

A case study from

Reducing Poverty, Sustaining Growth—What Works, What Doesn't, and Why
A Global Exchange for Scaling Up Success

Scaling Up Poverty Reduction: A Global Learning Process and Conference
Shanghai, May 25–27, 2004

Impact Assessment of Large Scale Transport Infrastructure in Northern Vietnam

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Executive Summary

Highway No. 5 is a trunk road of 100 kilometers connecting the national capital of Hanoi with the country's gateway port city of Haiphong. The highway has been a main road for transporting raw materials, components, and final products that are produced, processed, and consumed in northern Vietnam. In this sense, the highway is the most important road for maintaining the economic and social activities in the region. Projects to improve Highway No. 5 and rehabilitate Haiphong Port were agreed upon between the Vietnamese and Japanese governments soon after the resumption of the Japanese Official Development Assistance (ODA) loan to Vietnam in 1992. The two projects were intended to meet the needs of the rapidly increasing road traffic in the Red River Delta of northern Vietnam and to strengthen the capacity of Haiphong Port.

Six paths for sustainable growth and poverty reduction

This study identified six paths through which poverty reduction and economic growth in the region could be realized. These paths are (1) the creation of factory employment by newly invested foreign and local enterprises along the upgraded highway; (2) the expansion of newly created micro business beside the industrial complex along the highway; (3) the development of industrial links between local and foreign enterprises; (4) fiscal contribution by newly invested foreign enterprises; (5) the expansion of high-value agricultural production for urban markets; and (6) improved access to higher education and advanced medical services. The impact of the two transport projects are described as follows, and refer to these six paths.

At the household level, the impact of these two transport improvement projects can be seen from a variety of perspectives in the following examples:

- In 1996, only 12.5 percent of the foreign investment in Vietnam was registered in the provinces in the Red River Delta; this ratio increased to 27.8 percent during 1998 and 2001.
- Foreign enterprises in Hanoi contributed to 15 percent of the GRP (Gross Regional Product) and 32 percent of industrial gross output in 2001. Those in Haiphong produced 16 percent of the GRP and 45 percent of the industrial output. In Hung Yen Province, where state industrial investment remained limited, 71 percent of the gross industrial output was generated by foreign enterprises in 2000.
- A total of 14,000 workers were employed at the four major industrial parks in Hanoi and Haiphong in 2003. It is estimated that around 40,000 jobs were generated by new investment along the highway by 2003. Factory income is considered a very significant source of income for the employees' household, since many of them are fresh graduates of either secondary or vocational schools in the provinces, without any job experience.
- Micro business has been expanding rapidly in the two provinces along the highway. In 1999, no private enterprises received loans from the Hung Yen and Hai Duong branches of the bank

of agriculture. In the next year, private enterprises obtained 2 percent of the bank's lending, a share that increased to 13 percent in 2003.

- High-value agriculture, such as highly profitable fishery production, has been expanding as well. The growth rates of fishery production from 1995 to 2001 in the Hung Yen and Hai Duong Provinces were 312 percent and 200 percent respectively, much higher than the national average of 101 percent.
- The source of income for households has become greatly diversified. Although the farming income of the surveyed households showed the relatively modest increase of 138 percent between 1997 and 2002, their income from livestock and fishery increased by 204 percent and 314 percent, respectively.
- The Agricultural Extension Centers in the Hung Yen and Hai Duong Provinces now provide a variety of training courses for local farmers, in response to their growing demand for upgrading and diversifying agricultural production. The number of participants to these courses increased fourfold, and the number of model farms rose fivefold from 1998 to 2003. The government, both provincial and central, expanded the budget for the centers more than fourfold to cope with this increasing demand.

At the regional level, the impact of the projects to improve Highway No. 5 and rehabilitate Haiphong Port are as follows:

- A comparison of the share of poor households in 2002 among communes in Hung Yen Province shows that many of the communes located on Highway No. 5 have lower shares (less than 3 percent) of poor households while others tend to have higher ones.
- The comparison of the growth rate of per capita GRP of the provinces in the Red River Delta between 1995 and 2000 shows that all of the five fastest-growing provinces are located along Highway No. 5 or Highway No.18, another major highway.
- The data on the rate of reduction in the number of poor households by province from 1998 to 2000 show that three of the five provinces that reduced the number of poor households by more than 75 percent have good access to Hanoi and Haiphong Port via either Highway No. 5 or Highway No. 18.

The role of infrastructure and institutional capacity building

The main role of large-scale transport infrastructure should be to promote economic growth by stimulating investment and/or trade. The improvement of Highway No. 5 and Haiphong Port has caused a large inflow of foreign direct investment (FDI) to the provinces along the highway. This inflow of FDI has resulted in the creation of many job opportunities as well as the expansion of various micro businesses around the industrial parks. The recent increase in the inflow of FDI has made an immediate and positive impact on the regional poverty reduction.

In addition to the improvement of transport infrastructure, many aspects of institutional capacity building are urgently needed to attract foreign investors. The elaboration of FDI-related

laws and the improvement of administrative procedures are examples. The experience of neighboring East Asian countries, such as China or Thailand, should be very helpful for Vietnam to consider in developing its institutional capacity. Institutional learning at the provincial level has also enabled the provinces concerned to offer a far more favorable incentive to their potential investors, leading to the scaling up of poverty reduction in the project areas. Technical support from foreign governments or private companies has made a significant contribution to developing capacity as well. For instance, the interaction and cooperation between the investor and the custom officers stationed in an industrial park have created an institutional innovation for their customs operation. The implementation of the Action Plan under the Japan-Vietnam Joint Initiative to Improve Business Environment would work as an important catalyst for improving the investment environment in Vietnam, becoming a solid foundation for scaling up poverty reduction.

Large-scale infrastructure could make a direct contribution to poverty reduction as well. The improvement of Highway No. 5 and Haiphong Port has resulted in the expansion of high-value agricultural production in the provinces along the highway. Expansion of fishery production for urban consumers is a notable example in these provinces. This structural transformation in agricultural production has wide and sustained effects on poverty reduction in the region.

The importance of political commitment

To realize this poverty reduction in the rural economy, administrative support with a clear political commitment was absolutely necessary. The Vietnamese government demonstrated its strong commitment to reducing poverty by formulating the Comprehensive Poverty Reduction and Growth Strategy (CPRGS), which has, with the government's other efforts, become a concrete basis for scaling up poverty reduction in the areas along Highway No. 5. With this strategy, central and provincial governments have provided comprehensive support to poor farmers. The expansion of agricultural extension services by provincial governments and the increase in rural credit by the state bank are examples of such support. Without these interventions, farmers would not have been able to make use of the business opportunities provided by the improvement of transport infrastructure.

