic of Korea, Japan, and China.

Following the past trend of intensification, it will not be much difficult to achieve the targets of 26 million tons of paddy, and 30-32 million tons of food crops altogether by 2000. As shown in Figures 4 and 5, compared with a few other Asian countries, Viet Nam would have a potential of further increase in rice output mostly through intensification. Viet Nam appears to be following the course pursued by Korea, China and Indonesia in the 70's and the early 80's. The points are whether the factors contributing to the increase in the production in the past decade could maintain or even strengthen their effects, and whether the institutional settings could encourage and facilitate farmers to continue to invest in production and adopt improved technologies.

III. Rice price stabilization

In view of the overwhelming importance of rice among farmers, consumers and the national economy, the government has paid a great attention and taken action not only for increasing the production, but also stabilizing retail prices, and promoting exports. The government is exerting certain interventions in the rice market in order to achieve these objectives. The main measure in this regard is to "instruct" state food corporations to purchase paddy/rice from farmers and traders when the retail price falls below the "reference" bottom level. It is actually implemented by offering the working capital through subsidized interest loans to the companies. The subsidies are funded from the Price Stabilization Fund (PSF) whose resources come from levies on the trading margins of selected imported commodities between importing and domestic prices. The PSF is reportedly supporting 500,000-600,000 tons of purchases annually in recent years.

Rice prices at farmgate on average of 1995 stand around at 1,700 and 2,000 Dong for "ordinary" and "special" rices respectively, while those at the retail stage at 2,400 and 4,500 Dong. There is a tendency that margins between farmgate and retail stages have been narrowing. It may reflect a streamlining of the marketing channels. Meanwhile the difference between the export prices of ex-HCMC and Bangkok, the indicative price of the world market, has been narrowing which may reflect improvement of the quality of the vietnamese rice.

It is not easy to achieve a several, sometimes conflicting, objectives of the rice price policy at the same time. The market intervention mechanism through purchases by the subsidized interest has an advantage to manage a relatively large amount of rice with a small amount of fund. However its effect seems to be reduced due partially to the limited amount to the intervention and due partially to the indirect operations carried out by state food companies. While improved quality of export rice brings higher earnings, it would

make the vietnamese rice to face a greater competition in the world market.

IV.Changes in food consumption

Rice is the staple food of the people. Since the per capita net food consumption reached as high as 160 kg per person per year, a further increase as food would be largely caused by the population increase and the replacement to other food crops. On the other hand, per capita consumption of such food items as eggs, sugar, soybean and meat are starting to rise from the present low levels (Figures 6-A and 6-B show a comparison among Asian countries respectively for cereals and meat). Agricultural production needs to prepare to respond to these changes.

Among other food crops, maize is given a special attention. Feed use for livestock will definitely increase, and diffusion of high yielding varieties will contribute to the higher outputs. It may be worth to be noted that the recent tightening of grain markets most explicitly takes place in maize.

V. Future prospect of rice production

Future development of rice should be realized through the intensification, the sole direction under the current circumstances as the expansion of agricultural land and individual farm size are virtually excluded. In this regard, the coming five years will be a critical period for the agricultural development of Viet Nam. For one point, as more intensified the production, the more diminishing returns of land as well as more of labour would come into effect.

The potential for further development could only be realized if continued and increased investment in agriculture, particularly in irrigation/drainage, rural roads and electrification as well as provision of inputs are secured. In this connection, there is a concern that shares of investment in irrigation/drainage as well as in agriculture out of the total public investment have been declining. Moreover though in the absolute terms, investment in irrigation/drainage increases, its size remains small, for instance, only US\$ 26/hectare of per irrigated area (in 1995). Expansion of irrigated area as a whole was only 1.5% for last five years.

Another concern is a decline in the comparative advantage of paddy to other crops and farming activities to which paddy competes on land use. Although the government is now strictly applying the land use transfer permits from rice land, competition with other more profitable crops and activities on the same rice land may lead to a reduction in rice growing.

In view of the current poor situation, the agricultural research and extension system needs to be strengthened. Among others, research for generating new varieties of rice, including improvement of quality, and domestic production of hybrid seeds are urgently addressed to secure the sustainable development.

Improvement of institutional framework are to be pursued. It includes, among others, provision of a greater and easily accessible credit to individual farmers especially in medium and long term loans, and acceleration of issuance of land use certificates.

Rice price policy remains a contentious issue, since it often aims at satisfying three objectives, i.e., to ensure remunerative prices to farmers and affordable prices to consumers, and to promote exports. In this regards, experiences in other ASEAN countries may provide useful references. As consumption of some other food items would start to change in coming years, it may have a bearing to rice consumption.

With continuing fast growth of the economy, vietnamese agriculture will face new issues and challenges and is expected to respond to them. In reviewing the national food and agricultural policy and strategy, such issues relating to the economic growth and industrialization as food security, changing consumption pattern, rural-urban income disparity, rural employment creation, competitiveness of products and structural adjustment are to be considered.

Table 1 Sown area, yield, gross output of paddy by region

		1989	1990	1991	1992	1993	1994	1995
Total	1000ha	5,895.8	6,027.7	6,302.7	6,475.4	6,559.4	6,598.5	6,600.0
	ton/ha	3.23	3.19	3.11	3.33	3.48	3.56	3.64
	1000ton	18,996.3	19,225.2	19,621.9	21,590.3	22,836.6	23,528.2	24,000.0
North	1000ha	753.1	748.9	820.5	810.4	811.8	799.8	
Mountain	ton/ha	2.61	2.27	1.95	2.48	2.83	2.75	
& Midland	1000ton	1,968.6	1,701.9	1,584.0	2,013.5	2,299.8	2,207.0	
Red River	1000ha	1,057.5	1,057.5	1,013.8	1,024.7	1,033.5	1,026.8	
Delta	ton/ha	3.54	3.42	2.93	4.00	4.68	4.01	
	1000ton	3,743.6	3,618.1	3,038.3	4,101.6	4,843.3	4,121.3	
North	1000ha	670.6	677.0	675.2	687.0	674.1	680.1	
Central	ton/ha	2.33	2.42	2.42	2.58	2.71	2.81	
Coast	1000ton	1,563.2	1,642.4	1,635.2	1,770.0	1,829.9	1,914.1	
South	1000ha	496.2	494.9	511.2	522.2	525.2	518.8	
Central	ton/ha	3.24	3.25	3.42	3.02	2.80	3.42	
Coast	1000ton	1,605.8	1,607.1	1,749.2	1,583.1	1,472.1	1,787.9	
Central	1000ha	160.8	165.3	170.0	179.5	186.6	181.9	
Highlands	ton/ha	2.47	2.33	2.53	2.39	2.37	2.47	
	1000ton	396.1	386.0	431.7	429.7	443.4	448.7	
North East	1000ha	312.8	304.0	305.0	326.9	335.1	353.0	
of	ton/ha	2.67	2.60	2.73	2.27	2.63	2.63	
South	1000ton	835.9	789.4	832.6	744.5	881.9	928.3	
Mekong	1000ha	2444.8	2,580.1	2,807.0	2,924.5	2,993.1	3,038.1	
River	ton/ha	3.64	3.67	3.68	3.74	3.69	3.99	
Delta	1000ton	8883.1	9,480.3	10,350.9	10,947.9	11,066.4	10,121.0	

