# **Agriculture of Northern Delta in First Decade of Renovation**

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**Abstract:** The country's  $D\hat{o}i$   $m\acute{o}i$  (Renovation) process initiated and led by the Party since 1986 has brought about great achievements to the agriculture of Vietnam in general and that of the Northern Delta in particular. Specifically, the breakthroughs of the agricultural sector in the Delta are in boosting the rice production and the quantity of livestock and poultry. Important transformations in its rural areas and among the local farmers are somewhat stronger than those in the Mekong River Delta, which was in a better position when the Renovation commenced.

**Keywords:** Agriculture, Northern Delta, Đổi mới (Renovation).

### 1. Introduction

Though the Northern Delta was situated by the Red river with fertile soil, favourable weather and dynamic people, for a long period of time during the subsidy period, the people there were not able to produce enough food, mainly rice, themselves. In some regions, as early as the 1960s and 1970s, the phenomenon of "khoán chui" (sneaky contracts - the farmers were secretly allotted a certain amount of food quota to be submitted to the cooperative after harvesting and kept the appeared. Among rest for themselves) examples were Hai Phong city, where almost every district conducted the "xé rào" (tearing the fence, i.e. breaking the rule), or Vinh Phuc province, closely tied with the reputation of Party Secretary Kim Ngoc, who dedicated his life to the people and was mentioned repeatedly with appreciation in the  $D\hat{o}i$   $m\acute{o}i$  (Renovation) period. However, only after Resolution 10 of the Politburo in April 1988 did the country's agriculture in general, and that of the Northern Delta in particular, show impressive changes. This article analyses the overall picture of the Delta's agriculture in the first decade of the renovation period.

# 2. Elements that influenced the development of the Northern Delta's agriculture

The Northern Delta possesses a large population and a long history of reclamation.

Its advantage lies in an abundant labour force whose experiences in production have been accumulated for thousands of years. The Northern Delta is also a place where traditional professions and craft villages are still maintained. This represents an outstanding advantage over other regions in boosting the development of agriculture.

The Northern Delta has a natural area of 15,000km<sup>2</sup>, 70% of which being alluvial and fertile soil [9, p.14]. This area has a triangle shape. The top of the triangle originates from the Northwest direction, Lap Thach district, Vinh Phuc province. It spreads in a fan shape to the Southeast towards the sea, whereas the bottom starts from Thuy Nguyen district, Hai Phong and follows the seaside towards Kim Son district, Ninh Binh province, covering 265 km. The Delta is very suitable for intensive water rice farming, growing other crops and short-term industrial crops and exploitation and culture of aqua products.

The Northern Delta region has a humid subtropical climate, which is close to temperate climate with lots of sunshine and rain. Basically, this climate is suitable for agricultural production. Apart from the sea and rivers, the Northern Delta possesses many other resources. There is an abundance of white clay in the province of Hai Duong, limestone in the city of Hai Phong, and the provinces of Ha Tay and Ninh Binh. The rich reserve of brown coal is very beneficial for the development of industry and handicraft, a sector that provides ample support to agricultural development.

At the start of the renovation period, many major policies of the government spurred the development of the rural areas in general and the Northern Delta in particular. Many breakthrough policies in agriculture, the first being Resolution 10 of the Politburo on the "Renovation of the management of the agricultural economy" dated 5 April 1988, fundamentally changed the management mechanism of the agricultural economy. A farming household was determined to be an autonomous economic unit on all three fronts: ownership, management and distribution.

The Resolution of the 6<sup>th</sup> Plenum of the Party's Central Committee (6<sup>th</sup> tenure) in March 1989 further deepened the Party's view of comprehensive renovation and, at the same time, expanded sectors in rural areas, formed areas of specialised farming with a high rate of goods and encouraged farming households to actively pursue wealth [5, Vol.49, pp.965-968].

