

# **DEVELOPMENT OF RURAL INFRASTRUCTURE AND ITS IMPACT ON THE LIVELIHOODS OF PEOPLE LIVING IN POVERTY**

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## **1. INTRODUCTION**

In the recent years, hunger eradication and poverty reduction in Vietnam has made outstanding achievements. The poverty rate, from the General Statistical Office (GSO) and international organizations estimates, has been reduced from 58% in 1993 to 28.9% in 2002, and in accordance with the Ministry of Labor, Invalid and Social Affairs (MOLISA), the poverty rate has been reduced from 23% to 11,4% during the same period. One of the active factors which contributed to the achievements in poverty reduction has been policy renovation on infrastructure and its development in rural areas where more than 90% of the poor are living now.

The main objective of this research is to study policies on rural infrastructure and its actual development in rural Vietnam in the past and at present. It also aims to assess the impact as well as the effect on livelihoods of the poor in rural areas. Approaches and research methods of this study are mainly based on document analysis and statistical data analysis. However it also relies on surveys and fieldwork. Household surveys, case studies and field work in the communes, villages in some provinces have been conducted.

The research is divided into of 3 sections. Section 2 describes and presents briefly policy frameworks on rural infrastructure and their dynamic changes in Vietnam after '*Doi moi*' up to the present, and policies on rural infrastructure development in the poor and extremely difficult communes and regions. Policy implementation on rural infrastructure in general as well as in poor and extremely difficult communes is presented in Section 3. Section 4, based mainly on the findings of field surveys, looks at the impact and effects of the policy on rural infrastructure and its actual development on the livelihoods of the poor, i.e. opportunities and challenges that the poor face, their livelihoods and their actual situations nowadays.

## **2. POLICY FRAMEWORK ON RURAL INFRASTRUCTURE DEVELOPMENT AND ITS RENOVATION**

### **2.1 General description on rural infrastructure development before *Doi moi***

In the past, before *Doi moi*, policy planning as well as building organization of rural infrastructure in Vietnam had not been given the full attention it needed due to the difficult economic conditions of the country as well as specific conditions of agriculture and rural economy. At the national level, as well as at local levels, policies on rural infrastructure development mainly focused on works which served agricultural production, especially for rice and food crop production. Of which, irrigation and drainage systems, reservoirs, flooding protection works, reclamation of waste land, and land productivity improvements were the top priority. Investment capital from the government budget for irrigation and drainage systems accounted for 40 - 50 per cent of the total government budget for agriculture in general per year in the past (Phan Si Man [1995]).

Planning and investment in building infrastructure also gave priority to the main agricultural regions (especially for the regions which specialized in food production), and mainly focused on important irrigation works. Most of these works were constructed, operated and managed at the ministerial, provincial, and district levels. The same happened to the transportation system, electricity network and power suppliers network. However, the range and level of government investment in these works was still small in comparison to investments in irrigation and drainage systems. Policy and resource allocation for rural infrastructure from the national level did not cover all regions.

In the past, before *Doi moi*, development of rural infrastructure in the villages and communes such as bridges, roads, electricity networks, schools, health stations, cultural houses, public welfare built, etc. were mainly constructed by communes and agricultural cooperatives. Communes and agricultural cooperatives mobilized resources and constructed these infrastructures with labor contributed from inhabitants (Do Hoai Nam and Le Cao Doan [2001]). The central and local government investments and supports were extremely small. Many communes and villages did not receive any investment from the central levels of government.

The obstacles of the policy were attributed partly to difficulties in the state budget. However, they were also due to the importance placed on agricultural production, especially food production to the national economy. The other obstacles were weaknesses and shortages of policy framework, especially policy on capital and social resources mobilization for rural infrastructure in the communes and villages. That is why, building

and development of rural infrastructure in the community faced difficulties in the past before *Doi Moi*. Shortages, weaknesses and backward conditions in rural infrastructure have existed in almost all communes and villages throughout the country, especially in the mountainous, remote areas and in the areas with difficult conditions for food production and living.

## **2.2 Renovation policies on development of rural infrastructure in the past and at present**

Policies on development of infrastructure in rural areas have changed in a positive way since the 1990s. At the national level, framework of policy renovation on agricultural and socio-economic development in rural areas was expressed in many documents, resolutions and policies of the Communist Party, Vietnam's State and the Government.

***Box 1. Government's policy documents and programs related to rural infrastructure development.***

- Decision No 133/ 1998/ QD-TTg of the Prime Minister on National Program on Hunger Eradication and Poverty Reduction (HEPR) in the period of 1998- 2000 (Program 133, in 1998)
- Decision No 135/ 1998/ QD-TTg of the Prime Minister on Socio - Economic Development Program in Extremely Difficult Mountainous and Remote Areas (Program 135, in 1998).
- Decisions of the Government and Prime Minister on National Program on Employment Creation (Program 120, 1998), National Program on Reforestation (Program 327), Program on Clean water, Sanitation and Environment in Rural Areas (1998), National Program on Electricity Network Development in Rural Areas (1999).
- Decision No 143/ 2001/ QD-TTg of the Prime Minister on National Program on HEPR and Employment Creation in the period of 2001-2005 (Program 143) and National Strategy on Poverty Reduction in the period of 2001-2010; 2001), etc.

Resolution No 10- NQ/TW of the Vietnamese Communist Party (in 1988), Resolution of the 5th Congress of the Central Committee of the Party (1993) as well as document from the 8th Congress of the Vietnamese Communist Party (1996), the 6th Congress of the Central Committee of the Party (1998) and documents from the 9th Congress of the Vietnamese Communist Party (2001) were all concerned with policy

orientations on development of transportation, electricity, irrigation, schools, medical posts and other infrastructure in rural areas. On this basis, many of the government's decisions, projects and programs on rural infrastructure development have been concreted and issued. (Box 1).