Source : Agriculture of Viet Nam 1945-1995 by Statistical Publishing House

Table 2 Investment in irrigation and drainage

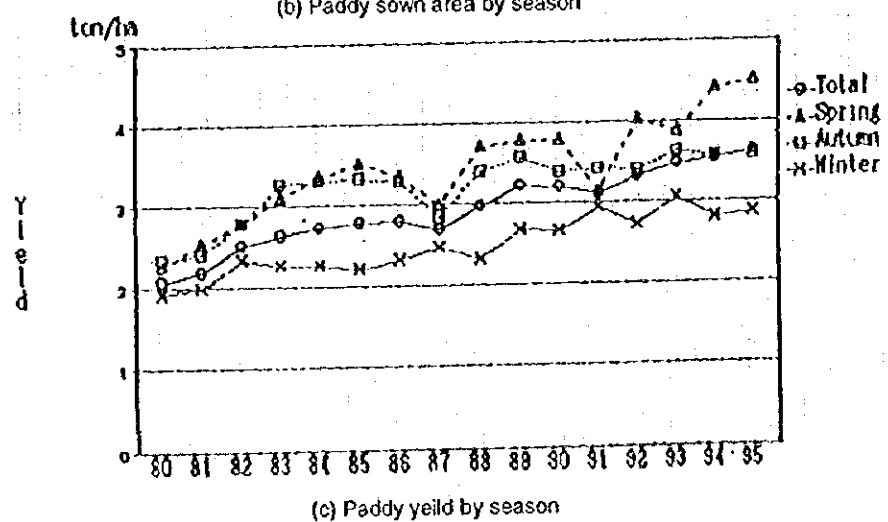
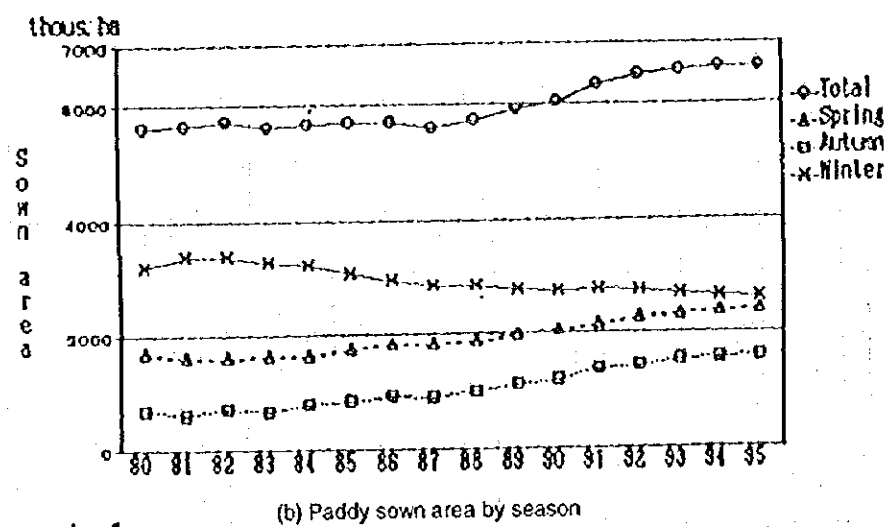
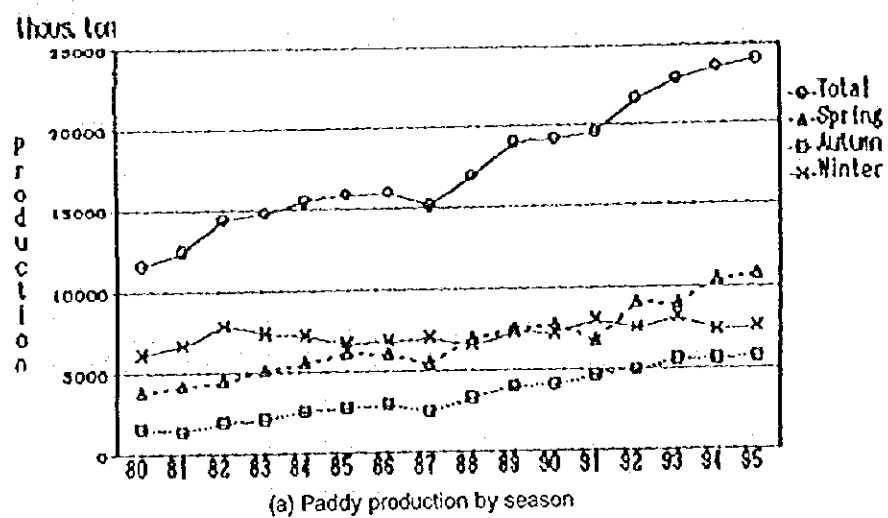
	(million VND)	
	current	constant 1989 prices
average of 1986-1990	N.A.	162,870
1991	468,871	191,376
1992	488,468	150,298
1993	688,400	185,054
1994	990,000	232,394
1995	1,531,185	312,551

Source : Ministry of Planning and Investment

Table 3 Irrigation and drainage area of paddy : 1991-1995

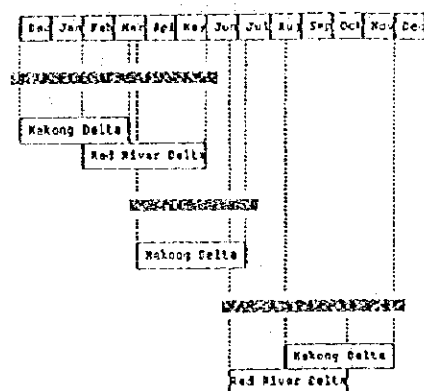
	IRRIGATION				DRAINAGE FOR WINTER CROP
	total	spring crop	autumn crop	winter crop	
1991	5,245	2,074	1,231	1,940	2,041
1992	5,407	2,178	1,260	1,969	2,235
1993	5,492	2,263	1,641	1,888	2,197
1994	5,601	2,329	1,420	1,852	2,329
1995	5,325	2,408	1,116	1,801	2,410
Increase/ decrease	80	334	-115	-139	369
in %	2	16	-9	-7	18

Source : Ministry of Agriculture and Rural Development



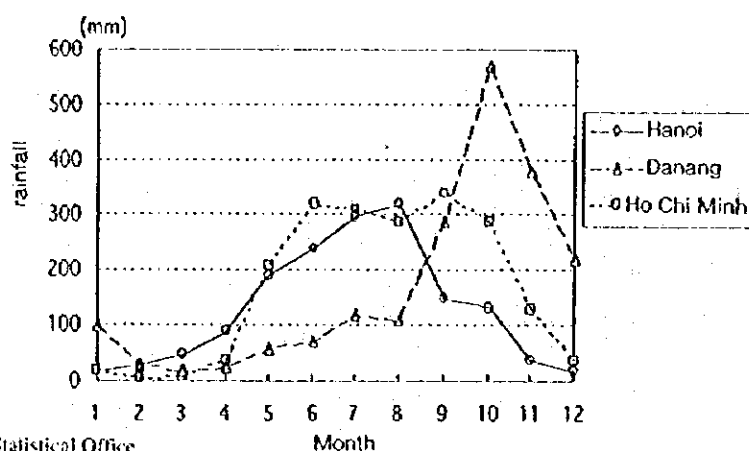
Source : Agriculture of Viet Nam 1945-1995

Figure 1 Trend of paddy production by season



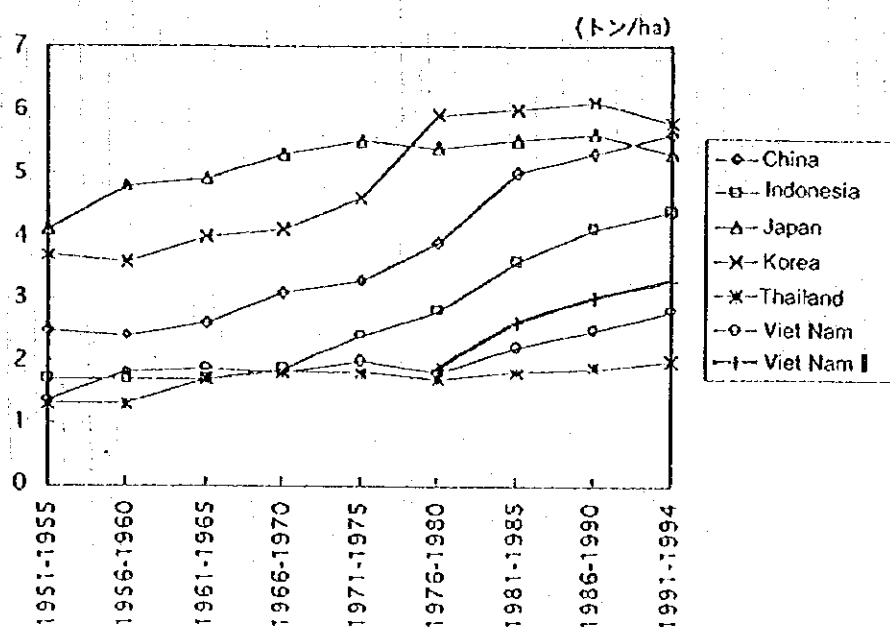
Source : Viet Nam Agricultural Marketing Study by the World Bank