Notably, the Resolution of the 5th Plenum of the subsequent Party's Central Committee (7<sup>th</sup> tenure) dated 10 June, 1993 on the "Continuance of strong socioeconomic renovation and development" asserted the expansion of rights on farming land, including: conversion, transferring, leasing, inheritance and use as collateral. The resolution maximally mobilised the economic potential of farming households (households of members of cooperatives), household enterprises, private households and joint-ventures with foreign entities. It also connected production with the market, expanded production in conjunction with the expansion of the consumer market for farm products [6, Vol.52, pp.701-702]. In the spirit of the above policies, provinces in the Northern Delta rapidly embarked upon the process of dismantling the old system, redefining the functions of the cooperative and building the material and

technical infrastructures for agricultural production. Up until 1993, the Delta's agricultural cooperatives were still in the process of conversion into the new system. Specifically, the Northern Delta had 2,509 agricultural cooperatives, of which 810 had been successfully converted, accounting for 32.2%. This rate was higher than that of the whole country - at 17.5% and those of other regions, such as the midland at 20%, the central region at 16.1%, the Central Highlands at 20%, the Southeast at 16% and the Mekong River Delta at 11.5% [3, p.356].

However, only by the end of the first half of the 1990s, most provinces of the Northern Delta had completed the reallocation of farming land and converted the functions of agencies, sectors and organisations directly involved in agriculture into a new mechanism. Among those provinces, Thai Binh was a typical example.

Only after two years of implementing the Politburo's Resolution 10, farming land in Thai Binh had been fixedly allocated for the next 10 years and other production materials had been transferred in terms of the form of ownership. The cooperative's apparatus management was more streamlined. 100% districts combined the production teams with the hamlet administrations in order to overcome the separation between the social task and the economic task within an administrative unit (the hamlet). The management of farming land gradually fell into a routine. The proportion of cultivated land used for capital construction and housing in 1990 had decreased by 52% as compared with 1989 [12]. By 1993, state-owned enterprises in the province had been

restructured from 200 to 100 units. 50 failing units had been dissolved and 53 had been merged or converted to conform to the new system. Several enterprises which were quick to adapt to the new system had begun to achieve efficient performance, such as those engaged in irrigation, transportation and agricultural services. Agricultural cooperatives adopted changes in economic content and management mechanism, able to maintain their managing role in a number of key steps and apply technological advancements in production [2].

Additionally, provinces in the Northern Delta rapidly built the material technical infrastructures, the first of which being irrigation works. Within only 2 years, from 1988 to 1989, the State's investment capital into irrigation works in large cities and provinces of the Delta such as Hanoi, Hai Phong, Hai Hung (now divided into Hai Duong and Hung Yen), Thai Binh, Ha Nam Ninh (now divided into Nam Dinh, Ha Nam and Ninh Binh) increased from VND 4.648 billion to VND 11.013 billion, a rise by 2.37 times. The capital for construction increased from VND 3.438 billion to VND 8.979 billion, a rise by 2.6 times [14, p.139]. In the following years, the investment capital continued to rise. By 1996, the number of irrigation works in the Northern Delta had reached 7,811. Among them, the provinces with a high number of irrigation works were Hung Yen with 1,732, Thai Binh with 1,314, Hai Phong with 1,191 and Hai Duong with 1,038 [20, p.57].

On that account, the area of plants being irrigated yearly had expanded to a great extent. The area of plants watered annually by irrigation works in the Northern Delta increased by 1.8 times and more than 2

times as compared with that of the country as a whole. This proved that the watering by irrigation works in the Northern Delta was well performed in conjunction with the accumulation of the local people's experiences from thousands of years of water management in the condition of frequent rainstorms and droughts.

At the same time, provinces in the Northern Delta also focused their investment on pulling power (i.e. that of buffaloes and oxen), and machines and equipment used in agricultural production in order to help farmers maintain and develop the sources of pulling power that had existed for a long time. The number of buffaloes and oxen increased by 12% from 633,800 in 1988 to 714,800 in 1996 [18, Vol.2, pp.1274-1284]. The number of machines and pieces of equipment used in agriculture, fishery, forestry, commerce and services ... in the Delta increased up to 103,265 in 1994. The number of big and small pulling machines that were crucial to agriculture production was 14,670 [15, Vol.2, pp.202-226] whereas that of the whole country in 1988 was only 35,783 [13, p.114]. However, as compared with the whole country and other regions, the area of plants that benefited from mechanisation annually in the Northern Delta was rather small, accounting for 17.1% whereas that of the whole country was 33.8%, with Mekong River Delta at 64.2% and the Southeast at 30.1% [15, Vol.2, pp.111-117; Vol.1, pp.697-698].