### **2.2.1 Objectives of the policies**

The main objective of rural infrastructure development stated in the above policy documents is to quickly overcome and improve shortages, weaknesses and backward situations of rural infrastructure in order to exploit the potential, promote commercialization and market expansion, and integrate economic development into comprehensive new rural development<sup>1</sup>. However, the objectives have been widened and have become more comprehensive since the mid 1990s and especially after the 8th Congress of the Communist Party in 1996. It emphasized the necessity of building and comprehensive development of all systems, essential and fundamental infrastructure works for the support and stimulation of poverty reduction in rural areas, integrating rural development into the development of the whole country, and the improved supply of basic social services in rural areas<sup>2</sup>. The development of social aspects such as health, culture, education, social safeguards, etc., were considered to ensure comprehensive socio-economic development in rural areas and build a new more progressive countryside.<sup>2</sup> Overcoming underdeveloped conditions and narrowing inequality in rural areas, especially in the mountainous remote areas, and areas with difficult conditions for food production and living. Moreover, one of the objectives of the policy development on rural infrastructure is to establish political and social stabilization, national security and welfare for people living in all regions of the country, especially in the mountainous, remote areas, border areas and islands, in the regions where natural calamities are common and regions with high risk (mishaps) in production and life<sup>3</sup>.

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<sup>1</sup> Resolution No 10- NQ / TW, 1988, Resolution of the 5<sup>th</sup> Congress of Central Communist Party, the VII Section, 1993.

<sup>2</sup> Document of the VIIIth Congress of the Communist Party, 1996; Resolution of the 6<sup>th</sup> Congress of Central Communist Party, 1998; National Program on HEPR in the period of 1998-2000, Program 135, 1998, etc.

<sup>3</sup> Document of the VIIIth Congress of the Communist Party, 1996; Resolution of the 6<sup>th</sup> Congress of Central Communist Party, 1998; National Program on HEPR in the period of 1998-2000, Program 135, 1998, etc.

### **2.2.2 Range of impact and beneficiaries of the policies**

The range of the policies on infrastructure development was expanded to infrastructure works at village community level and it includes most of the essential infrastructure works. The government started to support investment not only in infrastructure works serving for agricultural production but also in infrastructure works serving for socio- economic development in the communes and villages in general.

Of which, the infrastructure works which needed to be focused on for development are as follows<sup>4</sup>:

- 1) irrigation and drainage systems (including canals, reservoirs, weirs and small scale irrigation combined with hydroelectricity and the provision of clean water for the inhabitants),
- 2) transportation canals in the communes, villages.
- 3) electricity networks and clean water works for living of the inhabitants.
- 4) markets and facilities serving for commodity exchange, trade and services.
- 5) schools.
- 6) health stations.

### **2.2.3 Contents of the policies**

The content of the policies on development of rural infrastructure has been adjusted and in some aspects. Among these, three main points to be interested in are: 1) policies on investment, capital mobilization and resource allocation, 2) policies on building, management and use of infrastructure works, and 3) shifting to other policy priorities.

Policies on investment, capital mobilization and resource allocation for development of rural infrastructure have changed towards diversification of capital sources with more open and flexible mechanism mobilization. On the one hand the government has continued to intensify direct investment of the state budget (and other government's sources for investment) for development of rural infrastructure. On the other hand the government is also committed to the expansion of investment and support in terms of funding for the development of infrastructure of different kinds (including investment credit, and lending with preferential interest rate through credit systems, banks, Development and Investment Funds, etc.). The government has also encouraged the creation of favorable conditions for capital mobilization from other sources, such as organizations, and individuals from different ownerships inside and outside the country, to contribute to and invest in, the

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<sup>4</sup> According to documents of Resolution of the 5<sup>th</sup> Congress of Central Communist Party, (1993), Resolution of the 6<sup>th</sup> Congress of Central Communist Party, (1998), Program 135 (1998), etc.

development of rural infrastructure in the communes and villages, especially labor contribution and local resources of the inhabitants<sup>5</sup>.

The policy mechanism on building, management, and use of infrastructure has also been changed, with strong decentralization and more self-control given to commune authorities. Since the early 1990s, the responsibilities of planning, investment, building and management of the infrastructure works in the villages and communes have been transferred from agricultural cooperatives to commune authorities, including infrastructure works invested by the projects, national programs as well as by local authority levels (district, province level)<sup>6</sup>. However, to ensure the socio-economic effect of the investment, building, management and use of infrastructure, the state has introduced requirements for close coordination of planning and building projects on infrastructure development in general in line with socio-economic development plan in each commune and region<sup>7</sup>.

Policy priorities have also shifted. Instead of giving priority firstly to the Red River Delta and Mekong Delta regions, since the early 1990s, (especially after 5<sup>th</sup> Congress of Central Communist Party in 1993), priority of development of rural infrastructure at the communes level has been given to communes in mountainous, remote areas with very difficult conditions for food production and living. Since 1996-1997, the government and local authorities have been building to policies, projects, and programs for socio-economic development in the poor and difficult communes (based on the selected criteria) of which there are projects and programs receiving priority. (see Section 1.3 below).

### **2.3 Policies on infrastructure in poor and extremely difficult communes**

These policies are part of the content of policies on rural infrastructure development in general, and are as policy priorities on infrastructure development for poor and extremely difficult communes. The reason for making these policies is that hunger eradication and poverty reduction movement has been expanded to the local areas since the early 1990s, and the government had discovered that most of the poor were living in the rural mountainous and remote areas, especially in the communes with very difficult condition for food production, with very weak communication and rural infrastructure. Results of the Household's Living Standards Survey conducted by GSO in 1992-93 (GSO [1994]), Rural

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<sup>5</sup> According to documents of Resolution of the 5<sup>th</sup> Congress of Central Communist Party, (1993), Resolution of the 6<sup>th</sup> Congress of Central Communist Party, (1998), Program 135 (1998), etc.

<sup>6</sup> Excluding some cases, for example in the communes where local authorities are unqualified in term of building organization and management, especially in the mountainous and remote areas.

<sup>7</sup> Document of Program 135 (1998)

and Agricultural Census (Nguyen Sinh Cuc [1995]), Socio-Economics Survey in 11 provinces in the North Mountainous region conducted by the Institute of Economics in 1992-1993 (Institute of Economics [1993]) and other surveys illustrated clearly these poverty situations.