Conclusion

The transport infrastructure projects in northern Vietnam have made a great contribution to poverty reduction, as can be widely seen in the areas along the highway. The projects shed light on the broad range of roles that infrastructure plays as a prerequisite for economic growth and a direct contributor to poverty reduction, through multiple channels (such as those identified in the projects). Analysis of this case reveals the important lesson that to scale up the effect of poverty reduction, it is necessary to combine large-scale infrastructure projects with institutional support backed by the clear commitment of the government.

Implementation Process

Backgrounds and Rationale

East Asian countries made considerable economic growth in the last two decades. This growth was triggered by a massive and continuous inflow of foreign direct investment from industrialized countries. Many of the major transnational manufacturers have their production base in East Asia, and have supplied a significant amount of products to the rest of the world. China, Thailand, Indonesia, Malaysia and others are among the outstanding examples in the East Asia that made rapid economic growth, and consequently achieved sustainable reduction of poverty. Vietnam, another East Asian country, however, had missed the precious opportunities to join the “East Asian Miracle”. The country had been a part of the CMEA (Council for Mutual Economic Assistance) network, and its centrally planned economy was not ready to receive FDI (Foreign Direct Investment) from the Western countries. Moreover, the decade long wars and regional conflicts have significantly impoverished the country, and the government could not afford to develop or even rehabilitate major economic infrastructure.

In 1986, the country announced the Doi Moi (renovation) policy, and started to transform the centrally planned economy to more market oriented one. The structural renovation was accelerated after the collapse of CMEA system in the late 1980s. Controls on most prices were removed, and many forms of private economic activity were legalized. Collective farms were gradually dismantled, and their lands were distributed to peasant households through long-term leases. Inflation was brought down, trade barriers were reduced or eliminated, and foreign direct investment was legalized and encouraged. With a new FDI law in 1987, the government expected a huge inflow of foreign investment to the country.

Vietnam is strategically located in the middle of East Asia, and equipped with abundant and educated labor force. However, little foreign investors were attracted to come to Vietnam when the country opened doors for the investors. Unclear administrative procedures and poorly managed economic infrastructure were among the major constraints to promote FDI to the country. Economic infrastructure was poorly managed in the Northern Vietnam in particular, so foreign investments were initially concentrated to the Southern Vietnam, where the conditions of infrastructure were relatively good. Provinces in the Northern Vietnam, including the capital city Hanoi, also had a good potentiality for industrial development with educated labor force and resource bases. It was expected that these provinces would attract more foreign investment, provided that the major economic infrastructure was fully rehabilitated.

Concerning the agricultural development, moreover, the Doi Moi policy created a tangible outcome much earlier than it did for FDI promotion. Introduction of market principles and a series of liberalization in the agricultural sector considerably stimulated local farmers. The once starving poor country in the East Asia rapidly expanded its agricultural production in the late 1980s, and became the third largest exporter of rice in 1989. Domestic market for agricultural products also increased significantly. The development of urban economies increased the demand

for high-valued agricultural products. Farmers in the neighboring provinces of big cities had a great possibility to supply high-valued agricultural products to urban consumers. Poorly managed transport infrastructure was again a constraint for this agricultural development. It was expected that the improvement of transport infrastructure would expand business opportunities to the farmers.

Objectives and Scope

Highway No.5 was a trunk road of 100 km connecting the national capital Hanoi and the country's gateway port city Haiphong. The highway has been used as a main road for transporting raw materials, components and final products produced, processed and consumed in the Northern Vietnam. In this sense, the highway is the most important road to maintain the economic and social activities in the region. The projects to improve Highway No.5 and to rehabilitate Haiphong Port were agreed between the Vietnamese and Japanese governments, soon after the resumption of the Japanese ODA loan to Vietnam in 1992. The two projects intended to meet the rapidly increasing road traffic in Red River Delta of the Northern Vietnam, and to strengthen the capacity of Haiphong Port.

Table 1: Outline of the Two Transport Projects in the Northern Vietnam

National Highway No.5 Project

	Km 0-47	Km 62-93	Km 93-106	Total (91km)
Date of Loan Agreement	1994.1.28	1995.4.18	1996.5.29	
Loan amount (Mil. yen)	8,782	5,470	6,709	20,961
Interest rate (%)	1.0	1.9	2.3	
Repayment period (y) (grace period)	30 (10)	30 (10)	30 (10)	
Completion	1999.1	1999.1	2000.6	

Haiphong Port Project

Date of Loan Agreement	1994.1
Loan amount (Mil. yen)	3,975
Interest rate (%)	1.0
Repayment period (y) (grace period)	30 (10)
Completion	2000.11

Until the Highway No.5 project was implemented, however, the condition of the highway was much deteriorated by the heavy traffic and insufficient maintenance. Many parts of the highway were very uneven, which was not suitable for transporting fragile farm products or precious machines. The highway had two large bridges in the middle. These bridges had only one lane, and this lane was shared by both vehicles and trains. Long queues were often made beside the bridges with a number of vehicles waiting for slow trains to pass by. In order to improve the condition, the highway was fully rehabilitated by the project¹. The project components included the construction of 4-lane road (partly 6 lanes), the construction of new road bridges and

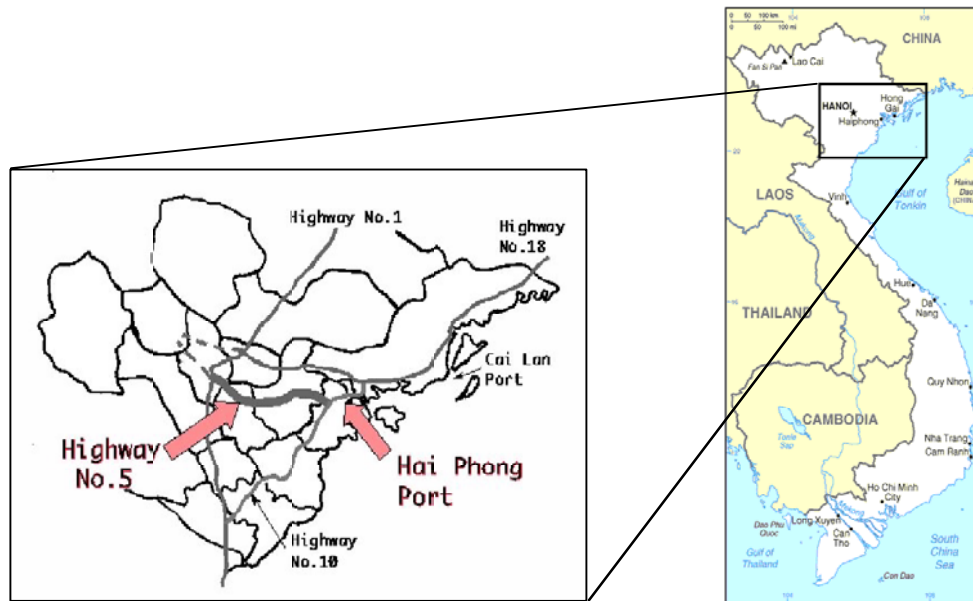
¹ The total length of the project road is 106km from Hanoi to Haiphong, of which 91km road section (from km 0 to km 47, and from km 62 to km 106) was carried out under the Japanese loans, while the construction of remaining 15km section was undertaken by Taiwanese loans.

engineering works. The project was divided into three phases, and all phases were successfully completed in June 2000.