Figure 2 Paddy crop calendar



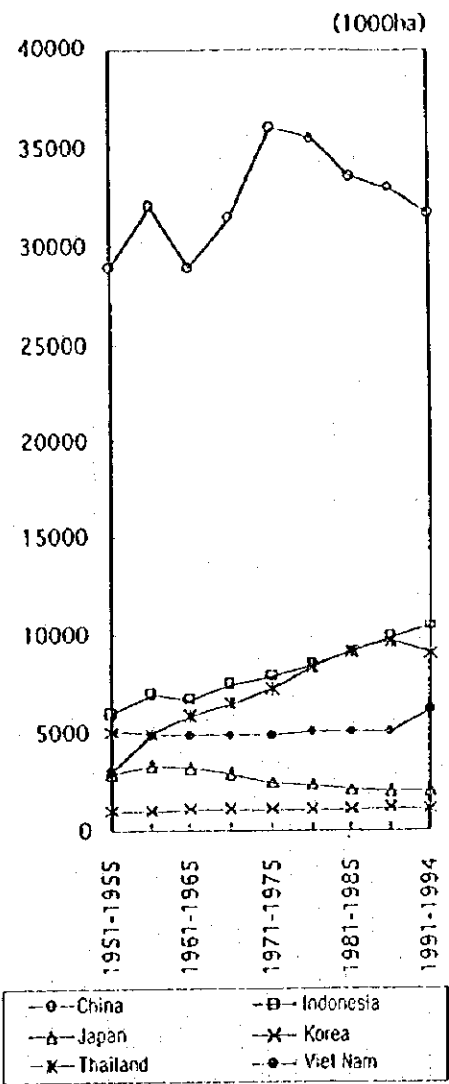
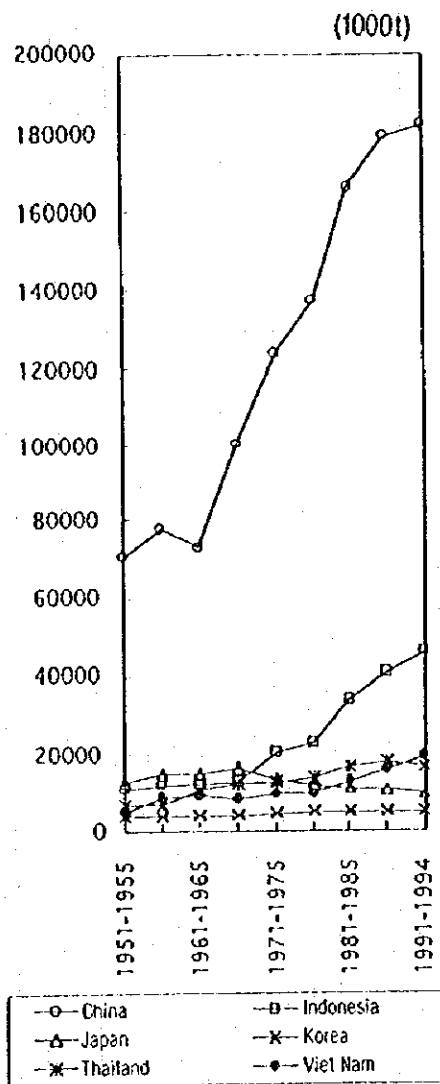
Source : General Statistical Office

Figure 3 Average rainfall



Source : FAO, Production Yearbook, 1993. (Viet Nam II Agriculture of Viet Nam 1945-1993, 1995)

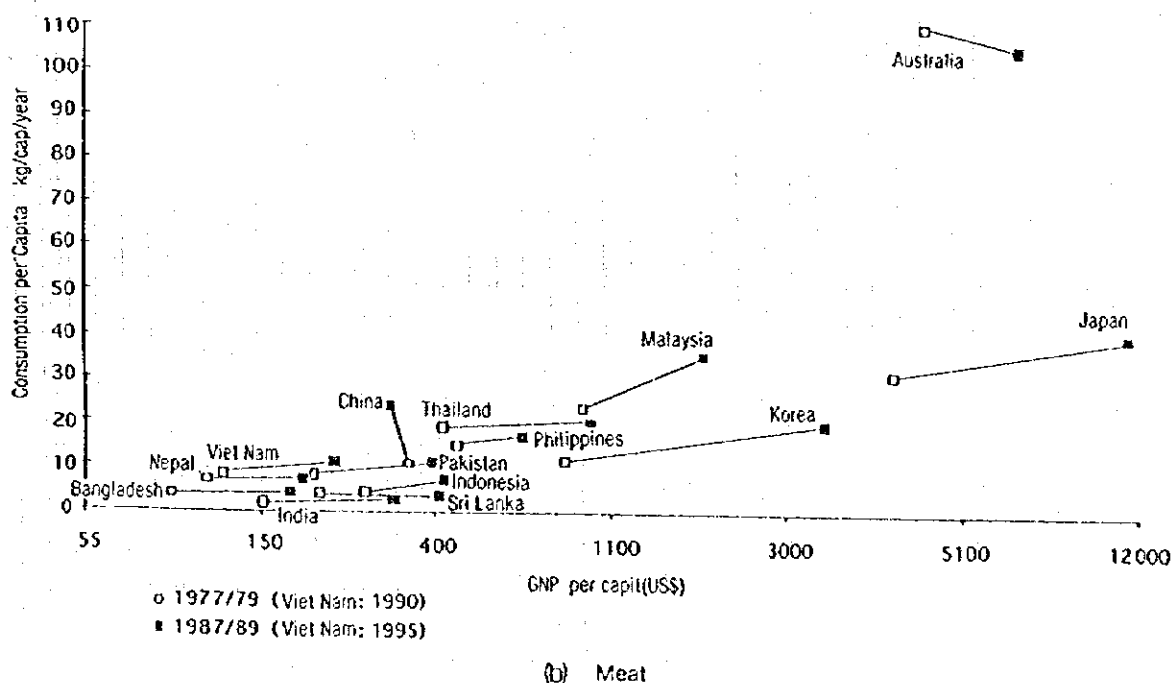
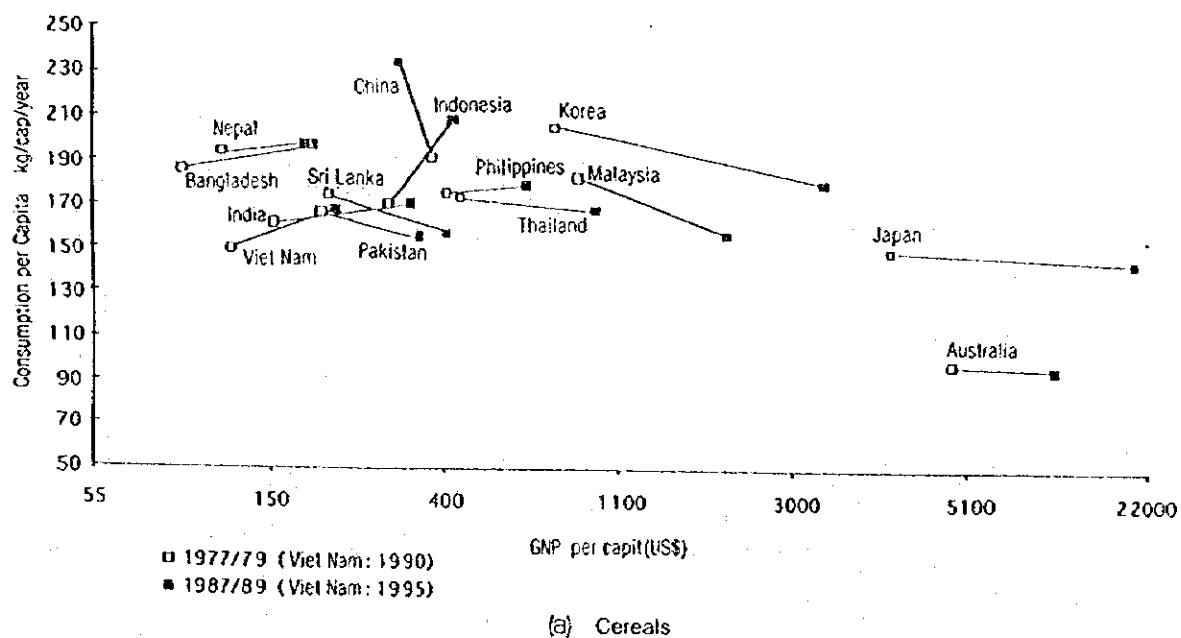
Figure 4 Average of paddy yield



Source : FAO, Production Yearbook, 1993. (Viet Nam II, Agriculture of Viet Nam 1945-1995, 1995)

Figure 5 (a) Average of rice production

Figure 5 (b) Average of harvested area



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 6 Relationship between per capita GNP and per capita consumption of selected food :
 1977/79-1987/89(Viet Nam : 1990-1995)

Diversification of Agriculture in Viet Nam

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During the period of reconstruction from the War, the Government intended comprehensive agricultural development including crop cultivation, animal husbandry, foodstuff processing, and aquaculture.

(1) In 1970s the State launched the guideline and measures to promote animal husbandry, foodstuff processing, and aquaculture.

(2) In the period 1986-1990, Viet Nam cooperated with the former Soviet Union and East European countries to develop rubber, coffee, and tea.

(3) To bring advantage of individual households into play, the State encouraged the cultivation system of Garden-Pond-Animal Husbandry (VAC in brief, which stands for V-Vegetable and fruit growing; A-Aquaculture and C-Cattle and poultry rearing); The Vietnamese Gardener Association VACVINA is 10 years old.