According to the Rural and Agricultural Census in 1994, the number of the communes having access to electricity, roads, secondary schools, markets, etc. in many mountainous regions was very low. For example, the proportion of communes in Lai Chau province having access to electricity accounted for only 2.6 per cent. The proportion of communes having auto way to the communal center was 59 per cent. Proportion of communes having secondary schools was 32.4 per cent. The proportion of communes having access to markets was 10.8 per cent. A similar situation can be observed in Lao Cai, Ha Giang, Cao Bang province (in the North Mountainous region), Kon Tum (in the Central Highlands), Phu Yen province (in the South Central Coast), and other provinces etc. The surveys and researches on poverty at the village communities in these areas showed that one of the main reasons for poverty was the shortage and weakness of the infrastructure (Nguyen Sinh Cuc [1995]).

That is why priority to development of the essential infrastructure works in these areas began to be emphasized in the policy on socio- economic development at national and regional levels as well as at local levels. Especially after the VI<sup>th</sup> Congress of the Communist Party in 1996, a shift of priority in the development of rural infrastructure towards poor and extremely difficult communes has been presented clearly in the planning, projects and programs on socio- economic development in the regions<sup>8</sup>. Most of the policies on infrastructure development have been introduced or designed under a form of project supporting village communities or clusters of communes since 1998.

At the national level, most of the projects supporting infrastructure development in poor and extremely difficult communes has been integrated into or became one part of the government's projects or programs, belonging mainly to the Program on Socio- Economic Development in Extremely Difficult Mountainous and Remote Areas (abbreviated as

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<sup>8</sup> For example, Instruction No 393- TTg of the Prime Minister on population planning and upgrading infrastructure, production arrangement in ethnic and mountainous areas (June, 1996); Decision No 656-TTg of the Prime Minister on socio- economic development in the Central Highlands for the period of 1996-2000 (September, 1996); Decision No 960-TTg of the Prime Minister on orientation of socio- economic development in the North Mountainous region in the long term (Dec. 1996); Program on building clusters of mountainous communes and upland areas (Decision 35/ QD- TTg of the Prime Minister approved in Jan. 1997); Instruction 515-TTg of the Prime Minister on stimulating implementation of the Program on Exploitation and Socio- Economic Development in Dong Thap Muoi (July, 1997), etc.

Program 135, approved in 1998), the National Program on Hunger Eradication and Poverty Reduction for the period of 1998-2000 (HEPR Program, or Program 133, approved in 1998), Target National Program on HEPR and Employment Creation in the period of 2001-2005 (Program 143, in 2001).

The main objectives of the projects on infrastructure listed in these programs are to 'ensure poor communes to have an access to essential infrastructure such as small scale irrigation systems, roads, electricity, schools, health centers, clean water, markets for stimulating socio-economic development and directly support to HEPR in the communes (Decision No 135/1998/QD-TTg of the Prime Minister, 1998). The selection criteria and number of the selected communes of the project on infrastructure (listed in this program) were determined by the Ethnic and Mountainous Committee and approved by the government (Box 2).

***Box 2: Selection criteria and target groups of the project on infrastructure, which is listed in the Program 135***

- Location: far areas, remote, border areas, island areas; more than 20 km from development centers.
- Poverty incidence accounts for above 60 per cent of the total households; very difficult living conditions.
- Without infrastructure or temporary infrastructure; very difficult condition for traffic; no roads to the commune; weak or no access to electricity, irrigation systems, clean water, schools, and health centers.
- Illiteracy rates above 60 per cent; high mobility; backward customs and weak communication.
- Difficult conditions for production, self- sufficient production, or shifting cultivation; agricultural cultivation in the forestry land; share from forestry activities of the total household's income is high.

Target groups of the infrastructure project which is listed in Program 133, Program 143 and other target national programs have been determined by given criteria (see Box 3), including remaining poor communes in the whole country, excluding communes belonging to the other infrastructure projects listed in Program 135.



***Box 3: Criteria for commune selection in the infrastructure projects listed in Program 133 and 143***

1. Poverty incidence is above 25 per cent.
2. Infrastructure does not include 3 items of the total 6 essential items as follows:
  - Safe water: under 30 per cent of the total households having access to clean water
  - Electricity: under 50 per cent of the total households having access to electricity
  - Transportation: no roads to the communal center or unaccessible during certain times of the year
  - School: Number of rooms (based on Ministry of Training and Education standards) ability to serve only 70 per cent of the total pupils or they are temporary rooms constructed from simple materials.
  - Health care: No health center or having only a village clinic
  - No market or having only a temporary market.

With the given selection criteria, the target groups of the Program 135 were initially 1,715 poor and extremely difficult communes. Of which the 1,000 poorest and most difficult communes in 30 provinces, 91 districts have been invested in by this program. The remaining poor communes have been given priority from other national target programs (such as HEPR Program, Program on Clean Water Supply, etc) and other development projects and programs<sup>9</sup>. The target groups and range of the projects on infrastructure listed in the Program 135 have been widened due to the government's decision on unifying Program on Building Clusters of Mountainous and Upland Communes, the Project on Settlement and the Project on Supporting extremely difficult Ethnic Minorities into Program 135 in 2000 and merged the Project on Supporting the extremely difficult Ethnic Minorities listed in the Program HEPR into Program 135 in 2001. In 2003, target groups of the Program 135 and other projects on infrastructure listed in the program are 2,362 communes in 49 provinces (MOLISA-UNDP [2004]).

The government also required other target national programs, projects and other development programs implemented in poor and extremely difficult communes to coordinate and integrate into Program 135 or HEPR Program<sup>10</sup>. Along with the projects on

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<sup>9</sup> Decision No 135 attached a list of provinces and districts that have 'extremely difficult communes', the number of 'extremely difficult communes', and the number of households and population.

<sup>10</sup> Inter - ministerial circular No 01/1999 of MPI and MF- MOLISA on instruction on planning and coordinated all programs and projects for hunger eradication and poverty reduction (March, 1999).

infrastructure development listed in the target national programs mentioned above, at the local level, many provinces have built policies and projects on infrastructure development in poor communes and villages based on the local requirement for poverty reduction. Most of the investment costs for such programs come from local budget.