The Haiphong Port has been a main gateway port in Northern Vietnam with a large hinterland covering most of the northern provinces of Vietnam. The port is one of the three international ports in Vietnam and the only major port in the Red River Delta serving the country's capital Hanoi. As a river port, the port suffers from a huge amount of silt in the navigation channels, allowing only smaller ships to call in. This caused severe decrease in the port's throughput.

Furthermore, the port was not well prepared for the age of containerization. The Berth No.1 of the Main Port had the first container terminal, which started initial operation in 1990, but the container handling equipment in the berth was poorly managed. It was urgently required to cope with growing container demand in the Northern Vietnam. In order to expand the capacity of the port and enable larger container fleets to call in, the Haiphong Port project was implemented, and the first phase of the project was completed in November 2000. The scope of the first phase of the project consisted of the construction of additional container terminals, improvement of cargo handling equipment and dredging of the port access channel.

Figure 1: Location of the Transport Projects in the Northern Vietnam Financed by Japanese ODA Loans



In addition to these two projects, the Japanese government financed other major highway improvement projects in the Red River Delta area of the Northern Vietnam, including the improvement of Highway No.18, No 10, the expansion of Cai Lan Port and others (see Figure 1). The improvement of the Highway No.18 and the Cai Lan Port shall provide the capital city with another strategic gateway for external trade.

Impact Analysis

Methodology of the impact assessment

Two separate questionnaire surveys were arranged to examine the socio economic impact of the projects. The first one was implemented in April 2003 to examine the impacts on rural economy. Two hundred rural households were randomly selected in the two provinces along the highway, which are Hung Yen and Hai Duong Provinces. The questions included 'Profile of respondent and family', 'Change of land use', 'Change of income and major sources', 'Change of marketing', 'Change of agricultural activities', etc. The second survey was for managers and employees of newly invested foreign and domestic private enterprises along the highway. Eighty managers and 240 employees were interviewed from February to April 2003. Managers were asked such questions as 'Corporate profile', 'Reasons for investment', 'Current operation', 'Recruitment of employees', etc. Employees were asked about their 'income level', 'type of work', 'educational background', 'change in the life style', and so on. Apart from these surveys, the study analyzed various statistical data obtained from both the central and provincial authorities concerned.

Six paths for poverty reduction and growth

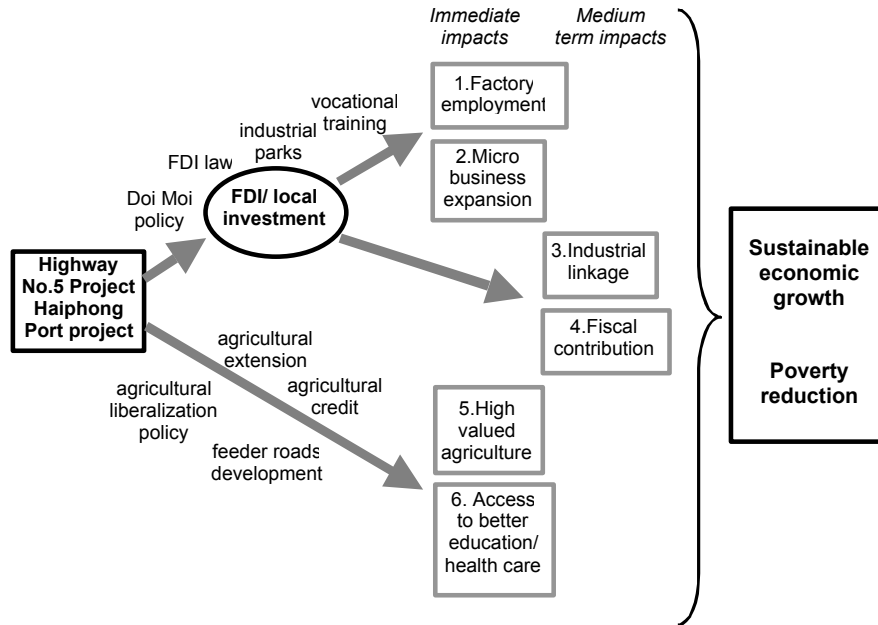
This study identified six paths, along which poverty reduction and economic growth in the region could be realized. These paths are described as follows (see Figure 2): 1) Creation of factory employment by newly invested foreign and local enterprises along the upgraded highway; 2) Expansion of newly created micro business beside the industrial complex along the highway; 3) Development of industrial linkage between local and foreign enterprises; 4) Fiscal contribution by newly invested foreign enterprises; 5) Expansion of high-valued agricultural production for urban markets; and 6) Improved access to higher education and advanced medical services. The impacts of the two transport projects are examined with respects to these six paths.

It should be noted, however, that some concurrent interventions are necessary to realize these paths to growth and poverty reduction. In order to attract FDI and promote local investment, the series of economic reform measures under the Doi Moi policy were indispensable. Construction of industrial parks along the highway, and expansion and improvement of vocational training programs in the region were important factors to attract investors. Furthermore, rapid growth of rural economy could not be realized without the agricultural liberalization policy. Agricultural extension service by the provincial authority and agricultural small credit by Bank of Agriculture² also helped local farmer diversify their production.

² The lending program of the Bank of Agriculture has been supported by the World Bank and the French Government. Out of the total lending balance of 1,200 bil.VND at the Hung Yen Branch of the bank, for instance, 132 bil.VND was provided by the two donors.

Concurrent feeder roads development³ was extremely effective to help traders transport products as well as to enable local residents to commute to industrial complex on the highway.

Figure 2: Six Paths for Sustainable Growth and Poverty Reduction



With these concurrent interventions, the projects have made significant impacts on the regional economy and society. These impacts shall be firstly examined at household level, referring to the six paths. Then, the regional impacts of the projects shall be analyzed.

Impact on the households

Factory employment

The provinces in the Red River Delta, including Hanoi and Haiphong, have recently attracted more foreign investors. In 1996, only 12.5 percent of the foreign investment in Vietnam was registered in these provinces, while this ratio increased to 27.8 percent during 1998 and 2001⁴. After the completion of Highway No.5, a number of foreign and local private investors made their factories in the industrial parks along the highway.

Many of the newly invested enterprises along the Highway No.5 are engaged in labor-intensive manufacturing of such products as garment, processed food or various home electronic appliances. These enterprises usually employ several hundreds semi-skilled workers, paying \$45 to \$50 per month on average⁵. So, a significant economic impact on the local households could be

³ The feeder road development along the Highway No.5 was financially supported by JBIC with the Sector Project Loan, as well as World Bank/DFID with the cofinanced Rural Transport Project.