The period of renovation has created conditions for Viet Nam to be integrated step by step into the region and the world. Various new seeds and breeds: paddy, maize, cow, pig, hen, duck have been introduced. They enriched the agricultural resources and furthermore improve their quality, giving agricultural products of higher value. In addition, Viet Nam produced more foodstuffs for export.

Situation of the domestic consumption has been changing day by day. Greater demand for meals in both in quantity and quality have also promoted the diversification of agricultural products. Agriculture for enriching people's life shifts to planting fruit trees, ornamental trees and cash crops for industrial material such as cotton, jute, mulberry. Advanced technologies and creativeness of the people have invented various cultivating models of high efficiency such as specialization of cultivation, intensive farming, intermingled cultivation.

Production regions for commercial purposes have been generated in associating agriculture with processing industry such as the rubber zone in the South Northeast, the coffee zone in Central Highlands, the sugar cane zone in Thanh Hoa, Quang Ngai and Tay Ninh provinces, the milch cow rearing in suburbs.

It can be said that during the period of the renovation, agriculture of Viet Nam has been diversified strongly from large scale collective farming to individual households, both in terms of category and quality. The diversification has created more efficiency in the agriculture.

Diversification of agriculture of Viet Nam is a response to the ever growing demand for consumption in terms of quantity, categories, quality supplied for domestic and international markets. Results in diversified production in 1995 are as follows: Food-27.5 million tonnes, export-2 million tonnes of rice; 200,000 tonnes of coffee with value of US\$ 500 million; marine product exports of US\$ 600 million.

Diversification of agriculture has been however facing many constraints including:

(1) Narrow markets. Domestic demand is still limited and the market remains narrow in many commodities. Foreign market is yet to be exploited and the agro-processing industry is to be developed;

The changing structure of cultivation

	Before	At present
1	Rice - Rice (Dong Hung, Thai Binh provinces)	Fruits - Seed of Plants
2	Rice - Rice(unstable) (Hai Hung and Ha Tay provinces)	Fruits- Aquaculture- Annual crops (vegetable, tomatoes, chilli)
3	Rice - Rice(the surrounding of Ha Noi and Hai Hung)	Flower - Decorative plants
4	Mize - Other cereal (Thai Binh provinces)	Mulberry - Other cereals
5	Rice - Rice(unstable) (Vinh Phu and Nam Ha provinces)	Rice - Aquaculture - Rice
6	Cassava (Lam son, Thanh Hoa province)	Sugarcane
7	Sweet potatoes - Rice (Thanh Hoa province)	Jujube - Vegetables
8	Rice - Rice - Rice (Quang Ngai province)	Rice - Maize - Rice Rice - Sweet potatoes - Rice Rice - Peanut (Soybean) - Rice
9	Unused land (Coastal areas)	Aquaculture (crab, shrimp)
10	Barren hill (Mountain)	Industry crops Fruits crops Forestry
11	Rice - Other cereals (North South East, Central highland)	Cotton - Maize (Soybean)
12	Floating winter Rice (Mekong river delta)	Spring rice - Autumn rice
13	Unused land (Mekong river delta)	Spring rice - Autumn rice

(2) Small farm size and limited land. They cause, among others, a competition among various crops and activities over land, particularly in relation to rice. As the profitability of rice is low, diversification to other crops and activities risks a reduction in the rice production. The government, coping with this situation, prohibits the transfer of rice land to other uses;

(3) Infrastructure is under-developed. Particularly rural transportation remains weak which makes it difficult for farmers, particularly those in remote areas, to access to markets and hinders diversification; and

(4) Shortage of capital, particularly the medium and long term capital.

Although the diversification of agricultural production is currently facing constraints and contradictions, it is considered to be one of the main determinants of agricultural development of Viet Nam in coming years. Diversification can efficiently use land, labor, natural resources and other materials; alleviate rural under- and unemployment; improve the nutrition status of children; stabilize and increase farmers' income; and respond to changing and diversifying demand for food.

In order to facilitate and promote diversification, the following measures should be carried out:

(1) To formulate a master plan of the general orientation for development by agricultural regions regarding production of specific crops and commodities;

(2) To strengthen the investment in agriculture, rural transportation, water resources development, electrification, research and extension, and to expand seed imports; and

(3) To provide favorable conditions for Viet Nam Bank for Agriculture to mobilize funds and extend loans to farmers.

Diversification of agriculture will promote the economic structural transition in agriculture and rural areas. In turn changes in the latter will positively affect agricultural diversification, thus create a momentum for comprehensive development of agriculture and rural areas. Indeed the diversification of agriculture in Viet Nam is considered as a long term strategy as well as a means of development.

Agriculture Sector in Viet Nam from 1985 to 1995

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During the period from 1985 to 1995, the agricultural sector of Viet Nam has developed following the two successive five year plans 1986-1990, and 1991-1995.

The five year plan 1986-1990 was characterized as a plan of the transition, to the agriculture based on the system of "contract-based assignment of paddy production to farmers groups and individuals" introduced by the Instruction No.100 in 1981. Then according to the Resolution No.10 in 1988 regarding "the renovation of the agricultural sector management", the Party Central Committee, in March 1989, decided to abolish the compulsory food selling by farmers to the state, to apply a unique price system, and to permit a free marketing of products, and to turn a cooperative member household to an autonomous economic unit.

After the introduction of the Resolution No.10, the declining tendency in production in previous years stopped and the production started to increase though their impacts were limited. The main weakness in the agriculture in this period was that the role of collective economy was not clearly defined while a farm household already became an autonomous economic unit.

The five year period of 1991-1995 was marked by a steady development of the agricultural sector. In the domain of cultivation, the overall development was particularly demonstrated in food production. Food security was thus firmly assured for the entire country. Food production even exceeded the target of the plan. Increase in rice production was achieved by the change in seasonal crops as well as a productivity increase. Other factors instrumental to the intensification include development of irrigation/drainage, a greater fertilizer application, plant protection, extension services, and new seed introduction, these all having contributed to the intensified production of rice.

Regarding subsidiary crops, maize recorded a rapid growth, both in terms of the acreage and productivity, while such crops as cassava, sweet potato have modestly expanded or even declined. Production of vegetables, industrial crops and fruits has shown a resilient development. These crops whose products are directed to agro-processing industry and exportation have recorded a fast growth.

A new feature of cultivation production for the past five years was the initial formation of specialized production zones with high commercialization closely linked to domestic and export markets. Citing some are the Mekong River rice growing zone, the rubber and coffee specialized zone in Northeast South and Central Highlands, the tea specialized zone in North Mountain and Midland, and the winter vegetable and bean growing zone in the Red River Delta.

Animal husbandry has also developed in a rapid and stable manner. The growth is attributed to an increase in food production, and the stable output and improvement of animal feeds at reasonable prices, while supported by an increasing demand for livestock products. Hence the sub-sector has been gradually transferred from subsistence to commercial production.

Forestry has met numerous difficulties and the production has shown poor performance. Forest resources

have further declined because of deforestation and tree burning. One of the positive movements was the implementation of the Programme 327 regarding the greening barren land and bare hills which started 1993 in providing funds for reforestation.

The fishery sector has recorded the highest growth rate among three sub-sectors of agriculture. Both aquaculture and aqua-product exploitation have made a noticeable progress. The former activity included shrimp culture, brackish and fresh water fishing, while the latter activity has expanded thanks to better organization and more equipment, facilities and ships. However the sector is facing many limitations and constraints such as pollution of sea and rivers, and over-exploitation of natural resources.

While the share of agriculture (including forestry and fisheries) had declined from 33.9% in 1992 to 28.7% in 1994, the absolute value of agricultural products (in current prices) had increased from 37,500 billion Dong to 48,800 billion Dong in the same period. The structure of these three sectors has been changing: the fishery sector has increased while the agriculture and forestry sectors have relatively declined.

Within the agricultural sector, the animal husbandry sub-sector has been expanding at the expense of the cultivation sub-sector. Moreover in the cultivation sub-sector, crop structure has been changing towards the diversification, in gradually eliminating the mono-grain cropping and enhancing the land use ratio.

Rural economic structure has been changing. According to the rural and agricultural survey in 1994, there are 12 million households in the country in which 10 million households (80.6%) engaged in agriculture. Noticeable is that in two south regions, Northeast South and Mekong River Delta, shares of non-agricultural households were very high (49% and 27.9% respectively). In the outskirts of Ho Chi Minh city, 59% of the total households engaged in non-agricultural profession.

For last five years, the agricultural sector has been integrated into the world market. Total export value of agriculture, forestry and fisheries altogether was US\$ 1.9 billion in 1995, nearly two times of the 1990 value. At the same time, the quality of export products have improved as demonstrated in rice, coffee and frozen shrimp. As a result, price differences of rice between Viet Nam and Thailand have narrowed from US\$ 40-50 per ton in 1990 to US\$ 15-20 in 1994.