Moreover, the central government as well as local authorities have always strongly encouraged the creation of favorable conditions for domestic and international organizations (especially NGOs) to build projects in different forms to develop infrastructure in poor and extremely difficult communes. These policies have attracted participation of hundreds of domestic and international economic and social organizations with high investment capital that would support thousands of projects to build infrastructure in poor and extremely difficult communes (especially on works on clean water supply, small- scale irrigation, schools, health stations, etc.).

### **3. ACTUAL DEVELOPMENT OF RURAL INFRASTRUCTURE IN GENERAL AND IN POOR AND EXTREMELY DIFFICULT COMMUNES**

#### **3.1 Overall picture**

There are no surveys or statistical data on the number of the infrastructure and infrastructure-building projects that have been built or implemented in the communes and villages in rural areas up to now (2004). There are also no surveys or statistical data on total investment costs and social investment resources (including government and local investment, investment from other organizations and inhabitant's contributions, etc.) for infrastructure development in rural areas. However, the results of the 1994 Rural and Agricultural Census conducted by GSO (Nguyen Sinh Cuc [1995]) as well as the results of the 2001 Rural, Agricultural and Fishery Census (General Statistical Office [2003]) and Households Living Standards Survey (VHLSS) in 2002 (General Statistical Office [2004]) show that coverage of the policies on infrastructure development has been widened and covered almost all rural areas. According to the VHLSS in 2002, there was 57.3 per cent of the total communes in rural areas which had received government investment programs or programs of other organizations on economic and infrastructure development; 82.4 per cent of the communes having HEPR Program, 30.2 per cent of the communes having projects on cultural and education investment; 23.3 per cent of the communes having projects on health care and community health care, and 18 per cent of the communes having projects on clean water supply and environment (General Statistical Office [2004]).

## Rural infrastructure development

Table 1 shows the proportion of communes that have projects and programs of government and other organizations on economic and infrastructure development. Of which, the proportion of communes having projects on investment in socio- economic development and rural infrastructure in the North - East, North – West, North Central Coast and Mekong River Delta were higher than in the remaining regions. Figures on mountainous communes involving in these projects and communes located in remote areas were higher than in delta areas and in the communes not located in remote areas.

**Table 1: Proportion of communes having government projects and programs, and having projects and programs of other organizations**

Unit: % of the total communes

Communes	with projects on employment creation	with Projects on HEPR	with projects on economic and infra-structure development	with projects on culture, education	with projects on health and health care service	with projects on clean water supply and environment
Rural areas	37.16	82.40	57.28	30.25	23.34	18.02
a. By regions						
- Red River Delta	33.89	79.19	49.16	30.20	27.35	19.13
- North East	31.91	77.89	66.83	30.65	21.36	19.35
- North West	28.57	72.53	58.24	32.97	20.88	24.18
- North Central Coast	33.97	81.09	58.33	25.32	20.51	20.83
- South Central Coast	52.43	86.89	56.55	23.60	23.22	16.85
- Central Highlands	29.81	87.26	57.14	30.43	31.06	24.84
- South East	52.66	89.10	50.53	26.06	21.28	19.41
- Mekong River Delta	42.02	87.65	58.49	29.50	19.90	22.13
b. By geography						
- Communes located in the delta	41.43	84.60	52.00	26.93	23.65	20.55
- Mountainous communes	26.42	77.09	65.77	33.69	23.72	23.45
- Communes located in remote areas	28.94	83.40	70.43	37.23	21.28	21.28
- Communes not located in remote areas	41.31	82.67	53.46	26.71	23.29	20.14

Source: General Statistical Office (2004).

Policy efforts and actual development of rural infrastructure were reflected clearly in the Rural and Agricultural Census conducted by the GSO in the whole country in 1994 and 2001 (Table 2).

**Table 2: Communes having essential infrastructure structures**

	1994		2001		Compared 2001 with 1994
	No of communes	Percentage	No of communes	Percentage	Difference
Total communes in the whole country	8,930	100	8,934	100	+3
Communes having auto way to the communal center	7,725	86.4	8,415	94.2	+690
Communes having access to electricity	5,381	60.2	8,010	86.9	+2,629
Communes having access to health center	8,188	91.6	8,885	99.4	+697
Communes having primary school	8,752	98	8,926	99.9	+175
Communes having secondary school	6,813	76.3	7,543	84.4	+730
Communes having access to market	4,905	54.9	5,014	56.1	+109
Communes having radio system	3,343	37.4	5,075	56.8	+1,732
Communes having post office	-	-	6,428	71.9	

*Source:* Nguyen Sinh Cuc (1995), General Statistical Office (2003)

Infrastructure service delivery in rural areas has been improved and had made enormous progress compared to previous years. However, the infrastructure situation as well as its service supply differs from commune to commune in different regions. The infrastructure situation and its service in mountainous, remote, border areas and islands areas were still underdeveloped compared to other communes, especially compared to rural areas around the cities, towns, townships, industrial zones or in communes located in the rural Red River Delta.

### 3.2 Essential infrastructure works and its service delivery in rural areas.

#### 3.2.1 Irrigation and drainage systems

Irrigation and drainage system works not only irrigate and drain cropped areas but also provide water to residential areas, especially in mountainous and remote areas. The combination of irrigation systems and small- scale hydroelectric plans also contributes to provide electricity to inhabitants in these communes and villages.

As Table 3 and Table 4 show, there were 21 thousand irrigation works and about 194.5 thousand km canals serving agricultural production in the whole country as of 2001. Along with this, there were hundreds of thousands of irrigation and drainage systems built and managed by hamlets and villages. All of these systems ensure to fully irrigate 36.1 per cent of total agricultural land, 48.1 per cent of annual crops and 63 per cent of annual paddy land areas in the whole country.

There was a big difference among provinces and among regions in terms of development of irrigation and drainage systems. In 2002, 23.1 per cent of communes in rural Vietnam having incomes derived mainly from agricultural production faced difficulties in agricultural production due to poor irrigation and drainage systems. These communes are mainly located in North - East (42.9 per cent); North- West (42 per cent); North Central Coast (32.5 per cent); in the mountainous region (34.6 per cent) and in the low land areas (37.2 per cent) (General Statistical Office [2004]).