The Northern Delta provinces promoted the improvement of plant varieties and livestock breeds and the restructuring of planting areas. Among these provinces, Nam Dinh was one of the localities that developed the policy with positive results. The province created a model of producing hybrid rice variety F1 cooperatives over an area of 200 hectares (ha). In 1992, the province had two rice variety farms in Vu Ban and Nghia Son. Vu Ban became a centre for researching and producing rice and fruit varieties for the Red River Delta. Nghia Son became a production unit for original rice varieties and the hybrid F1. Concurrently, the province made changes in the crop structure to yield greater efficiency, expanding the area of specialty rice on an area of 15,000 ha and specialising in sticky rice, "tám thom" (aromatic rice), Viet Huong Chiem, Nam Dinh 1, Khang Dan 18, Trang Nong 16. From 1995, the province proceeded to grow new kinds of rice in suitable areas, bringing about higher productivity and rice quality. For the two rice crops in the coastal areas under the impact of salinity, they were replaced by aquaculture or growing other kinds of plant [7, pp.483-484].

Apart from enhancing the productivity, increasing the planting area is one of the important elements in raising product output. The Northern Delta provinces mobilised their resources on expanding planting areas. Their annual rice growing area rose from 1.142 million ha in 1988 to 1.193 million ha in 1995, an increase of 50.2 thousand ha, or 4.4% [18, Vol.2, pp.1165-1169]. The area under food crops also increased considerably. The average annual area of corn for the period of 1985-1987 was 41.9 thousand ha and that for the period of 1988-1995 was 74.53 thousand ha, representing an increase of 1.78 times. The average areas of sweet potatoes for the above periods were 54.1 and 72.2 thousand ha respectively, representing an increase of 1.33 times [14, pp.101-107; 17, pp.59-65].

The above elements created sizable achievements in agricultural, forestry and fisheries production in the Northern Delta.

### 3. Major results

### 3.1. Rice production

The Northern Delta's rice productivity had an impressive performance: reaching 2.81 tonnes/ha in 1987, 3.26 tonnes/ha in 1988 4.55 tonnes/ha in 1996. industrialisation and modernisation were promoted. The average rice productivity of the Delta for the period from 1988 to 1996 reached the highest rate tonnes/ha/year whereas the same rates of the Mekong Delta River and the whole country 3.749 and 3.367 were tonnes/ha/year respectively. The rice productivity of the provinces of Hai Duong, Hung Yen, Nam Dinh and Thai Binh had the largest increases, among which Thai Binh had an outstanding rise in 1996 [18, Vol.2, pp.1171-1175].

This shows that the Northern Delta was an active region in rice growing. It applied both experiences accumulated for thousands of years and new methods such as using appropriate new varieties, applying technological advancements and providing good irrigation to prevent bad impacts of the current climate change.

As rice productivity increased along with the expansion of the planting area, the Northern Delta's rice output also rose steadily year by year. Its average rice output for the period from 1988 to 1996 reached 4.438 million tonnes/year. The localities with the highest average annual rice outputs were Thai Binh (809.75 thousand tonnes), Nam Dinh (658.1 thousand tonnes), Ha Tay (603.6 thousand tonnes) and Hai Duong (579.2 thousand tonnes) [18, Vol.2, pp.1178-1182]. Thus, in terms of both productivity and output, Thai Binh province had the highest result, followed by Nam Dinh, Ha Tay and Hai Duong.