⁴ Statistical Yearbook 1996, 2001, General Statistical Office, Statistical Publishing House.

⁵ ‘Vietnam Investment Review’, January 21, 2002.

expected. Our FDI managers survey shows that 14,000 workers were employed in total at the four major industrial parks⁶ in Hanoi and Haiphong in 2003. Two other provinces on the highway, Hung Yen and Hai Duong Provinces, also have several small-scale industrial parks. According to the provincial officers, around 25,000 workers were working at foreign or locally owned factories located in these provincial industrial parks. Hence, it is estimated that around 40,000 jobs have been generated by the new investment along the highway by 2003.

These factory workers mostly come from the same or neighboring provinces in the region. A few of them have previous experience of factory employment. Many workers are fresh graduates of either secondary or vocational schools in the provinces without any job experience. The FDI employees survey shows that 45 percent of the sampled factory workers considered that their factory income is “very significant” source of income for their household, and that their factory income consists of nearly half of the whole household income of their family on average.

Micro business expansion

Although the factory employment provides precious income for local households, the economic impact of the employment cannot be very significant in the four provinces of 7 million inhabitants. Generation of various indirect job opportunities by the factory is considered as equally important. After the establishment of industrial parks, an increasing number of factory workers come to the area everyday. As these workers receive a regular cash income, they can make a small payment for a lunch at meal stands outside the premise, or buy some foodstuff at local market before leaving for their house. Such service business as motorbike repairing, coffee shop, mobile phone or motorbike taxi would also grow in catering for these workers. Some local families near the industrial parks even started real estate business, by providing simple and inexpensive accommodation to the workers coming from remote areas. The expansion of these micro and small business has made a large impact on the local economy.

Table 2: Lending and Portfolio Composition of Bank of Agriculture at Hung Yen and Hai Duong Branches

	1998	1999	2000	2001	2002	2003
Number of borrowers (persons)	182,594	195,800	208,974	230,642	232,497	226,857
Total amount of lending (mil VND)	538,171	588,673	762,818	1,022,797	1,460,856	2,167,307
Amount of lending per borrower (mil VND)	2.9	3.0	3.7	4.4	6.3	9.6
Portfolio composition by clients' type (%)						
Farming households	94%	95%	94%	91%	88%	78%
Private enterprises	0%	0%	2%	2%	5%	13%
State-owned enterprises	2%	2%	1%	2%	3%	5%
Cooperatives	0%	0%	0%	0%	0%	1%
Other (Consumption and Mortgage)	4%	3%	4%	4%	4%	4%

Source: Bank of Agriculture, Hung Yen and Hai Duong Branches.

It is difficult to obtain the data about the number and size of the micro business. However, the development of micro business would be described with the increasing amount of lending to “private enterprises” at the Hung Yen and Hai Duong branches of Bank of Agriculture

⁶ The four major industrial parks in the Northern Vietnam are Thang Long, Sai Dong B, Noi Bai industrial parks in Hanoi, and Nomura-Haiphong industrial zone in Haiphong

(see Table 2). In 1999, 95 percent of the portfolio of these branches consisted of the loans to farming households, and no private enterprises received loan from the bank. In the next year, private enterprises obtained 2 percent of the lending, and this share increased to 13 percent in 2003. The rapid expansion of micro business in the two provinces is shown in this data.

Industrial linkage

It is expected that foreign investment would gradually strengthen its industrial or business linkages with local economy, and these linkages would promote more growth and poverty reduction. In the case of resource-based investment such as food processing, for instance, the new enterprises in the industrial parks have a significant business linkage with local farmers. The industrial zones along the Highway No.5 have various food processing enterprises such as frozen food or instant noodle producers, and the local farmers supply a large quantity of raw materials to these producers, including potatoes, onions, rice, vegetables and meat.

Apart from the food processing enterprises, however, the FDI managers survey did not present us clear evidence to show the business linkage with the local economy, particularly with local manufacturing industry. The manufacturers of home electronic appliances, for instance, tend to import most components from foreign affiliates, and purchase only a little locally. It is however expected that this industrial linkages with local economy would be strengthened in the future with inflow of foreign component producers to the region. The experience in the industrial parks in neighboring East Asian countries would enhance this prospect.

Fiscal contribution

Due to the increase of FDI to the four provinces along the Highway No.5, the share of foreign invested sector in the provincial economy has expanded significantly. The foreign enterprises in Hanoi, for instance, contributed to 15 percent of the GRP (Gross Regional Product) and 32 percent of industrial gross output in 2001. Moreover, the foreign enterprises in Haiphong produced 16 percent of the GRP and 45 percent of the industrial output. In Hung Yen province, where the state industrial investment remained limited, 71 percent of the gross industrial output was generated by the foreign enterprises in 2000. Considering the large share of foreign invested sector in the provincial economy, it is expected that the newly invested foreign enterprises have made a substantial contribution to the local budget by paying income tax and custom duties, and enabled the provincial government to allocate more budget for social services directly targeting the poor.

The fiscal contribution of foreign enterprises, however, remains very low in the four provinces⁷. The income tax from foreign enterprises made up only 7 percent of the provincial budget revenue in Hanoi in 2001. The state enterprises in Hanoi, instead, contributed to 58 percent of the revenue. Even in Hung Yen province, where the foreign enterprises dominates the

⁷ The fiscal contribution of foreign enterprises should be higher to some extent if we include the payment of custom duty by foreign enterprises. The share of custom duty in the budget revenue in Hanoi was 12 percent in 2001. No data is available to divide the custom duty payment by ownership.

industrial production, that the share of FDI was 13 percent in 2000. The modest fiscal contribution of FDI was explained by the fact that a large part of foreign enterprises are at initial stage and do not generate much profit. Many of the enterprises are also enjoying tax holidays granted by the provincial authorities. It is however expected that these foreign enterprises would make more fiscal contribution in the future.

High valued agriculture

Rapid urbanization and economic growth in Hanoi in the 1990s provided considerable business opportunities for farmers in the neighboring provinces, including Hung Yen and Hai Duong. The series of agricultural liberalization measures and technical supports from the provincial authorities also promoted diversification of agricultural production. Improved transport infrastructure, that of Highway No.5 in particular, significantly helped the farmers along the highway utilize these opportunities. As the condition the highway is much improved, it has become possible for the farmers to produce high valued, and often fragile, agricultural products, such as fresh fruit or flowers. Moreover, it became less difficult for traders to transport highly profitable fishery products by small trucks to the urban markets in a very good condition. Fishery products include shrimp, edible turtle and some high-valued fish, which are consumed in luxurious restaurants in Hanoi. Therefore, fishery production expanded significantly in both the Hung Yen and Hai Duong provinces. The growth rates of fishery production from 1995 to 2001 in the two provinces were 312 percent and 200 percent respectively, which are much higher than the national average of 101 percent.