**Table 3: Irrigation and drainage system and canal serving for agricultural production**

	Water conservation projects <sup>1)</sup> (pieces)	Length of irrigation canal <sup>2)</sup> (km)	
		Total	Of which, solid irrigation canal
Whole country	21,177	194,518	24,088
- Red River Delta	8,006	43,256	2,521
- North East	5,806	21,522	5,077
- North West	379	4,157	563
- North Central Coast	2,980	16,923	5,654
- South Central Coast	833	9,119	740
- Central Highlands	545	2,070	204
- South East	543	53,654	8,791
- Mekong River Delta	2,085	43,817	538

Note: 1) Data in 1999

2) Data in 2001

Source: General Statistical Office (2000), General Statistical Office (2003).

**Table 4: Irrigation in Agriculture in 2001**

	Agricultural land areas Irrigated (%)	Annual crops land area irrigated (%)	Paddy land area irrigated (%)
Whole country	36.1	48.1	63.0
- Red River Delta	70.5	77.8	82.9
- North East	23.1	31.4	29.2
- North West	7.7	9.1	24.1
- North Central Coast	36.8	46.2	61.1
- South Central Coast	30.6	39.9	67.2
- Central Highlands	5.7	12.2	29.6
- South East	13.2	21.1	34.1
- Mekong River Delta	59.8	67.1	68.1

Source: General Statistical Office (2003).

In some provinces where the incidence of poverty is higher compared to the rest of the country also faced difficulties in irrigation and drainage. For example, in Lai Chau province, percentage of agricultural lands that were fully irrigated accounted only for 4.9 per cent in 2001, this figure was 5.4 per cent for annual crops and 9.7 per cent for paddy crops. Similar situations can be observed in other provinces such as Son La, Kon Tum, Gia Lai, Binh Phuoc, and Kien Giang (Table 5).

**Table5. Irrigation situations in some provinces having difficulties in term of irrigation**

Provinces	Agricultural land area Irrigated (%)	Annual crops land area irrigated (%)	Paddy land area irrigated (%)
Lai Chau	4.9	5.4	9.7
Son La	4.2	4.8	25.9
CaoBang	17.0	18.7	38.4
Lang Son	17.9	23.4	31.2
Kon Tum	4.5	8.3	25.3
Gia Lai	6.0	8.2	24.0
Lam Dong	3.1	12.6	27.8
Binh Phuoc	0.5	3.5	8.3
Dong Nai	12.1	17.6	24.8
Kien Giang	7.9	9.6	10.0
Ca Mau	1.3	1.8	2.1

Source: General Statistical Office (2003).

### 3.2.2 Rural transportation

In 2001, more than 94 per cent of the communes in rural areas had roads to the communal center (Table 6). However, in some provinces in the Mekong River Delta such as the provinces Soc Trang, Bac Lieu, Vinh Long, Ca Mau, etc., the percentage of communes having roads to the communal center was lower in comparison with other provinces. The quality of the roads in the hamlets was still very low. According to the results of the 2001 Rural, Agricultural and Fishery Census percentage of the communes having paved or concrete inter- hamlet roads accounted for only one third of the total communes (General Statistical Office [2003]).

**Table 6: Rural Transportation Situation**

	Proportion of communes having auto way to the communal center		Rate Communes with village-link road asphalted/ or concreted	Rate Communes with village-link road totally asphalted/ or concreted
	1994	2001	2001	2001
Year	1994	2001	2001	2001
Whole country	86.4	94.2	33.0	3.1
- Red River Delta	99.4	99.8	65.1	11.2
- North East		96.5	9.3	0.1
- North West	82.6	87.3	5.5	0.0
- North Central Coast	90.0	96.5	30.9	0.7
- South Central Coast	82.5	94.2	32.5	1.2
- Central Highlands	96.2	97.4	14.5	0.2
- South East	97.9	99.2	32.9	1.7
-Mekong River Delta	65.7	77.9	41.4	2.6

Source: Nguyen Sinh Cuc (1995), General Statistical Office (2003).

Therefore, access to means of transportation and service in the hamlets faced some difficulties in general, especially in mountainous and remote areas. According to the VHLSS survey 2002, about 40.3 per cent of the total 80,460 hamlets in rural Vietnam have a means of transportation (train, boat or car) passing through. The proportion of the hamlets where means of transportation can not pass through accounted for 82.3 per cent in the North- West. In the North- East, North Central Coast and Central Highlands they were above 75 per cent. Mean distance from hamlets to transportation in the North- West was 10.1 km, in the North- East was 11 km, in the Central Highlands was 16 km, in high mountainous areas: 12.5 km, in the far and remote areas, 10km. Similar situations can be observed in poor and extremely difficult communes in rural areas nowadays.

### 3.2.3 Electricity

Electricity and transmission networks in rural areas have improved since the beginning of 1990s. This is attributed partly to the rapid increase in electricity production in Vietnam (thanks to the building of many power plants) and government efforts in the development of transmission systems and electricity grids to all regions. It is also because of the contributions from economic and social agencies and people's contribution in building transmission networks and installing electricity distribution equipment to households.

However, the proportion of villages and the proportion of households having access to electricity was lower compared to the proportion of communes having access to electricity, especially in the North Mountainous region, Central Highlands and Mekong River Delta (Table 7). The reason is that development of electricity networks to hamlets and from hamlets to households was not completed. In the many communes, only the communal center had access to electricity, and there were still no transmission grids up to hamlets and households. The data in 2001 (Table 8) illustrate clear shortage of transmission networks in the communes and villages in some regions.