## 3.2. Production of corn, sweet potatoes and cassava

The group includes the second kind of food crops after rice, which is also very important to the people of the Northern Delta. In the first decade of the renovation period, these food crops increased steadily on a yearly basis, especially from 1990 to 1995. The average corn productivity of the Delta was 2.378 tonnes/ha/year whereas that of the whole country was 1.772 tonnes/ha/year. During the period from 1985 to 1987, the Northern Delta's annual corn output was 73.8 thousand tonnes while the average output for the period from 1988 to 1995 was 175.9 thousand tonnes, an increase by 2.38 times. Localities like Hanoi, Hai Duong, Hung Yen, Thai Binh, Nam Dinh and Ha Nam had the largest corn outputs. The annual sweet potato output of the Northern Delta for the period from 1985 to 1987 was 405.3 thousand tonnes/year whereas that for the period from 1988 to 1995 was 565.3 thousand tonnes/year, representing an increase of 1.4 times. The provinces of Thai Binh, Hai Duong, Hung Yen and Ha Tay had the largest sweet potato outputs. As for cassava, the annual output for the period from 1988 to 1995 was 97.59 thousand tonnes whereas that for the period from 1990 to 1995 reached 75.1 thousand tonnes. The reduction in the annual output of cassava for the last five years was due to a decline in areas dedicated to the crop. In Ha Tay province alone, from 1990 to 1995, the annual cassava output was 36.5 thousand tonnes, accounting for 48.6% of the total cassava output of the Northern Delta over the same term [14, pp.99-105; 17, pp.61-63-69-75].

## 3.3. Products from industrial crops, fruit crops, vegetables and beans

The peanut was an industrial crop that was planted in large amounts in the Northern Delta. Ha Tay province had the largest output with 5,200 tonnes in 1995 and 5,700 tonnes in 1996. In the two years of 1995 and 1996, Vinh Phuc achieved 4,000 and 4,700 tonnes and Thai Binh achieved 4,800 and 4,000 tonnes. The sugarcane was the second industrial crop that was planted in the Delta. Its output reached 198,400 tonnes in 1995, among which, the provinces with the largest outputs were: Ha Tay (71,000 tonnes), Vinh Phuc (29,700 tonnes), Hung Yen (26,800 tonnes) and Ninh Binh (24,400 tonnes). The output of tea in 1995 and 1996 were respectively 300 and 300 tonnes for Hanoi, 1,100 and 1,200 tonnes for Ha Tay, 100 and 100 tonnes for Hai Duong, 300 and 300 tonnes for Ninh Binh and 100 and 100 tonnes for Vinh Phuc. Among fruit trees, the longan, litchi and rambuttan were planted extensively in the Northern Delta. The output in 1995 was 38,844 tonnes whereas that of 1996 was 61,722 tonnes, representing an increase of 22,878 tonnes. Provinces which produced the largest output in 1996 were Hai Duong (28,046

tonnes), Hung Yen (12,800 tonnes), Ha Tay (6,242 tonnes), Vinh Phuc (3,854 tonnes) and Thai Binh (2,275 tonnes). The remaining provinces had outputs being lower than 2,000 tonnes. Other fruit trees like the lemon, orange and tangerine were also grown in large quantities in the Northern Delta. Their outputs in 1995 and 1996 were 25,674 and 31,772 tonnes respectively. The outputs for bananas in 1995 and 1996 were 291,192 and 252,200 tonnes respectively. Apart from the above mentioned crops, vegetables and beans were widely planted in the Northern Delta. The outputs in 1995 and 1996 were respectively 1,349 and 1,750 thousand tonnes for beans and 9 thousand and 10.6 thousand tonnes for vegetables [4, pp.714-768].

# 3.4. Breeding of buffaloes, oxen and cows, pigs and poultry

According to the General Statistics Office, the average number of buffaloes each year for the period from 1988 to 1996 was 313,820. However, this number tended to decrease from 321,200 in 1988 to 269,300 in 1996, a reduction of 16%. Ha Tay, Hai Duong, Hai Phong and Thai Binh had the largest numbers of buffaloes [18, Vol.2, pp.1274-1278].