The improved highway also provided more market access to the farmers. Our rural household survey shows that 22 percent of the sampled farmers sold their products to traders coming from other provinces in 2002, while the share was only 4 percent in 1997. According to the provincial officers, some farmers have recently started exporting high valued pigs to the Chinese market, and a multi national poultry producer of Thailand frequently visited the region to find out their partners in the area.

Table 3: Structure of income of the surveyed households

mil.VND	1997	2002	Change
Livestock	375	767	204%
Fishery	178	559	314%
Handicraft	78	195	249%
Commerce	107	427	399%
Real estate	5	42	929%
Factory	28	208	747%
Remittance	8	35	443%
Others	138	452	328%
Farming	609	842	138%

Source: Rural Household survey quoted from IDCJ (2003)

Table 3 presents changes in the income structure of the surveyed household between 1997 and 2002. Among the various economic activities, farming remained the most important source of income for the households even in 2002. However, in comparison with other activities such as livestock or fishery, the increase of farming income in the five years was relatively

modest. It is shown from the data that the source of income for the surveyed households became much diversified.

Table 4: Participants and Budget of Agricultural Extension Centers at Hung Yen and Hai Duong Provinces

	1998	1999	2000	2001	2002	2003
Farmers taking training courses	28,250	63,518	76,616	92,663	94,352	113,964
Model farms of new technology demonstrated	962	665	1,840	1,225	3,829	4,881
Number of training courses	377	868	1,027	1,322	1,432	1,766
Annual budget (mil VND)	1,623	2,022	2,505	3,093	3,425*	6,271*
From central government	631	605	739	981	1,322	1,830
From provincial government	991	1,417	1,766	2,112	2,103*	4,441*
Number of staff members (persons)	63	70	73	73	73	79

Note: * The amount of budget at district level of Hai Duong Province is not included.

Source: Agricultural Extension Centers, Hung Yen and Hai Duong Provinces

The farmers keep spending much effort to upgrade and diversify their agricultural production, and the effort is illustrated by the number of participants to provincial agricultural training courses (see Table 4). Both Hung Yen and Hai Duong Provinces have the Agricultural Extension Centers, and they provided a variety of training courses to the local farmers. The number of participants to these courses increased by 4 times, and the number of model farms rose by 5 times from 1998 to 2003. The government, both provincial and the central, expanded the budget for the centers by over 4 times to cope with this increasing demand.

The increase of agricultural credit to the local farmers also supports their active involvement to the agricultural upgrading. As shown in the Table 2, the amount of lending at Hung Yen and Hai Duong Branches of Bank of Agriculture expanded significantly from 1998 to 2003. Although the share of farming households in the portfolio reduced in the five years, the farming households still took 78 percent of the total lending of the bank. Amount of lending per borrower also increased from 2.9 to 9.6 million VND during the period.

Access to better education / health care

The rural household survey shows that little respondents considered that their access to education and health care was significantly improved by the project. Sixty five percent of the respondents mentioned that “leisure” is the most common reason to visit the capital city, while only 12 percent and 30 percent of the respondents pointed out that they went to the cities to get “education” and “health care” services. This result is somehow expected because the Hung Yen and Hai Duong provinces are already well equipped with good educational and medical facilities. With respect to the education, the two provinces already achieved the universal secondary education in 2001, and they can also have a variety of higher educational and vocational training facilities⁸.

⁸ In the wartime, some of the national higher colleges were evacuated from Hanoi to the neighboring Hai Hung (now separated into Hung Yen and Hai Duong) province so as to avoid bombing damage.

Impact on the regional economy

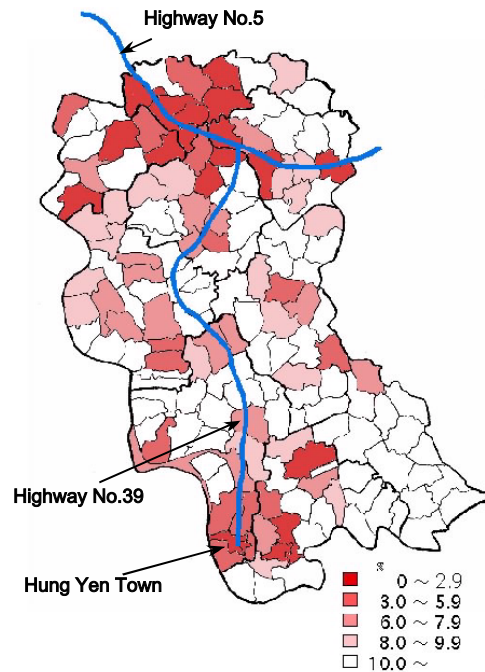
The impact of the Highway No.5 project on the local transport was estimated by comparing the traffic volume data of 1993 and those of 2003, which were provided by the local authorities and obtained from the traffic counting survey in February 2003 by the study team. It was shown that the traffic volume along the highway in 2003 ranged from 9,200 to 62,000 pcu/14 hours, which were almost twice larger than the volume in 1993. Due to the project, moreover, the travel time between Hanoi and Haiphong was cut almost by half. The travel speed of vehicles on the highway increased after the rehabilitation, which rose from 25 to 28 km/hour to over 60km/hour. Regarding the impact of Haiphong Port project, the container volume of the port increased significantly after the completion of the first phase in 2000. The total container volume increased by 48 percent from 2001 to 2002, while the annual growth rate in the late 1990s was only 8 percent on average.

The regional impact on poverty reduction is firstly illustrated by the comparison of poor⁹ households in 2002 among communes¹⁰ in Hung Yen province along Highway No.5 (see Figure 3). Those communes that have fewer poor households are painted with a darker color. The communes with a larger share of poor households are colored with a lighter color. The poorest communes, whose share of poor households is over 10 percent, are colored white. Two lines are the major roads, which are Highway No.5 and Highway No. 39. Highway No.39 connects Highway No. 5 and Hung Yen Town in the south. This figure tells us that those communes located on Highway No. 5 have relatively fewer poor households. In many of the communes on the highway, the share of poor households was less than 3 percent. The communes near Hung Yen town also have relatively a small number of poor households. It is assumed that the improvement of the Highway No.5 might have created various economic opportunities, and contributed to the poverty reduction in the communes nearby.

⁹ Ministry of Labour, War Invalids and Social Affairs (MOLISA) of Vietnam made specific criteria on the level of poverty. In rural area (except for mountainous and island areas), those whose monthly income was less than 100,000 VND (about US\$ 6) in 2001 are considered as poor. The country also has other criteria on poverty, including the one made by the Department of Statistics.

¹⁰ Commune is the smallest division of the local government in Vietnam: Hung Yen Province has 10 districts, which are composed of 160 communes. One commune has 6,700 inhabitants on average in this province.