Rural infrastructure has considerably improved during the period. Conditions of housing, education and health care have also improved. The existing problem is the poor conditions in mountainous, highland, and remote areas, especially concerning electrification and roads.

Difficulties and constraints facing the agriculture are as follows:

(1) Investment in agriculture, forestry and fishery, although it had increased in last five years in absolute figures, had rapidly declined in relative terms from 20% of the total capital outlays in 1990 to 10% in 1993-1995. Existing irrigation systems have been degraded, limiting the irrigation capacity, and constraining cultivation intensification. Research regarding advanced technology of agricultural production is not sufficient to regularly produce technological breakthroughs. As the motives and incentives created by the renovation reach to a limit, more physical impetus in such areas as investment and technology are needed to sustain the growth.

(2) The production organizational structure is not stable. Roles of the state and cooperatives are not clearly defined. Process of shifting state enterprises and agricultural cooperatives to servicing institutions for farm households has been proceeding slowly.

(3) Mutual linkages of agricultural production, processing and final products have not been strengthened. Rural industry has not satisfactorily developed to serve agricultural production, thus value of products remains less than expected.

Annexed tables are listed below:

- 1) Agricultural production situation
- 2) Land uses of Viet Nam agricultural situation of major crops production
- 3) Area of rice by region

- 4) Hybrid paddy seeds and maize
- 5) Animal husbandry in Viet Nam
- 6) Feed crop production
- 7) Production and consumption of fishery products
- 8) List of irrigation drainage constructions: medium and large schemes
- 9) List of projects of water resources having investment priorities: period 1996 - 2000 and 2010
- 10) State investment outlays for water resources: period 1986 - 1990
- 11) State investment outlays in the whole national economic sector
- 12) Present transport network situation
- 13) Number of communes having the motorway link
- 14) Present transport network situation
- 15) The Vietnamese geographical, climatic and land features (a note)

Consumption and Market of Some Major Agricultural Products in Viet Nam

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This paper analyzes the trend and make projections of consumption of major agricultural products. Consumption is divided into two categories; direct food consumption and indirect uses such as for livestock feed, processing and losses.

(1) **Grains.** Food grains account for 80% of the people's food, in which rice 95% in the plains and 85% in the mountainous areas. The average nutrition intake in rural areas is only 1,820-1,940 calories/person/day. Food products are generally consumed in rough or semi-processed forms, while processed food accounts for a very small part.

Other uses of grains than food include seeds, livestock feed, raw material for processing, and losses. As for rice, these ratios account for seeds: 3-3.5%, feed: 6.5-8%, processing: 1.5-2%, and losses: 13-16% in Red River Delta or around 10% in other regions.

(2) **Auxiliary food.** Maize. : Direct food consumption comprises 35-45%, livestock feed 40-50%, seed 5%, and losses 10-15%. Sweet potato.: Direct food consists of only 30% of the total supply, while processing claims 55-60% and losses 15-20% respectively.

(3) **Meat.** Pork is the most important meat, accounting for 77.4% of the total domestic meat consumption. Only 10% of the consumed amount is processed mainly in big cities. Beef consists of 6.5% of the total meat, and poultry meat, chicken, duck, goose altogether 16%.

(4) **Eggs and milk.** Per capita consumption of eggs amounts to 30-35 eggs per year. As the price of eggs is relatively high in Viet Nam, people prefer meat to eggs. Milk consumption per person is about 1.5 litres per year, in which 90% are imported. In general, consumption of livestock products in Viet Nam remains low, even compared with other Asian countries.

(5) **Sugar.** The consumption has rapidly been increasing and reached at about 8 kg per year. As the domestic production did not meet the demand, the country imported about 200,000 tons of sugar in 1995.

(6) **Fruits.** Per capita consumption is about 25-27 kg. Urban population is the main consumers of fruits. For instance in Ho Chi Minh city, it amounts to 30-35 kg of high quality fruits.

(7) **Vegetables.** The level of consumption is 40-42 kg per year per capita which has been increasing. Many kinds of vegetables ranging from tropical to temperate origins, are supplied and largely consumed in fresh.

(8) **Vegetable oil.** Its consumption level is very low, only at 0.45-0.5kg per year. In recent years, however, it has been increasing very fast at the rate of 8.6% per annum.

Projection of food demand for 2000 and 2010. With an assumption of increases in income and population, projections for these years are made. Per capita consumption of food grains is estimated to decline, while that of meat doubles, and oil seed increases by 1.4 times of the 1990 levels.

The following tables are attached to the paper:

- 1) Gross domestic product of agriculture, forestry and fisheries
- 2) Average consumption of human food: 1980-1995.
- 3) Food balance sheets: 1985, 1990 and 1995.
- 4) Demanded consumption for foodstuff.
- 5) Per capita food consumption by region.
- 6) Fruit consumption.
- 7) Cost and efficiency of selected crops: spring rice, autumn rice, winter rice, maize, sweet potato and cassava.
- 8) Cost and efficiency of some crops in Central Highlands and Northeast South.
- 9) Summary of production budget: rice, cabbage, frozen pork, and frozen shrimp.
- 10) Chart of commodity chains: paddy, rubber, sugar, tea, fishery products and pig.

Situation of Rural Credit System of Viet Nam Before the Renovation and in the Present Period

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I. Before the renovation

Before the renovation, three credit and savings systems existed: The State Agricultural Bank, the savings and credit cooperatives, and informal savings and credit system in rural area.

The State Agricultural Bank was a credit department of the State Bank. During the period of 1981 through 1987, the Agricultural Bank gave short-term loans to all economic components-state, collective, private sectors and individuals-but concentrated them in the state and collective sectors. Long-term credit was mainly given to the collective sector, including credit cooperatives, and a limited part to the private sector and individuals. Sources of funds mainly came from the state budget and those mobilized from the people's deposits.

Credit and savings cooperatives. Starting its operations from 1956 in the north and 1982 in the south, they were credit organizations under collective ownership on the basis of shares of its members. Members of a credit cooperative were also the members of an agricultural service cooperative. It was the system of savings and credit in rural areas. By the end of 1960, in the north, credit cooperatives were established in almost all communes with 5,294 units and 2,082,000 members. In the south, only for four years of 1982 - 1986, each commune established a credit cooperative following the model of the north.

Through their existence of over 30 years, the system demonstrated their effectiveness through the monetary and credit activities in rural areas. It was also the most important agent to mobilize capital for the State Bank, mainly by means of saving deposits (60-70% of the total savings of the State Bank). Credit cooperatives also played the role of an intermediary financing institution of the State Bank. Noticeably for the period of 1966-1970, credit cooperatives expanded the role as an independent credit institution in communes.

While credit cooperatives served the farm economy in providing credit and mobilization of money in rural areas, their weaknesses included:

- (1) They were established in the unique form with heavy political obligations, while no effective controlling system was created. Nor regional and local specificities were considered;
- (2) The organizational structure was not appropriate as a voluntary institution. All members of agricultural production cooperatives automatically became those of credit cooperatives. Share holding was too small and did not relate to the responsibility of each member, and the managing board was not directly responsible to the performance of cooperatives; and
- (3) Managers were not well trained, nor elected according to one's ability and confidence.

Informal credit and saving system in rural areas. Various types of tontines and lendings had existed

for long time, largely in a spontaneous manner. Tontines are organized by the people who need a great expenditure. Lendings were made with or without interest, in cash or kind, often with high interest rates.

II. Present rural credit system

The year of 1988 was a milestone marking a great change in agricultural management and rural development, including the credit system. In order to quickly transfer banking service activities to a market oriented mechanism, the rural credit system was entirely restructured. In order to fully exploit available funds, the government encouraged various types of fund mobilization. Following the multi-sectoral principle, types of rural credit were also diversified, particularly short term loans were directly given to farm households. Positive interest rates were introduced.

The State Bank was restructured and the new Vietnam Bank for Agriculture (VBA) was established. VBA aims at supporting rural economic development in providing funds. In addition, various credit schemes for rural economic development have been generated including the programme for greening barren land and bare hills and the programme for job generation in rural areas.

Credit activities of the Viet Nam Bank for the Agriculture (VBA). Significant feature of the change in the VBA's operations was the shift from subsidized credit to commercial one, in which an emphasis was placed on individual production households. Credit provided to production households has been mainly in short term for covering seasonal production costs. Medium and long term credits only occupied 1-6% of the total lending in 1990-1992. Unique interest rate structure has been applied, while concessional rates have been applied for the credit in mountain regions, remote islands, new economic zones and other special areas.

Modalities of credit provision have been changed. Direct lending has been largely given to the clients with collaterals. The VBA also provides loans to individual groups voluntarily formulated by the farmers. Indirect lending is made through intermediary financing institutions with a premium.