While the number of buffaloes was on a declining trend, the number of oxen and cows tended to rise from 312,600 in 1988 to 445,500 in 1996. Their annual number was 379,455 and there was a steady rise on a yearly basis. Ha Tay, Vinh Phuc, Ha Noi and Thai Binh were the localities with the largest numbers [18, Vol.2, pp.1280-1284].

Apart from the two above types of cattle, pig breeding was also an advantage of the Northern Delta. In the period from 1988 to

1996, the number of pigs increased remarkably year by year, with each year higher than the preceding one. The number of pigs in 1988 was 2,812,000 whereas that of 1996 rose to 4,336,000, equaling a rise of 1.54 times. The annual number of pigs in the Northern Delta was 3,514,000, among which the localities with the largest annual number of pigs, by a descending order, were: Ha Tay (539,000), Thai Binh (445,000), Hai Duong (412,000) and Nam Dinh (411,000) [18, Vol.2, pp.1286-1290]. As compared with other regions, the Northern Delta produced the highest quantity of pork and the growth rate of pork output only ranked after the Southeast. From 1990 to 1996, the growth rate of pork output of the Northern Delta was 8.3%, as compared with 5.86% of the Mekong River Delta, 6.08% of the Northeast and 5.59% of the South Central Coast [11, p.35].

The number of poultry of the Northern Delta in this period also increased rapidly and reached 37,697,000 in 1996, accounting for 25% of the total number of poultry of the whole country. This rate was 23.8% for the Mekong River Delta, 16.65% for the Northeast, 12.7% for the North Central Region, 9.6% for the Southeast and 7% for the South Central Coast. Ha Tay had the largest number of poultry whereas Ha Nam had the smallest [4, p.780].

Thanks to major results in cultivation (crop production) and husbandry, the value of agricultural production of the Northern Delta measured by the 1994 comparative prices increased continuously from 1988 to 1996. The value reached VND 11.702 trillion in 1988 and increased to VND 17.315 trillion in 1996. Ha Tay, Hai Duong and Thai Binh achieved the highest values,

which were, in 1996, VND 2.436 trillion, VND 2.104 trillion and VND 3.042 trillion respectively [18, Vol.2, pp.1150-1154].

### 3.5. Forestry and fisheries

Due to both objective and subjective conditions and specific characteristics of the sector, the development of the forestry did not enjoy such favourable conditions as those of the cultivation and husbandry. Thus, production in forestry only began and was strongly developed from the start of the 1990s. The value of forestry production was stable and on a rising trend over the last years of the first half of the 1990s. Specifically, from 1988 to 1993, the increase in value of forestry production was unstable with a rise to more than VND 300 billion in one year and a decline to less than VND 250 billion in another. From 1994 to 1996, the value of forestry production rose steadily from VND 303.8 billion in 1994 to VND 301.6 billion in 1995 and VND 372.4 billion in 1996 [18, Vol.2, pp.1298-1300]. On the whole, the country's forestry sector in general and that of the Northern Delta in particular still gained certain results and improvements in the planting of forests and raising the value of forestry production.

One of the potentialities of the Northern Delta's agricultural economy was the fisheries. This sector was developed when the country entered the renovation process in 1986 and continued to grow in the period from 1988 to 1996. Just like other regions that had an advantage in the areas of rivers and sea surface, under the government's policies, the Northern Delta had actively invested in machines and equipment used in

fisheries in order to efficiently catch aqua out aquaculture. products and carry Therefore, the fisheries output of the Delta increased very rapidly, especially from the 1990s onwards. The output was only 57,690 tonnes in 1988 whereas that of 1996 reached up to 135,562 tonnes, representing an increase of 2.35 times. The annual output was 77,621 tonnes while for each province, that number was 7,056 tonnes. Hai Phong had the highest annual output of 20,778 tonnes, which was 3 times of the average of the provinces. The city was followed by Thai Binh with 15,716 tonnes and Nam Dinh with 12,869 tonnes [18, Vol.2, pp.1324-1328].