Figure 3: Hung Yen Province, Share of Poor Households in 2002 (percent)



Source: Ministry of Agriculture and Rural Development

Second, the regional impact of the projects is examined at a provincial level in the Red River Delta of the Northern Vietnam. Figure 4 compares the growth rate of per capita GRP (Gross Regional Products) of the provinces in the Red River Delta between 1995 and 2000. The provinces with higher growth rates are painted with dark colors, while those with low growth rates are lightly colored. Vinh Phuc province located at the west of Hanoi has the highest growth rate of 11.9 percent, which is followed by Bac Ninh, Hung Yen, Hanoi and Hai Duong. This figure shows that all of these five growing provinces are located along Highway No.5 or No.18 with a good access to the capital city and Haiphong Port. The improvement of the transport infrastructure made a positive impact on the growth in these provinces.

Figure 4: Growth Rate of Per Capita GRP by Province, Annual average, 1995-2000

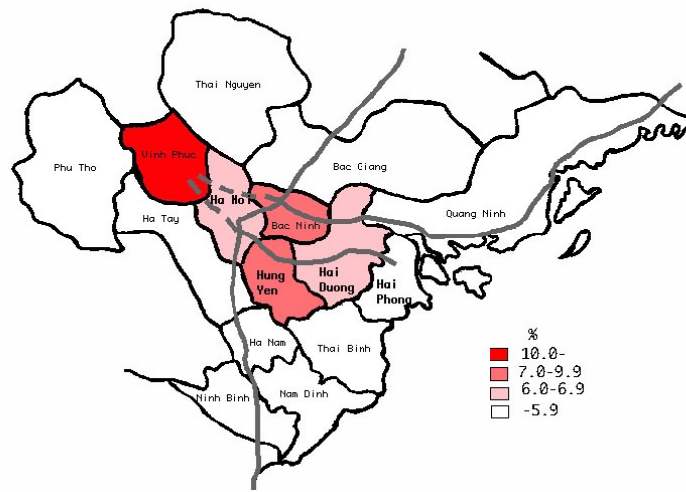
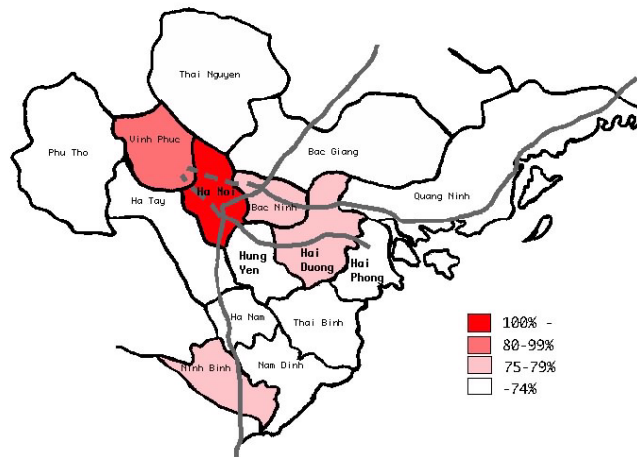


Figure 5: Reduction in the Number of Poor Households from 1998 to 2000 (percent)



Source: Figures on Social Development in "Doi Moi" Period in Vietnam (2000)

The transport infrastructure projects have resulted in the larger reduction of poverty, as well. Figure 5 shows the rate of reduction in the number of poor households by province from 1998 to 2000. The provinces with larger rates of poverty reduction are painted with darker colors. The provinces that made limited reduction of poor households are lightly colored. Hanoi has achieved the largest reduction of poor households in the three years, where the number of poor households decreased by 157 percent. Other provinces, including Vinh Phuc, Hai Duong, Bac Ninh and Ninh Binh provinces, also largely reduced the share of poor households during the period. It is shown that three of these provinces have a good access to Hanoi and Haiphong Port

with either Highway No.5 or Highway No.18. It is suggested that the improvement of the transport infrastructure has caused a larger reduction of poverty by stimulating the regional economic growth in the provinces along the highway.

Driving Factors

Commitment and Political Economy for Change

The positive impacts of the two transport infrastructure projects in the Northern Vietnam on the poverty situation in the provinces along the highway could not have been generated without the Vietnamese Government's strong and continued commitments to poverty reduction. The most salient commitment is the production of the Comprehensive Poverty Reduction and Growth Strategy (CPRGS), which is the Vietnamese version of the Poverty Reduction Strategy Paper (PRSP). The CPRGS, approved by the Prime Minister in May 2002, is meant to be an action program of the Government's socio-economic development plans and other sectoral plans including the Ten-Year Socio-economic Development Strategy and the Five-Year Socio-economic Development Plan. As is shown in its title, the CPRGS intends to achieve economic growth as well as solving social problems in a harmonized way¹¹. The Government's fundamental stance on poverty reduction is indicated in the following sentence:

“Poverty reduction is not only a basic social policy that is accorded special attention from the State of Vietnam, but it is also an important development objective.”(Introduction, CPRGS, p.1)

The CPRGS has several unique characters, which symbolize the strong commitment of the Government. It is the first full-PRSP which was completed in Asia. The Vietnam Development Goals were put in place in the Strategy by localizing the Millennium Development Goals through various workshops among government officials and civil groups. Moreover, the monitoring system was clearly set in the Strategy with qualitative and quantitative socio-economic indicators set forth by objective and target.

In addition, the Government's strong commitment to poverty reduction is exemplified not only in the strategy, but also in the process of formulating the strategy. The CPRGS is a production by a wide range of bodies or groups at different levels in different segments. An inter-ministerial drafting committee, headed by the Ministry of Planning and Investment, was organized with 52 members from 16 Government's ministries and line agencies. The Government of Vietnam also collaborated with international development partners and NGOs in the process

¹¹ Among major specific objectives set forth in the CPRGS are the following: promotion of rapid and sustainable economic growth coupled with attainment of social progress and equity; creation of an equal business environment for all types of enterprises from all economic sectors; Continuation of structural reforms; provision of opportunities for poor households to raise their income; encouragement of human development and reduction of inequality; solving of urban poverty problems; development and expansion of social protection and safety nets for the poor; and undertaking of public administration reform. (Introduction, CPRGS, pp.2-3)

through the Poverty Task Force, which was originally established in 1999 for the purpose of conducting poverty assessment. Furthermore, while the CPRGS was being drafted, a series of consultations at the community level were conducted at six sites around Vietnam. National and sub-national consultations were also held involving more than 600 government officials. This broad-based, inclusive process of formulating the CPRGS was backed by the Government's will to firmly promote poverty reduction, trying to make the strategy effective and accountable.