VBA has been operated under difficult condition. It has a large scope, numerous staff, and backward technical and material bases, under the conditions of incompatible policies and mechanism. Nevertheless, the Bank turned losses in early years of its operations to profits since 1993.

Major issues faced by VBA in the coming years are:

- (1) To diversify types and sources of capital (funds) mobilization;
- (2) To strengthen lendings to promote integrated economic development in the areas of both new and traditional activities directed to domestic and foreign markets; and
- (3) To expand intermediary financing of funds from government and external donors.

Credit cooperatives. At the end of 1994, there were 88 credit cooperatives in which 19 had changed their status to the People's Credit Funds, and the remaining 69, mostly in the north, obtained the operation licenses. These cooperatives were formed in accordance with the Decree on Banking, Credit Cooperatives and Financial Corporation in 1990 and its related rules, on the basis of the willingness of members. They are generally well organized and managed. However, affected by the credit collapse and high inflation, the lack of a consistent policy for the part of government, the development of credit cooperatives has been painfully slow.

The Central Bank in 1993 submitted a project of the People's Credit Funds (PCF) which was approved by the government as an experimental project. The objective of the project is to test a new cooperative model in the area of monetary and credit based on the experiences in other market economies. The Funds are based on the principles of willingness, self-supporting, mutual help, and democratic management. The PCF has expanded quickly its operations and demonstrated the effectiveness, though the staff and management capabilities are to be further improved.

Rural Corporate Banks. At the end of October 1994, 16 rural corporate banks, 14 in the south and 2 in the north, were formed. They aims at mobilizing funds and serving as an agent of the State Bank to

channel funds to the members. They also work as an agent cum seller of agricultural materials and goods.

Programmes financed by domestic capital resources.

(1) Programme for Job Creation in Rural Areas. Established in 1994 by a resolution with the total fund of 300 billion Dong and the lending interest rate of 0.5% per month.

(2) Programme for Greening Bare Land and Bold Hills. The government provides 150 billion Dong every year for this programme.

In both programmes, the steering commissions are established at central, provincial and sometimes district levels which examine and approve the projects financed by the respective programmes.

Programmes and projects financed by the external donors. Since 1990, an increasing number of programmes financed by external resources-multilateral, bilateral and non-governmental sources - supporting agricultural and rural development were set up. The government is responsible to repayments of funds regarding the programmes funded by official sources. Almost all NGOs in this category of projects combine agricultural extension with credit provision to farm households in communes and villages.

Credit for the poor in rural areas. As the rural poor attracts much attention of the government, several experimental credit projects targeting the poor in specific provinces and communes have been implemented. In 1994, the VBA, with the borrowed money of 432 billion Dong from the State Bank, started an experimental project called the "Funds of Favorable Loans for the Poor People". This project was established on the basis of the experience both within and outside Viet Nam regarding credit schemes for the rural poor. In December 1995, the above project was institutionalized to a bank called the Vietnam Bank for the Poor (VBP).

Non-official savings and credit. Farmers established so-called "ho" by contributing money or rice in order to obtain money for such uses as house construction or purchases of production inputs. Sometimes "ho" serves for children to take care of their aged parents or make the funerals. There are various fund making groups ("phuong ho") operating in rural areas. Their positive sides include that these farmers can help each other in production as well as daily life through the group. According to a survey conducted by Ministry of Agriculture and Rural Development (MARD) in nine provinces in 1991, the funds from informal credit systems accounted for 20% of the total funds which farmers borrowed from various sources. In many provinces, however, these funds turned to "hui ho" in imposture character. Private credit, mainly by private traders, is also popular in the rural Viet Nam. While these credits are simple in procedure and flexible, interest rates are variable for 7 - 10% per month, some cases as high as 15 - 20%.

III. Interest rate structure of rural credit

Since August 1992, all economic components have been equally treated regarding loan lendings, while interest rates of savings are still kept to be different among economic components. Favorable interest rates, 15% (per annum) less than the lending interest rate of the State Bank, are applied mountain, border, island, new economic zones and areas. For credit projects belonging to specific programmes of the government, prescribed interest rates are applied.

Since January 1996, the State Bank does not determine lending and savings rates for the commercial banks and organizations, but on the basis of the ceiling lending rate and within the difference of 0.65% per month, they can determine the rates of lendings and deposits.

IV. Rural savings

According to the estimation of a team led by Dr. Xuong, amounts of rural savings are not negligible. It is estimated that rural savings accounted for 7.3% of the GAP in 1993 which rose to 9.3% or 1.5 trillion Dong in 1995. Such a magnitude of rural savings suggests importance of their mobilization through appropriate channels.

Summary of Findings of the Farm Household Survey

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I. Overview of the survey

(1) Objectives

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

(2) Method of the survey

From surveyed village 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 each were selected. Selection of the farm households was carried out in considering balanced distribution among various classes in each village.

(3) Survey items

- 1) Overview of farm economy: family composition; income and employment structure; and asset holding.
- 2) Farm activities: land ownership and tenure; land utilization; production, and marketing of agricultural products.
- 3) Farmer organizations including agricultural cooperatives.
- 4) Rural and agricultural credit
- 5) Future prospect of farm economy: prospect of non-agricultural activities; migration to urban areas.

II. General situation of the surveyed villages

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

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

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

Two communes were selected from Dak Lak province. Quang Phuc commune is a 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 engaging in the coffee production. It is the village of the Ede ethnic minorities. The Edes are used to carry out slash and burn farming with the matriarchy, but their traditional society has been changing with modernization. (This village is hereby referred to "Dak Lak-Ede").

(3) 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, and houses are lining along canals. Rice yield is relatively low due to the acid soil and the sugarcane- rice cropping system prevails. (The village is hereby referred to "Can Tho").

III. Summary of the results of the survey

1. General situation of farm households

(1) 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. 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 villages¹⁾.

(2) The 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.

(3) Education level of family heads

The average of schooling period is 5.6 years. The Ede people has the shortest period of education. It may be caused the under-developed conditions of education but may be affected by the fact that many families are female headed because of their matriarchy society. Dak Lak-Kinh has the highest education level which is probably caused by the nature of the migrated people who are progressive and relatively better off and 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 with one university educated. A wide difference among households is observed.

2. Income and employment structure

(1) Major income sources

Agriculture is the major source of income without exception. In Dak Lak where commercial agriculture develops, off-farm employment opportunities like service industries exist and provides a source of income.

In Thai Binh and Can Tho, non-agricultural activities are the second important source. Thai Binh has the mat manufacturing industry, while the service industry is the secondary source in Can Tho.

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 do not yet penetrate in villages and farmers are keen to sell small amounts of a variety of products by themselves so as to obtain sales margins.

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

(2) Employment structure

Family heads predominantly engage in agriculture. In Dak Lak trading is more found than in other survey locations. An average number of working persons is 2.9. In Can Tho where the family size is the largest, number of working persons is the largest. In Thai Binh where the farm size is small, 74% of households engage more or less in other professions than farming.

3. Asset possession

(1) Housing

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

(2) Pig barn

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

(3) Other buildings

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

(4) 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. While there are a few in Can Tho, 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 buffalos as draught animals have been rapidly decreasing in this region.

Other productive assets include sprayers owned by about a half of farmers: Thai Binh 46%, Dak Lak-Kinh 46%, Dak Lak-Ede 15%, Can Tho 58%, which underlines extensive practicing of pest and disease control. Threshers and pumps also became popular. In Can Tho, their owners rent out the machines, some being specialized in the business. These phenomena suggest the mechanization would be practiced wider than the ownership ratio suggests.

(5) Durable consumer goods

Durable consumer goods spread relatively widely. Television sets 37% (Thai Binh 34%, Dak Lak-Kinh 63%, Dak Lak-Ede 23%, Can Tho 34%). Radio : 48% : (40%, 63%, 31%, and 58% respectively). But refrigerator has just begun to be introduced: only one in Thai Binh, and as for telephone 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.

Bicycles are already popular, but motor bikes started to be introduced though regional differences are observed: Thai Binh 6%, Dak Lak - Kinh 66%, Dak Lak-Ede 31%, and Can Tho 0%. There are some even having a car in Dak Lak. Since in Can Tho people relies on water transportation, no motor bikes is owned.

4. Situation of farm management

(1) 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.

(2) Cultivating acreage

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

(3) Land tenure

More than half of the households in Thai Binh has a rented land. The owners are agricultural cooperatives and People's Committee, and some from other farm households. The rent amounts to 120,000 Dong- 360,000 Dong per "sao" (0.036 ha), which means US\$ 303-909/ha (US\$ 1=11,000Dong) but cooperatives rent out with 240,000 Dong per sao (US\$ 606 per ha). According to 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 Dong 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 to rent a land in Can Tho, but it is said the rent amounts to 5 million Dong/ha (US\$ 455). The ratio of the rent in gross income²⁾, in case of the standard cropping pattern of sugarcane-rice, is 20-30%, lower than that in Thai Bin.