**Table 7: Access to electricity in rural areas**

	Proportion of communes having access to electricity (%)		Proportion of villages having access to electricity (%)	Proportion of households having access to electricity (%)
	1994	2001	2001	2001
<b>Year</b>	1994	2001	2001	2001
Whole country	60.2	89.7	77.2	79.0
- Red River Delta	98.1	99.9	99.7	98.8
- North East		81.5	65.1	71.9
- North West	37.1	62.6	42.3	51.0
- North Central Coast	61.8	90.9	87.3	88.4
- South Central Coast	54.7	86.7	80.5	85.4
- Central Highlands	31.3	75.4	55.2	51.5
- South East	71.8	98.6	87.3	75.5
-Mekong River Delta	67.0	99.0	83.5	61.9

Source: Nguyen Sinh Cuc (1995), General Statistical Office (2003)



**Table 8: Proportion of communes, villages and households having no access to electricity in all regions**

Region	Communes having no access to electricity		Villages having no access to electricity		Households having no access to electricity	
	No	%	No	%	No	%
Whole country	924	100.0	18,310	100.0	2,740	100.0
- Red River Delta	2	0.2	35	0.2	40.1	1.5
- North East	343	37.1	7,488	40.9	438.2	16.0
- North West	197	21.3	3,763	20.6	183.3	6.7
- North Central Coast	147	15.9	2,035	11.1	226.3	8.3
- South Central Coast	91	9.8	788	4.3	156.0	5.7
- Central Highlands	124	13.5	2,422	13.2	311.2	11.3
- South East	8	0.9	441	2.4	304.5	11.1
-Mekong River Delta	12	1.3	1,338	7.3	1,080.4	39.4

Source: General Statistical Office (2003).

These hamlets and communes with no access to electricity were mainly located in the North- East, North - West, Central Highlands and mountainous communes in the North and South Central Coast Building an electricity network in the communes as well as from commune to hamlet and households in these areas usually faces many difficulties, requires high total investment cost, and exceeds the capacity of the communes in terms of capital mobilization and inhabitant's contributions.

Many electricity transmission and distribution networks were built by communes and villages with inhabitant's contributions. Therefore, the quality of these works as well as quality of electricity supply usually does not meet necessary technical standards. Electricity networks in the communes were unsystematic and are usually technically backwards. On the other hand, household's incomes are still low, therefore, people's contributions, especially from the poor, to the development of electricity network as well as their payment for using electricity is a problem.

### 3.2.4 Clean water works

Clean water supplies in rural areas were set up many years ago. However, clean water shortages have become to one of the obstacles to improving living conditions of the inhabitants in many rural areas. A clean water shortage is also a major challenge to settlement, resettlement and stabilization of living conditions of ethnic minorities in many mountainous areas.

The Government built and approved a National Target Program on Clean Water and Sanitation, Environment in rural areas in 1998. Thousands of projects on clean water works have been implemented in the communes and villages with investment support from government, local authorities, international organizations such as UNICEF, FAO, WHO, and other NGOs. However, only 18 per cent of the total number of communes in the whole country had government projects, programs on clean water and environment or from other organizations. This figure was highest in the Central Highlands (24.8 per cent), followed by the North Central Coast (24.2 per cent) and the Mekong River Delta (22.1 per cent). In the mountainous areas, this figure was 23.4 per cent, in the remote areas: 21.3 per cent (Table 9).

**Table 9: Clean water use by the households in rural areas in 2002**

Unit: %

	Tap-water	Deep well with pumping	Deep well	Filtered water stream	Earth well, river, stream
Rural areas	5.5	22.2	33.5	1.0	37.8
- Red River Delta	15.1	31.3	22.0	0.1	31.5
- North East	9.4	4.4	53.2	2.0	31.0
- North West	11.0	0.3	30.6	7.1	51.0
- North Central Coast	9.4	14.3	58.9	2.0	15.4
- South Central Coast	13.6	17.7	59.0	0.1	9.6
- Central Highlands	9.9	1.5	31.9	2.1	54.6
- South East	31.3	31.5	17.3	0.3	19.6
-Mekong River Delta	18.5	26.4	2.2	0.1	52.8

Source: General Statistical Office (2004)

Most rural inhabitants had a habit of using water from natural sources such as rain water, water from rivers, streams, lakes, and wells. More than 50 per cent of the households in the North- West, Central Highlands and Mekong River Delta used water from these sources. In the Red River Delta, this figure was over 30 per cent. Clean water shortages occur in many areas, especially during the dry seasons. In some communes and villages in the midland and mountainous areas, rural residents have to walk 2 - 3 km from their houses to get clean water. In some plains next to the sea, the people also face the same problems due to salty water or water polluted by industrial wastes, wastewater from residential areas and chemical substances from agricultural production.

The main obstacle for the development of clean water works in rural areas nowadays is shortages of investment capital from local authorities and inhabitants<sup>11</sup>. On the other hand, there is a strong need to change people's perceptions and habits in terms of access to and use of clean water in these areas. Even in the plain areas or along the sea, drilling wells is costly, not all households can afford it. In many places, people have to drill by pumps hundreds of meters in order to get access to clean water. In mountainous and remote areas, building water tanks for households, especially for the poor, during the dry seasons also faces difficulty of expenditure, building materials and techniques.

### **3.2.5 Infrastructure for trade, service and communication**

Along with the development of transportation and electricity networks, development of infrastructure works for trade, services and communication in rural areas have also been speeded up (Table 10).

**Table 10: Proportion of communes having structures for trade, service and communication in 2001**

Unit: %

	Communes having access to market	Communes having post office	Communes having available transmission system	Households having telephone
Rural areas	56.1	71.9	56.8	5.3
- Red River Delta	62.8	86.0	98.2	5.2
- North East	43.2	57.8	22.5	1.9
- North West	28.5	47.4	9.3	0.8
- North Central Coast	57.6	73.8	46.5	2.9
- South Central Coast	64.8	70.5	60.4	5.1
- Central Highlands	38.4	58.4	31.7	4.2
- South East	69.3	81.1	75.2	12.0
-Mekong River Delta	71.4	81.6	77.7	6.9

Source: General Statistical Office (2003).