The Vietnamese government's commitment to poverty reduction, however, should not be considered to have started with the CPRGS. In fact, Vietnam has a long tradition of attaching importance to poverty reduction and social equity in its policies. During the period when Vietnam's development policy was based on the central planning principle, the Government put much effort into social equality, contributing to relatively low level of income gap between the populations. However, the level of poverty on the whole remained relatively low, making poverty reduction the top concern for the Government. Faced with the economic crisis in the early 1980s, the Government formally adopted a policy of renovation (Doi Moi) in 1986, notably a broad development program of economic reform shifting to a market-oriented economy. In fact, Doi Moi is not merely an economic reform package to master the crisis in the mid-1980s, but is a comprehensive program aimed to overcome poverty and further develop the country (National Center for Social Sciences and Humanities, 2001)

The Government's commitment to poverty reduction started to take concrete forms in the early 1990s, when the government began to measure poverty data and conducted the first Vietnamese Living Standard Survey (VLSS) while setting the poverty line in 1993. Ministries and departments started to take their own measures addressed to the poor group. In the late 1990s, the Government launched two national targeted programs for poverty reduction, which are the Hunger Eradication and Poverty Reduction (HEPR) Program and the Program 135. The HEPR Program is a multi-sector program consisting of 9 components. The Ministry of Labor, War Invalids and Social Affairs (MOLISA) plays a coordinating role for other ministries and provincial departments in the implementation of the HEPR Program. The Program 135, administered by the Committee for Ethnic Minority, focuses on difficult and remote communes in the mountainous areas.

To sum up, the Government of Vietnam's commitment to poverty reduction is embodied in its content of the CPRGS as well as its unique formulation process. However, such a strong commitment also stands on the past experience and efforts which the Government has gone through in the process of Doi Moi and subsequent policies of their own striving for poverty reduction. These continued endeavors have clearly become a firm foundation of activating other driving factors, leading to the scaling up of the poverty reduction in the areas along the Highway No.5.

Institutional Innovation

In the projects of Highway No.5 and Haiphong Port, development of the transport infrastructure worked as a precondition to increase foreign direct investment, contributing to economic growth and the improvement of the poverty situation in the provinces along the highway. It is observed

that the interaction between the governmental institution and the investor has brought about an interesting innovation, whereby institutional innovation in customs operation is being developed with the help of the investor side in an industrial park. A logistics company established under the Japan-Vietnam joint venture in Thang Long Industrial Park in Hanoi, has been playing a key role in providing ‘on-the-job training’ to custom officers stationed in the Park.

Thang Long Industrial Park is one of major industrial parks in the Northern Vietnam. It was established jointly by Japanese and Vietnamese companies in 1997 and started its operation in 2000. It has currently 28 companies as tenants, most of which are Japanese. In 2002, a few custom officers were positioned for the first time in the Park to serve the tenants for custom clearance work as a part of “one-stop-service” offered by the Park. At first, often seen were lengthy custom clearance processes resulting from undue inspection, repeated unnecessary correction of documents and uncoordinated work between the officers, which obstructed greatly the operation of tenant companies. The logistics company extended its cooperation with the custom officers, starting from making them understand a “basic concept of logistics,” such that quick movement of materials, components or products is a lifeline for manufacturing exporters and that that is exactly what foreign investors matter. The logistics company is playing a part in promoting interactions between the tenants and the custom officers, by frequently taking the officers to factories of the tenants and by holding a regular meeting where tenant companies express their request to the officers. As a result, mutual trust and understanding have been developed between the tenants and the custom, resulting in smoother and faster process of custom clearance.

The innovative process of the custom work has occurred in parallel with the growth of the institution. In 2003, the custom spot in the Park was raised to a higher status of “branch” of the Hanoi Custom Office. The branch has currently as many as 25 officers. The growth of the branch does not only mean the increased convenience to the tenants in the Industrial Park. It also implies that institutional capacity can be built on a wider scale beyond the Park, since a number of custom officers who have learned the international way of logistics in the Park will be transferred to other branches based on the rotation job system.

Learning and Experimentation

In order to develop its own policies or institutions such as law, the Government of Vietnam has made efforts to learn from other countries’ experiences and take in some of them in an appropriate manner, while observing the moves of external world. In fact the policy of Doi Moi itself was accelerated as a response to drastic changes in international environment such as severe decrease in assistance from the former Soviet Union and countries in Eastern Europe, economic growth of ASEAN countries, and economic reform and growth in China, apart from domestic factors such as fiscal deficit and acute inflation. A series of revision of the laws on companies and foreign investment as well as investment policies since the late 1980s indicate some examples of the country’s leaning from outside, in order to cope with the changes in circumstances. Formulation of enterprise laws and foreign investment laws is examined as the examples of the learning and experimentation process.

Enterprise law

In 1990, the National Assembly passed the Law on Private Business and the Law on Companies, which created a legal foundation of activity by the private sector, in addition to the State sector and the collective sector. The new constitution of 1992 recognized the private sector more clearly. Since then, revisions of laws have been conducted in response to the progress of economic reform and market economy. In 1999, as a result of the consolidation of the Law on Private Business and the Law on Companies, the new Law on Enterprises was promulgated. The Law on Enterprises intends to promote the private sector's activities by specifying that the State recognizes and protects the ownership over assets, investment capital and income rights of enterprises and their owners. It also simplified the complicated procedures stipulated in the 1990 Laws on Private Business and Companies. This made the number of newly established enterprises dramatically increase. In 2001, more than 18,000 enterprises were established.

Vietnam has been developing its legal system by examining various precedents such as experience of the countries who started economic reform earlier, including China, ASEAN members and other countries. In developing the legal system, the government carefully combined the experience of other countries with the State's priorities and the Party's orientation and so on. Some examples are as follows:

- The 1990 Law on Private Business and the Law on Companies were modeled on those of France, by stipulating three forms of entities i.e. Private Business, Limited Liability Company (LLC) and Shareholding Company (Thuyet, 1996 quoted by Ishida, 2000).
- The 1999 Law on Enterprises might have taken some aspects of the Chinese laws. Since a few years before the promulgation of this law, the Vietnamese government conducted research on enterprise laws of other countries. The 1999 Law divided LLC into two subcategories i.e. one-member LLC and multi-member LLC. One-member LLC is particularly applied to state-owned companies, of which the State holds 100 percent of its shares. Creation of the subcategory of one-member LLC stood as part of SOE reform, which was supposedly referred to China's experience (Ishida, 2002).
- The 1999 Law on Enterprise also reflected the international economic environment at that time. The establishment of this law indicated the Government's commitment to prompt the multi-sector economy to become more efficient and equitable. One driving force behind this would be the government's recognition of globalization or regional integration, putting the country under pressure more towards the open market system, as Vietnam joined multilateral systems such as ASEAN/AFTA and APEC. This form of "learning" will be more intense than before, under the US bilateral trade agreement, which came into effect in 2001 and with future membership of WTO.

Foreign investment law and policy

In 1987, the 6th National Assembly passed the Law on Foreign Direct Investment in Vietnam. Until now, it has been revised four times in 1990, 1992, 1996 and 2000. In general, the series of revision has promoted to improve investment environment and simplify procedures for investors.