As a result of the rise in the total output, the value of production of the Northern Delta measured in the comparative prices of 1994 also increased rapidly from 1988 to 1996, especially from 1992 to 1996. corresponding values of each year were: VND 494.279 billion (1992), VND 561.975 billion (1993), VND 694.320 billion (1994), VND 803.772 billion (1995) and VND 971.948 billion (1996). Hai Phong, Nam Dinh and Thai Binh made the largest contributions in the growth in value of fisheries production [18, Vol.2, pp.1318-1322].

The achievements in the Northern Delta's agriculture contributed not only to fundamentally resolving the demand for food of the country in general and the Delta in particular in the initial years of the renovation process, but also to achieving the goals of the "Three major economic programmes" by the 6<sup>th</sup> National Congress of the Communist Party of Vietnam and enhancing the position of Vietnam from an underfed country to the world's second largest rice exporter.

#### 3.6. Important changes in rural areas

Firstly, the major achievements of the Northern Delta's agriculture encouraged the development of non-agricultural sectors

For Vietnam's rural areas in general and the Northern Delta in particular, the initial achievements in agriculture were very important in the development of nonagricultural sectors and the improvement of the rural economy.

Evidently, during the first decade of the renovation process, many non-agricultural in the Northern Delta concurrently developed. Traditional craft and handicraft villages were the strengths of the area. From 1990 to 1993, the number of handicraft households and household enterprises had rapidly risen from 113,256 to 171,874 units [16, p.225]. Ha Tay had been named "the land of a hundred crafts" since long time before. In the first half of the 1990s, Minh Khai commune (Hoai Duc district) was a typical example for the model of rural industry. The commune's traditional crafts were the manufacturing of agroforestry products, which were mainly "miến", "bún" and "bánh phở" (kinds of rice vermicelli and noodles). 54% of the commune's households participated in these crafts. In 1995, the number of households performing the crafts reached accounting for 67% of the total number of households. These households generated 80% of the commune's total income whereas agricultural households, accounting for 33% of the total number of households, only created 20% of the total income. Thai Binh province restored and developed craft villages in more than 40 communes and the number of workers reached 40,603 people [4, p.29]. Bac Ninh, especially Tien Son district, was specialised in products of high economic value. Fine arts wooden furniture in Dong Ky (Dong Quang), Phu Khe and Huong Mac were widely and deeply developed. In "the iron village" Da Hoi (Chau Khe), 90% of the households manufactured products from iron and steel and each year contributed hundreds of million VND to the state budget. Noi Due commune organised and restructured craft villages that produced bamboo and rattan furniture for export, restored and developed the textile craft and sericulture and provided stable employment to hundreds of labourers [1, pp.495-496].

Secondly, agriculture was developed in a synchronised manner and directed towards commodity production

Upon entering the first decade of the renovation period, the Northern Delta's agriculture underwent relatively comprehensive, diversified and synchronised development from crop production and husbandry to forestry and fisheries. Its rice productivity exceeded that of the Mekong River Delta. The rice production was not just enough to feed the farmers but also contributed the stabilisation of the to country's security food and export. Moreover, a number of localities restored the production of high-quality specialty rice varieties, such as "tám thom", "dự hương" and "nếp cái hoa vàng", mainly to meet the demand of domestic consumers. Hai Phong and Hung Yen began to achieve successes in the application of Japanese technologies in intensive rice farming. Apart from that, the production of other crops, food crops, fruits, vegetables and beans also gained noticeable results, especially the longan and litchi in Hai Duong, Hung Yen, Ha Tay, Vinh Phuc and

Thai Binh. With respect to husbandry, especially dairy cow breeding, the steady rise in both the numbers and outputs of cattle and poultry brought considerable economic efficiency to regions with proper conditions. Forestry regained its strength in the first half of the 1990s after a period of stagnation, while the fisheries sector showed positive performance with continual increases in both the output and product value. More importantly, products of agriculture, forestry and fisheries started to be linked to the market in the direction of being commodities.