The higher rent in Thai Binh than in Can Tho would 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 thus farmers prefer buying rights to renting.

(4) Rent out land

There are few rent land between farm households. This figure however has to be viewed with doubt as for Dak Lak and Can Tho. For instance, it is reported that land transfers called "cam co" (mortgage) are relatively popular along with renting of farmland. Such an informal transfer is generally difficult to be collected in a quick survey as this time. It is estimated that land transfers through various means would take place to a greater extent than those appeared in the survey.

(5) Transactions of land use rights

Such a transaction is not held in Thai Binh where land distribution and issue of certificates of land tenure were carried out only recently. On the other hand, in Dak Lak and Can Tho where land collectivization was not extensive and commercial agriculture developed, transactions of land use rights are observed. 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 price of transfer, 25 million Dong per hectare, is close to the gross income from one hectare of land (22.8 million Dong according to the People's Committee and 17.2 million Dong/ha according to the survey result). 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

(1) Sales of products

Turn-overs of farms considerably differ by region. In Dak Lak-Kinh, the average annual sales proceeds per farm amounts to 31,283,300 Dong (US\$ 2,844). Applying the estimated income ratio of 40% obtained at farms to this figure, the average annual income amounts to 12,513,200 Dong or US\$ 1,140. In Dak Lak-Ede, while they grow coffee as well, the average sales are only 14% of the above figure (1,743,200 Dong or US\$ 158).

2) 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 the farmgate prices are 160 Dong/kg and 1,700 /kg respectively, the gross income is estimated to be 22.8 million Dong, i.e., the rent corresponds to 21.9% of gross income. Farmers report less yields than above, 70 t/ha for sugarcane and 3.5 t/ha for paddy. In these assumptions, the ratio is 29.2%.

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

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

In Thai Binh the sales value is smaller after Dak Lak-Ede. Due to the tiny acreage of farms in spite of the highest level of rice yield, the average farm sales are only 4,418,000 Dong (US\$ 402). Assuming the income ratio of 50%, the agricultural income would be 2,214,000 Dong (US\$ 200). Ratio of rice in the total sales is as high as 42.3%, while diversification has developed. Livestock products, specifically pork, is important, and maize, potato, vegetables and aquaculture provide additional incomes.

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

(2) Difference in sales proceeds among farmers

Farm households in each survey location are classified into five strata, each being 20% of the total numbers according to their sales value of agro-products.

The difference of sales values of agricultural products among these groups is the least widest in Thai Binh where the difference between the highest and lowest groups is 6 times. In Dak Lak - Ede the difference is wider; the highest group earns 3.87 times of the average sales, given the average as 100 the lowest 0 and group four (second from the lowest) 5. This results in that some farmers introduce coffee, while some remain in subsistence stage. As for Dak Lak-Kinh the difference becomes wide as well between those settled there earlier and grow coffee and those settled later on less fertile and smaller land.

In Can Tho, there is a big difference if not wider as for Dak Lak. The highest group sells 2.7 times of the average and 14 times of the lowest. This difference is largely caused by the farm sizes as rice and sugarcane produce the income.

(3) Marketing channels

Merchants prevail particularly in the marketing of rice, sugarcane, and coffee. In Thai Binh all but one farm, who sells to the agricultural cooperative, sell rice to merchants. Sugarcane in Can Tho is sold to traders. Most of traders are the Vietnamese but some may be the 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 caused by the fact that coffee producers in the latter village purchase fertilizer on credit from cooperatives and in return they sell the products to cooperatives. Thus they consider agricultural cooperatives is indispensable.

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

(4) 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%), livestock (10%) are indicated in the order of frequencies. In Dak Lak, 80% of farmers indicated coffee as most profitable, and in Can Tho the responses concentrate in sugarcane (68%) and rice (28%). Rice as the profitable crop may reflect its recently improved price.

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

(5) Willingness of 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. Difference among regions is however big. In Thai Binh where the 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 sizes, implicating the strong willingness for coffee production. Similarly in Can Tho, many wish to expand. Higher prices of rice together with the brisk land transfers are assumed to affect the response.

(6) Crops to be expanded

To the question of what kind of crops to be expanded, farmers in Dak Lak respond with an overwhelming 96.2% as coffee. In Can Tho, many indicate as "cultivation" which is likely to be meant to be rice and sugarcane, that is, a further expansion of the currently grown crops.

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

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

(7) Problems for continuing farming

Shortage of funds is mentioned as the biggest problem (79.3% of the total answers). It demonstrates intentions to diversify and intensify the farming, and funds are badly required. Next comes the problem of "no market is readily available". It appears that while for such crops as rice marketing channels are established, newly marketed crops like vegetables have no established channels. It implies that agricultural diversification needs to be accompanied by improvement and modernization of marketing mechanism and facilities.

3. Farmer organizations including agricultural cooperatives

(1) Participation in farmer organizations

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

In Thai Binh, "ho" as an informal savings organization develops which many farmers join.

(2) Need for agricultural cooperatives

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

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

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

It is not expected that 60% of farm households in Can Tho see the cooperative useful despite 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 organizations working for labour exchanges to alleviate labour shortage in some farm households. It implies that even in the Mekong River delta where farmer organizations have not developed, farmers need farmer organization to resolve problems which cannot be coped with by individuals.

(3) 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. Future studies are required to identify and specify the farmer organizations meeting their needs in the circumstances.

IV. Rural and farm credit

(1) Need for loans

Overwhelmingly many farmers express their needs for loans to their farm investment.

(2) Lenders of loans

The Vietnam Bank for Agriculture (VBA) is the major supplier of loans in providing 68% of the total. The share of VBA in the total lendings however varies by region. It provides a large part of loans in Can Tho. On the other hand, in Dak Lak-Ede farmers rely their funds on friends and relatives, and in Dak Lak-Kinh they borrow from both VBA and the State Bank.

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

(3) Issues of VBA

Among the issues of VBA, "the procedures of lendings is cumbersome" is the most frequently pointed. 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 ways and means of loan provision in mountain and remote areas.

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

Few farmers point out a delay in issuance of land tenure certificates as an obstacle to lendings. Shortage of mortgage is pointed out in Can Tho where many farmers do not own land.

(4) Savings

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

Only found is in Thai Binh "ho" is common as the means of savings, in which about 29% of the surveyed farmers participate. The payments are generally made in rice, while in Dak Lak in coffee. The objective of joining "ho" is largely to obtain the money for house construction or reconstruction.

5. Future prospect of farm economy

(1) Shift to non-agricultural activities

Only a few farmers (4.0%) intends to shift their activities to non-agricultural ones while, as seen earlier,

41% of farmers direct towards an expansion of farm size. None of them intends to change entirely to non-farms.

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

(2) 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.

However answers regarding living places of their children are different. Out of the replied farmers, 80.0% foresee that their eldest sons will "stay in the village in the future", and 77.3% of other children. Moreover 14.0% of eldest sons and 22.7% of other children are foreseen to move to nearby towns and cities. It suggests high possibilities for the next generation of rural people to move into urban areas. As the current urban population is as low as 20% of the total, this may imply a rapid increase of urban population.

List of Members of Research Group

	Viet Nam Side	Japan Side
	Leader Nguyen Quang Thai	Leader Shigeru Ishikawa
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Agricultural and Rural Development Group	Chief Nguyen Xuan Thao Le Hong Thai Nguyen Thai Nguyen Cao Duc Phat Nguyen The Nha	Chief Yonosuke Hara Yumio Sakurai Retangieppu Kuriki Yoichi Izumida

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Record of the Vietnamese-Japanese Conferences in Phase 1 of the Study on Economic Development Policy in the Transition toward a Market-oriented Economy in Viet Nam

1. Preliminary Conference in Hanoi for Project Formation (May 1995)

Main academic members of the Japanese side participated in this conference. It was agreed that the project be proceeded as joint Japanese-Vietnamese study for the two year period ; the first year as Phase 1 and the second year as Phase 2. In this conference, the Viet Nam delegates requested that the Japanese academic members make, in a few months, comments and policy suggestions on the early version of the draft new Five-year Plan, which should be prepared soon. The Japanese side accepted this request, calling it as the request for "Urgent Proposal."