In the case of foreign investment, interactions with investor countries or investors themselves have been good vehicles for Vietnam to learn the international standard for investment rules and procedures. There are many initiatives for investment promotion under way, on a multilateral as well as bilateral basis, such as the World Bank's Vietnam Business Forum and the Japan-Vietnam Investment and Trade Working Group.

In recent years, an interesting "learning channel" has been developed between Vietnam and China in the legal or policy development including foreign investment. In the form of joint projects, research institutes in the concerned field in the both countries conduct joint research on policy issues in order for Vietnam to obtain some lessons from Chinese experience. One example is a three-year research project of "The Exchange of Economic Development Policy Lessons Vietnam – China" which is currently under way, with the assistance of UNDP. The project clearly intends to make use of the Chinese experience, whether positive or negative, covering the following five key policy areas in the reform management:

- Non-state business sector development,
- SOE reform,
- Competition policy,
- FDI policy and incentives, and
- External trade performance.

Several specific policy questions are set as research issues for each area. In the area of FDI policy and incentives, one question is what specific policies and incentives have kept FDI rising in China from 1997 onward, while Vietnam has seen a dramatic decrease in FDI during the same period (UNDP, 2001).

In addition, it can be pointed out that another leaning channel is extended between the central and provincial government. Provincial governments are eager to learn how to provide as favorable incentives as possible to potential investors in order to outdo other provinces, within the scope of the relevant laws and regulations. For instance, in the latest Law on Foreign Investment in 2000, as a part of simplifying license procedure, investment licensing bodies now has 15 days from the date of receiving valid applications to grant licenses to investors. However, many provincial People's Committees and industrial zone (IZ) authorities have revamped their licensing apparatus and mechanism, and shortened still more the time limits for appraisal and grant of investment licenses. For example,

- In Haiphong, five projects invested in the Nomura-Hai Phong IZ were licensed within 24 hours in early 2002 by the local IZ authorities;
- In Hanoi, time limits for investment licensing have been shortened to 10 working days for projects qualifying for registration for licensing and 20 workings days for projects requiring appraisal for licensing.

This implies that a simplification of laws or procedures made by the Central Government turns into a more simplified form in the province, through a "spreading effect" of learning from

the Central Government. This learning channel for the province is significant for the scaling up of poverty reduction in the project areas, since the provinces concerned can offer far more favorable incentive to their potential investors, by coupling the simplified procedures with the convenience that the highway creates as a package.

External Catalysts

Improving investment environment is a nonstop process especially in the globalizing world, which needs continued consultations between the investors and the local authorities in a responsive manner to detect the needs of the both parties and to solve their obstacles. In that sense, the “Japan-Vietnam Joint Initiative to Improve Business Environment with a View to Strengthening Vietnam’s Competitiveness” has been playing a role as a catalyst in keeping the efforts on track. The following are some of the distinctive characters it contains.

First, it is the initiative agreed on by both countries at the highest level. During the Japan-Vietnam Summit Meeting in April 2003, Prime Minister of Vietnam Phan Van Khai and Prime Minister of Japan Junichiro Koizumi agreed and decided to launch the Initiative. It aims to strengthen Vietnam’s economic competitiveness through promotion of FDI inflow into Vietnam, with its particular objective of sharing and implementing specific and prioritized policies and measures to be implemented for the further economic growth of Vietnam. Second, members of the Joint Steering Committee established under the Initiative included vice ministers of different development sectors on the Vietnamese side. For the Japanese side, members included a representative from the private sector together with directors of ministries in charge of ODA.

The third and the most important aspect is the fact that the task of the Initiative was to form the Action Plan for strengthening Vietnam’s comparative competitiveness in Asia and for attracting foreign investment for that purpose. Through a series of the Joint Steering Committees held in Tokyo and Hanoi and intensive work of the taskforce which discussed raised issues with the Vietnamese side in the close cooperation, the final report including the Action Plan was completed and submitted to both the Prime Ministers in December 2003. In the process of preparation for the report, the taskforce also held a workshop inviting the donor community and the industry sectors for exchanging views and opinions. A striking feature of the Action Plan is its comprehensive nature: it covers wide areas such as establishment and implementation of FDI strategy, regulation related to investment, capacity building of implementing authorities, improvement of investment related institutions, improvement of economic infrastructure, and support to existing investors. However, at the same time, the Action Plan was put into 44 concrete items for proposal to the Vietnamese side. For most items, necessary actions by both countries are indicated with their targeted timeframe. The monitoring and evaluation setup during the implementation of the Initiative is specified in the report as well. The steady implementation of the Action Plan with the strong commitment by the national leaders would ensure that the Plan works as an important catalyst for improving investment environment in Vietnam, which will then become a solid foundation of scaling up poverty reduction.

Lessons Learned

The main role of large-scale transport infrastructure should be to promote economic growth by stimulating investment and/or trade. In the Northern Vietnam, the improvement of Highway No.5 and Haiphong Port has caused a large inflow of FDI to the provinces along the highway. This inflow of FDI resulted in the creation of many job opportunities as well as the expansion of various micro businesses around the industrial parks. The recent increase in the inflow of FDI has made immediate and positive impact on the regional poverty reduction.

In addition to the improvement of transport infrastructure, many aspects of institutional capacity building are highly needed to attract foreign investors. The elaboration of FDI related laws and the improvement of administrative procedures would be the examples. The experience of neighboring East Asian countries, such as China or Thailand, should be very helpful for Vietnam to develop her institutional capacity. Technical supports from foreign governments or private companies have also made a significant contribution to developing the capacity.

The large-scale infrastructure could make direct contribution to poverty reduction, as well. The improvement of Highway No.5 and Haiphong Port resulted in the expansion of high valued agricultural production in the provinces along the highway. Expansion of fishery production for urban consumers is a notable example in these provinces. This structural transformation in agricultural production had wide and sustained impacts on the regional poverty reduction. In order to realize this poverty reduction in the rural economy, the administrative supports with a clear political commitment was absolutely necessary. The Vietnamese government demonstrated its strong commitment to reduce poverty by formulating the Comprehensive Poverty Reduction and Growth Strategy (CPRGS). With this strategy, the central and provincial governments have provided comprehensive supports to poor farmers. Expansion of agricultural extension services by the provincial governments and the increase in rural credit by the state bank should be the examples of such supports. Without these interventions, farmers would not have been able to utilize the business opportunities provided by the improvement of transport infrastructure.

Thus, the transport infrastructure projects in the Northern Vietnam made a great contribution to poverty reduction widely seen in the areas along the highway. The projects shed light on a wide range of roles of infrastructure as a prerequisite for economic growth and a direct contributor to poverty reduction, through multiple channels such as those identified in the projects. The analysis of this case has brought us to the important lesson that it is necessary to combine large-scale infrastructure projects with institutional support backed by the government's clear commitment in order to scale up the effect of poverty reduction.

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