Thirdly, agriculture changed the face of rural areas and the lives of farmers

According to a 1994 census agriculture and rural areas by the General Statistics Office, development indicators of the Northern Delta were all very impressive. Apart from investing on infrastructure with a number of machines used agricultural development as mentioned previously, it was worthy to note that rural infrastructures, electricity, roads, schools, and health stations were significantly renovated and the level of investment even exceeded those of the whole country and the Mekong River Delta. The number of communes with the buildings of the People's Committees accessible by cars accounted for 99.5% of the total number of communes in the Delta whereas the same ratios of the whole country and the Mekong River Delta were 87.9% and 64.2% respectively. In 6 out of the 11 provinces and cities of the Delta, the figures are 100%. They were Thai Binh, Nam Dinh, Ha Nam, Ninh Binh, Bac Ninh and Vinh Phuc. The ratio of communes that had electricity in the Northern Delta was 96.5% whereas that of the whole country was 60.43% and that of the Mekong River Delta was 64.95%. In the Northern Delta, there were 3 localities, namely Thai Binh, Nam Ha and Bac Ninh, where 100% of their communes had electricity; 5 localities, namely Hanoi, Ha Tay, Hai Duong, Hung Yen and Ninh Binh, had that ratio being above 95%. As for education, the percentage of communes in the Northern Delta that had primary schools, lower secondary schools, kindergartens and nurseries was also higher than those of the whole country and the Mekong River Delta, especially the ratio of communes that had kindergartens and nurseries. The percentage of communes that had kindergartens and those that had nurseries in the Northern Delta were 96.6% and 77.3% respectively whereas the corresponding ratios of the whole country were 76.8% and 33.6% and for the Mekong River Delta, those ratios were 70.3% and 5.63%. With respect to community healthcare, in the Northern Delta, the percentage of communes that had health stations was 99.7%, which was higher than that of the whole country at 92.3% and that of the Mekong River Delta at 98.6%. It was worthy to note that there were 7 Northern Delta localities, namely Ha Noi, Ha Tay, Thai Binh, Nam Dinh, Ha Nam, Ninh Binh and Vinh Phuc, where 100% of the communes had health stations [15, Vol.2, p.9-59, pp.128-144]. In 1996, the Northern Delta had 1,963 health stations with 12,117 beds [10, p.124].

Achievements in agriculture made crucial contributions to the improvement of the mental and material lives of farmers in the Northern Delta. Thanks to excesses and accumulations from agriculture, houses in the rural areas were built in growing numbers. By 1994, 2,141,459 houses

categorised as "solid" and "semi-solid" had been built. Among them, 1,148,111 houses were built in 1986 or later, accounting for 53.6% the total of houses being built. The number of houses built in 1985 or earlier was 993,348, accounting for 46.4%. Evidently, the number of solid and semi-solid houses built in a period of less than 10 years (1986-1994) exceeded those built in a much longer period preceding that [15, Vol.1, p.7].

Along with the construction of nice houses, the Northern Delta people bought home accessories of greater value. especially audio-visual equipment and means of transport (vehicles). By 1994, for every 100 households, 36 had radios, 24.63 had televisions and 6.75 had motorbikes. In the region (not including Bac Ninh and Vinh Phuc) there were 1,004,116 radios, 657,787 televisions and 171,154 motorbikes. Apart from audiovisual equipment, in the first decade of the renovation period, telephones began to appear. In 1994, there were telephones in the Northern Delta, which equaled 0.26 telephones for every 1000 people. Among the localities, Hanoi had 630 telephones, Ha Tay had 511, Hai Hung had 769 and Bac Ninh had 433. [15, Vol.2, pp.676-678]. Though still small in number, the use of telephone provided the people with an access to a new form of behavioural culture of the human civilisation in the integration period.

### 4. Things to be improved

Firstly, the structure of the agricultural/rural economy changed very slowly. In

1995, agriculture, forestry and fisheries accounted for 71.9% of the gross domestic product (GDP) [19, p.53].