There are 5,000 communal market stations, thousands of commercial and service centers in towns, townships, communal centers and clusters of communes in rural Vietnam

<sup>11</sup> For example, cost for public work on clean water in Khanh Ninh commune (Ninh Binh province) were more 8 VND billion (2004), but not all communes can mobilization this investment capital. Cost per household's water build or water tanker need also 1-2 VND millions (Institute of Economics [forthcoming]).

nowadays. In the Mekong River Delta there are many markets in the canals, rivers with favorable conditions for the exchange of goods and services for inhabitants. However, except for the main markets, commercial and service centers in townships and towns, most markets, commercial and service centers in hamlets are of a small scale with weak infrastructures. Many markets in the communes and villages are located in areas, or in rivers without basic infrastructure such as storage, car, shops, shops for buying and maintaining goods, etc.

The results of the 2001 Rural, Agricultural and Fishery Census (General Statistical Office [2003]) and VHLSS in 2002 (General Statistical Office [2004]) show that in the North- West, Northeast, and Central Highlands, about 60-70 per cent of communes and 75-80 per cent of hamlets do not have markets open every day, or have no access to market located in the neighboring communes and villages. The distance from hamlet to market on average is about 10-12 km. This is a big obstacle to production development, market expansion, and the meeting of demand for goods exchanges for the people living in these areas.

Postal service, and communication and radio services face similar situations. There were 72 per cent of communes having post office and 56.8 per cent of communes having radio system in rural areas in 2001. There are 2,500 communes (28 per cent of total communes in rural area), 47,000 hamlets (58.3 per cent) have no post office and more than 3,800 communes (43.2 per cent) have no radio system. The average distance from a hamlet with no post office to the nearest post office in high mountainous areas is 11 km. In remote areas, the distance is about 8.5 km, 13.9 km in the North West region, and 12 km in the Central Highlands (General Statistical Office [2004]).

### **3.2.6 Infrastructure for Education and Health**

According to the 2001 Rural, Agricultural and Fishery Census (General Statistical Office [2003]), the proportion of communes having kindergartens in rural areas accounted for 85.7 per cent, communes having primary schools accounted for 99.9 per cent, and communes having lower secondary schools accounted for 84.4 per cent. The proportion of communes having primary schools in the North - West, North Central Coast, Central Highlands, South East and Mekong River Delta reached 100 per cent. However, the proportion of hamlets having school was lower compared to communes. For example, according to the results of the VHLSS survey in 2002 (General Statistical Office [2004]), hamlets having primary schools in rural areas accounted for only 60.4 per cent and hamlets having secondary schools accounted for only 30.5 per cent.

The proportion of communes with available upper secondary school in rural areas accounted for only 8.5 per cent, very low compared with proportion of communes having primary and secondary schools. It showed that the higher the level of education is the more difficult it is for rural pupils to access them. Especially, in some provinces in the North Mountainous, Central Highlands, South East and Mekong River Delta region, the proportion of communes having secondary schools was even lower, and accounted for only 2-3 per cent. For example, in Bac Kan province, this figure was 1.8 per cent, 2.1 per cent in Lai Chau province, 2.4 per cent in Lang Son province, 2.5 per cent in Lao Cai province, 1.9 per cent in Gia Lai province, 2.3 per cent in Ninh Thuan province, and 1.8 per cent in Long An province.

Moreover, the biggest problem nowadays is that most of schools in rural communes (especially primary and secondary schools) were in a poor state with low quality rooms, lacking equipments and learning tools. Nearly 70 per cent of primary schools, 55 per cent of lower secondary school and about 52 per cent upper secondary school in rural areas have no permanent building. Rates of primary school with semipermanent buildings in many provinces in the North Mountainous, Central Highlands, South East and Mekong River Delta accounts for from 85 per cent to 90 per cent at present.

Infrastructure for health service in rural communes face similar situations. Despite the fact that most communes (99.45 per cent) have medical posts (village clinic), especially in Red River Delta, North - West this figure reached 100 per cent (General Statistical Office [2003]), most of them were with semipermanent buildings. Communal medical posts usually had one room for a medical examination with medicine chests and little medical equipment, one midwife room and one room containing several sickbeds for patients. Most communal medical stations were not equipped with an ambulance. Many communal medical stations in mountainous areas had no electricity, no telephone and no clean water. Therefore, capability and quality of health care services in these communal medical stations was not very high.

### **3.3 Infrastructure development situation in poor and extremely difficult communes**

Shortages and backwardness of infrastructure in rural communes and villages can be observed mainly in poor and extremely difficult communes, mountainous regions, remote, border areas and islands. However, efforts in policy making and priority in policy implementation for infrastructure development of government as well as of local authorities (especially the implementation of projects listed in the HEPR programs (Program 133 and 143), Program 135 and other projects, and programs on socio- economic

development) have strongly improved infrastructure in these communes. As a result, tens of thousands of basic infrastructure (small- scale irrigation systems, roads, electricity, schools, medical stations, markets, structures for clean water supply, etc.) have been built in these communes. During five years from 1999 to 2003, Program 135 has invested and supported in building 5,748 roads of all kinds, 1,063 electricity works, 2,072 structures for clean water supply, etc<sup>12</sup>. Among these communes, the communes that received less support had also been invested in one or two types of infrastructure mentioned above.

Other thousands of poor and difficult communes (not listed in Program 135) had also received financial support from government, local authorities and other organizations (through Program 133, 143 and other development projects) for investment in essential infrastructure. The total capital the communes received from these projects and programs was much higher in reality compared to money allocation from the government budget based on the policy. For example, in two years from 1999 to 2000 projects on building infrastructure listed in Program on HEPR (Program 133) has already built 4,000 infrastructure works in extremely difficult communes (1,200 communes in 1999, and 1,870 communes in 2000), every commune built 2.3 infrastructure works on average. Moreover, there are thousands infrastructure works (buildings) which in 500 other communes have had capital invested by provincial budgets and mainstreamed capital support (MOLISA [2000]).

Capital invested in infrastructure in poor and extremely difficult communes in remote areas through Program 133, 143, and 135 accounted for 40.4 per cent of total capital invested in agriculture and rural areas in general by central and provincial government during the period of 1999- 2003<sup>13</sup>. Moreover, hundreds of international and other domestic organizations supported direct investment in infrastructure development in these communes, especially thousands of small - scale irrigation systems, clean water systems, medical stations and radio system have been built.