2. The First Hanoi Workshop (August 1995)

- Urgent proposal for the Initial Draft of the Five-year Plan and discussion on research topics for joint study project

Monday, Aug. 28 (8th Floor, JICA Viet Nam Office)

Opening Sessions 1. Opening remarks Vietnamese side Japanese side	Masaru Todoroki Vo Hong Phuc Norio Hattori
Session 1 (Macroeconomy) 1. On Initial Draft Five-year Plan (1) Feasibility to achieve targets of macroeconomics growth (2) State enterprise reform 2. Vietnamese presentation on the planning model Underlying beneath Initial Draft of Five-year Plan	Shigeru Ishikawa Koji Haruta Nguyen Quang Thai
Session 2 (Industrial policy) 1. Urgent comments on the Five-year Plan 2. Comments on Initial Draft of Five-year Plan on ASEAN, AFTA and APEC on the relationship between the economic growth of neighboring countries and that of Viet Nam 3. Vietnamese presentation	Yasutami Shinomura Shujiro Urata Kenichi Ohno
Session 3 (Fiscal and monetary policy) 1. Urgent proposals on Five-year Plan 2. Vietnamese Presentation	Ryokichi Hirono Toshihiko Kinoshita Lai Quang Thuc

Tuesday, Aug. 29

Session 4 (Agricultural and rural development) 1. Urgent proposals on Five-year Plan 2. Vietnamese presentation	Yonosuke Hara
Session 5 Discussion	
Session 6, 7 Discussions - With the aim at clarifying priority of joint research work during phases 1 and 2 - Questions	

3. The Consultation Meeting in Tokyo on Research Designs (November 1995)

— Discussion on the sub-topics for research groups of the joint study

Monday, Nov. 27 (Meeting Room C, 27th Floor, Shinjuku Mitsui Building)

1. Opening remarks and introduction of the members and other attendants of Japanese side	Shigeru Ishikawa
2. Introduction of the members of the Vietnamese side	Nguyen Thai Nguyen
3. Introduction of the New Five-year Plan of Viet Nam	Nguyen Quang Thai
4. Question & answer	
5. Consultation on the topics and research plan of the study (1) Review of the prior consultation of 22nd October (2) Vietnamese comments on the Japanese proposal on the research plan	
6. Presentation on the research plan & preparation of each sub-committee (1) Macroeconomy (2) Fiscal and monetary policy (3) Industrial policy (4) Agricultural and rural development (5) Question & answer	Shigeru Ishikawa Ryokichi Hirose Yasutami Shimomura Yonosuke Hara
7. Presentation by the Japanese side on the final research plan	

Tuesday, Nov. 28

1. Sub-committee of macroeconomy (1) Growth, inflation and deficit of international balance of payment – Analysis by standard type models (2) Development and environment in industrializing Asia : An economic point of view	Mitsuo Ezaki Shigeaki Fujisaki
2. Sub-committee of agricultural and rural development (1) Viet Nam : Agricultural and rural development (2) Issues of rural finance – Examples of Japan and Thailand	Yonosuke Hara Yoichi Izumida
3. Sub-committee of fiscal and monetary policy (1) On the foreign saving mobilization, management of foreign debts and control of exchange rate (2) A research plan for two phases (3) Economic transition and fiscal management of Viet Nam – Further issues to be discussed	Toshihiko Kinoshita Shinichi Watanabe Eiji Tajika
4. Sub-committee level discussion on the research plan	
5. Sub-committee of industrial policy (1) Proper choice of industry and technologies and the dualistic economy (2) Relation between Vietnamese economy and participation to AFTA and APEC	Masahiko Ebashi Koichi Ohno
6. Wrap-up session (1) Discussion and agreement on the fiscal research plan (2) Consultation on the additional comments on the New Five-year Plan of Viet Nam (3) Any other matters relevant to the subject	

4. Tokyo Workshop (January 1996)

— General comments on the Draft Five-year Plan (CG Version) and agreement on Sub-topics of the joint study

Sunday, Jan. 28 (Meeting Room A, 27th Floor, Shinjuku Mitsui Building)

1. Opening remarks and overview Introduction of the members of the Japanese side	Shigeru Ishikawa
2. Introduction of the members of the Vietnamese side	Le Duc Thuy
Introduction	
1. Comments on Five-year Plan	Le Duc Thuy
2. Selected issues in the New Vietnamese Five-year Plan : Experiences of Japan and China	Shigeru Ishikawa
3. Disparity issues — Experiences of integrated regional development planning in Japan	Ryoichi Yamagishi
Macroeconomy	
1. Issues on macroeconomics in Viet Nam	Le Duc Thuy
2. Simulation analysis on growth versus stabilization	Shinichi Watanabe
3. Recommendation on industrialization and the protection of environment to Viet Nam — Based on Japanese experience	Masashi Hattori
4. Discussion	
Fiscal and monetary policy	
1. Fiscal and tax reform towards year 2000	Tran Van Ta
2. Mobilization of domestic savings	Ryokichi Hirono
3. Economic transition and fiscal management of Viet Nam : Further issues to be studied	Eiji Tajika
4. Research on mobilization of domestic savings	Shinichi Watanabe
5. Medium and long term finance in Viet Nam — Situation analysis and approach towards improvement	Kazuyuki Mori
6. External debt and FDI	Toshihiko Kinoshita
7. Discussion	

Monday, Jan. 29

Industrial policy	
1. On some issues of industrial development orientation in Viet Nam	Pham Quang Ham
2. Comments on the selection of the five capital intensive industries	Yasutani Shimomura
3. Outlook of the international market conditions and issues related to investment into the five capital intensive industries	Koichiro Fukui
4. Impact on Vietnamese economy by joining in AFTA	Koichi Ohno
5. Future direction of APEC after OSAKA meeting : Implication for Viet Nam	Masahiko Ebashi
6. Discussion	
Agricultural and rural development	
1. Vietnamese problems in agricultural sector and the possible measures	Nguyen Xuan Thao
2. On improvement of agricultural productivity in Viet Nam	Yonosuke Hara
3. Financial organizations in rural area : Asian experience and its possible application to Viet Nam	Yoichi Izumida
4. Discussion	
1. Remarks	Vo Hong Phuc
2. Wrap-up and closing remarks	Shigeru Ishikawa Le Duc Thuy

5. The Second Hanoi Workshop (March 1996)

— Discussion on results of the Joint Research

Friday, March 1 (MPI Training Center)

Opening remarks	
1. MPI	Vo Hong Phuc
2. Embassy of Japan	Shiro Sadoshima
3. JICA	Masaru Todoroki
I. Macroeconomy	
(1) Macroeconomy and poverty in Viet Nam	Shigeru Ishikawa
Comments	Nguyen Quang Thai
(2) Macroeconomy and regional development	Nguyen Quang Thai
Comments	Shigeru Ishikawa
(3) Result of macro model analysis (Growth and stability)	Shinichi Watanabe
Comments	Nguyen Bau Quyen
(4) Environmental problems in Viet Nam	Le Dang Doanh
Comments	Shigeaki Fujisaki
(5) General discussion	
II. Industrial policy	
(1) Some issues on industrial policy	Pham Quang Hanh
Comments	Kenichi Ohno
(2) Participation in AFTA and APEC	Koichi Ohno
Comments	Ho Quang Minh
(3) Small and medium size enterprises and agricultural industry	Nguyen Dinh Phan
Comments	Masahiko Ebashi
(4) General discussion	

Saturday, March

<p>II. Industrial policy (Cont'd from March 1)</p> <p>(5) Five capital-intensive industries and possible problem for new investment Comments</p> <p>III. Fiscal and monetary policy</p> <p>(1) Financial reform toward 2000</p> <p>(2) Taxation reform in Viet Nam</p> <p>(3) Comment on fiscal and monetary policy</p> <p>(4) Comments by Japanese experts</p> <p>(4) - 1 Overall comments</p> <p>(4) - 2 Comments on the management of foreign capital mobilization</p> <p>(4) - 3 Comments on the domestic saving mobilization</p> <p>(4) - 4 Comments on the fiscal mobilization</p> <p>(5) General discussion</p> <p>IV. Agricultural and rural development</p> <p>(1) Diversification of agriculture in Viet Nam Comment : with special emphasis on the development of food crop</p> <p>(2) Development in the rural credit system of Viet Nam Comments from the perspective of the cooperatives and rural credit system</p> <p>(3) Comments on agricultural improvement Proposal of agricultural policy comments</p> <p>(4) General discussion</p> <p>V. Discussion</p> <p>Conclusion</p> <p>Closing remarks</p>	<p>Koichiro Fukui Ngo Dinh Giao</p> <p>Lai Quang Thuc Tran Van Ta Vo Dai Luoc</p> <p>Ryokichi Hirano Toshihiko Kinoshita Shinichi Watanabe Kazuyuki Mori</p> <p>Nguyen Xuan Thao Seiji Shindo Dang Tho Xuong Yoichi Izumida Yonosuke Hara Yumio Sakurai</p> <p>Shigeru Ishikawa Nguyen Quang Thai</p> <p>Vo Hong Phuc</p>
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