In terms of the structure of sectors in 1994, the ratio of agriculture, forestry and fisheries of the Northern Delta was higher than those of the whole country and the Mekong River Delta. In the Northern Delta, the percentage of households working in agriculture, forestry and fisheries accounted for 91.44% whereas those of the whole country, the Mekong River Delta and the Southeast were 79.73% and 72.44% and 50.4% respectively [15, Vol.1, pp.170-172]. The internal restructuring within the sector in the direction towards reducing the weight of crop production and increasing that of husbandry, fisheries and forestry took place more slowly than the changes in the structure of the rural economy.

Secondly, the economy was still purely agricultural, which was apparent in the prevalence of self-sufficiency, the fragmentation and scatteredness (i.e. being unconcentrated) of farming land and the low income and living standard of the farmers.

The fact that the economy was purely agricultural was reflected on in the GDP structure of the Northern Delta's rural areas. The percentage of production value of agriculture, forestry and fisheries was an overwhelming 94.44% whereas that of nonagricultural sectors was a tiny 5.56%. The characteristics of being fragmented, small-scale and scattered of the farming land in agricultural production was found more frequently in the Delta than other regions. The scale of each household in terms of agricultural area, labour and the number of people per household in the Northern Delta was getting smaller and smaller. In 1994,

for the country as a whole, the average number of people per household was 4.7, and the average number of labourer per household was 2.2, while those corresponding numbers in 1989 were 4.8 people and 2.3 labourers. For the Northern Delta, the two indicators in 1994 were 4.10 and 1.97 respectively. The average farming land per household in the Delta was 2,281m<sup>2</sup> while corresponding indicators Northern mountainous area, the midlands, the "khu bốn cũ" (the former Fourth zone, including provinces in central Vietnam: Thanh Hoa, Nghe An, Ha Tinh, Quang Binh, Quang Tri and Thua Thien), the Central Coastal region, the Central Highlands, the Southeast and the Mekong River Delta were 4,306m<sup>2</sup>, 3,002m<sup>2</sup>, 4,131m<sup>2</sup>, 7,412m<sup>2</sup>, 9,169m<sup>2</sup> and 10,141m<sup>2</sup> respectively. Thus, for the Northern Delta, the scale of each household in terms of land under agricultural production was very small compared to other regions, and so was the scale of each household in terms of the number of members. In the Delta, the area under agricultural production per capita and per labourer were 556m<sup>2</sup> and 1,048m<sup>2</sup> whereas the corresponding indicators were 1,757m<sup>2</sup> and 3,184m<sup>2</sup> for the Southeast and 1,917m<sup>2</sup> and 3,462m<sup>2</sup> for the Mekong River Delta. According to the 1994 census, the number of households in the Northern Delta with a farming area of less than 0.2 ha/household accounted for 45.4% of the total number of households whereas those corresponding ratios for the whole country, "khu bốn cũ" and the Mekong River Delta were 26.9%, 30.7% and 6.15% respectively [15, Vol.1, pp.4-151].

The lives of the people in the Northern Delta were highly improved compared with the period before renovation and had many advantages over other regions. However, based on poverty standards in terms of food, which was determined by an income measured with the contemporary prices that was enough to buy essential food to maintain a daily diet of 2,100 calories per person, and the poverty standards regarding non-food items, the poverty rates of the Northern Delta were 37.87% in 1993, 33.98% in 1994 and 30.74% in 1995. Though this ratio was on a declining trend, evidently, the living standard of the Delta farmers was still low.

#### 5. Conclusion

Upon reassessing the multi-dimensional overview of the Northern Delta's agriculture in the first decade of the renovation period, apart from achievements, the fragmentation, being small-scale and scattered of farming land in agricultural production were prevalent. The policies management and using of land were deterring the accumulation of land during process industrialisation the of modernisation of agriculture and rural areas, and causing hindrance against the enhancement of productivity and competitiveness of agricultural products. Nowadays, in the new context, commitments and new-generation free trade increasingly agreements with strict mechanisms are there to be implemented, especially with agricultural products. Therefore, experiences gained from developing the Northern Delta's agriculture in the first decade of the renovation process still retain their full value.

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