Moreover, efforts on investment support mentioned above still did not meet the demand for infrastructure in poor and extremely difficult communes. These sources of investment usually were allocated broadly in most of the poor and extremely difficult communes in all regions, but investment per commune was still low (about VND 1.3-1.4 million by program 135, average about VND 320-350 million per year from 1999 to 2002). Investment capital was mainly for building transport infrastructure, schools and small-scale irrigation systems, meanwhile investments in electricity, clean water, health stations

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<sup>12</sup> 'Dai Doan Ket' Newspaper No 41, 21/5/2004.

<sup>13</sup> 'Dai Doan Ket' Newspaper, No 41, 21/5/2004.

and other infrastructure were still very low. For example, in the money allocation structure of Program 135 for infrastructure projects in the period of 1999- 2002, 33.5 per cent of investment capital was used for transport works, 18.26 per cent for investment in building schools, 15.41 per cent invested in small- scale irrigation systems, and the rest was used for investment in electricity works (accounting for only 7.31 per cent), clean water (5.01 per cent), health stations (1.24 per cent), markets (0.48 per cent)<sup>14</sup>, etc. Among all infrastructure works in Program 135 communes, only few works had investment costs up to VND 500 million (MOLISA [2000]).

Most poor and extremely difficult communes had already been invested in and received support to build basic and essential infrastructures, but shortages of basic and essential infrastructure works (such as electricity networks, transportation, schools, market buildings, etc.) in these communes still exists in all regions. The number of infrastructure works in Program 135 commune is still low; usually there are 2-3 works in each commune with small - scale, low technical quality, and low capacity in term of service provision<sup>15</sup>.

#### **4. IMPACT OF POLICY ON INFRASTRUCTURE AND ITS DEVELOPMENT ON LIVELIHOOD OF THE POOR**

##### **4.1 Policy on infrastructure and its actual development in rural areas has brought benefits for the poor**

It could be evaluated that among built infrastructure in rural areas, irrigation and drainage works were assessed by the poor as having positive impact and creating more opportunities for production development and their income improvement. The reason is that up to now, most of the poor households in rural areas rely mainly on agricultural production (cultivation, husbandry and fishery production). Improvements in irrigation and drainage systems gave them a chance to expand their cultivated areas, increasing cropping intensity,

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<sup>14</sup> 'Thoi Bao Kinh Te' Newspaper, No 121, July 2003.

<sup>15</sup> Our field survey in 2004 at Tong Cot commune (Ha Quang district, Cao Bang province) shows that investment support of program 135 about VND 400 million per year (1998-2003), but only 3 infrastructure works built such as schools, medical posts and commune post-offices. Communes have not had investment capital for transport and other infrastructure works. Also, in Quang Han commune (Tra Linh district, Cao Bang province) invested for only irrigations and clean water works by program 135 with VND 400 million per year, and shortages of investment capital for other infrastructure works (Institute of Economics [forthcoming]).

applying technical advances for increased crop yields, increased crop output, and therefore higher household incomes. The poor households also had a chance to select crops that had higher value in the market compared with traditional crops. In some areas, farmers had the opportunity to develop fishery, husbandry production, cultivate vegetables by using surface water and exploit other sources of income from reservoirs, and irrigation and drainage systems.

Our field survey in Ha Nam province in 2003 shows that tens of poor households in the communes such as Tuong Linh, Tan Son (Kim Bang district) with very difficult condition for production have escaped from poverty because of an improvement in irrigation and drainage works (Institute of Economics [2003]). With improvement of these works, they could shift from low market value products such as sweet potatoes, cassava, and sugarcane to vegetable production such as tomato, cucumber, and cabbages for selling in other provincial markets. Dao Ly commune (Ly Nhan district), Chuyen Ngoai commune (Duy Tien district) were low land areas where inundation happened during the summer autumn crop seasons in the past, but at the time the survey was conducted, many households had already escaped from poverty. Some households have become rich by raising fish in the low-lying fields where irrigation and drainage system have been improved.

Transport, trade, electricity, and clean water infrastructure works have been assessed positively for improvement of inhabitants' livelihoods in the communes and villages. These works created not only opportunities and favorable conditions for goods exchange but also created opportunities and conditions for new livelihoods besides traditional agricultural production.

Our field surveys in some communes and villages and poor households in rural Red River Delta areas such as Van Khe commune in Vinh Phuc province (research conducted in 2002, Institute of Economics [2002]) and Hai Phuc commune in Nam Dinh province (conducted in 2003, Institute of Economics [2003]) show that the more favorable condition for transportation and trade means that more poor households have improved their lives and even escaped from poverty because they have more opportunities to work as small traders, in food and food-stuff processing, purchasing and in the transport of goods to other areas for selling or opening shops in the commune. Many of them had opportunities to look for a job, doing business or services in other areas, even in the cities, towns, industrial zones or commercial - tourist areas located tens of km far from their commune.

Khe Ngoai hamlet, Van Khe commune (Me Linh district, Vinh Phuc province) was a poor hamlet in the past due to many floods. Poverty was common. Improvements in inter-commune, inter-village roads have created favorable conditions for traffic since the



1990s. About 30 per cent of laborers in the hamlet (most of them are poor) are vendors or have jobs in Hanoi (25 km from the hamlet). They purchase goods in the market nearby the hamlet, transport them by using primitive transport means and sell them in the city. They leave their home usually at 3 a.m. or 4 a.m. and came back home in the evening. Many poor thought that this activity was their main livelihood and the only way for them to escape from poverty (Institute of Economics [2002]). The poor households in Hai Phuc commune (Hai Hau district, Nam Dinh province) have improved their livelihood by these activities. More than 30 per cent out of a total of 1,100 laborers in this commune usually go out and work outside the commune or have additional work such as services and small trade activities in the commune (Institute of Economics [2003]).

There are also opportunities of new livelihoods for many poor who had a few plots of land or no land for cultivation in many rural areas in the Mekong River Delta, South East, Central Highlands and in some border areas. Our observations in Mong Cai frontier pass (Quang Ninh province, research conducted in 2002), Tan Thanh frontier pass (Lang Son province, research conducted in 2003) and Lao Cai frontier pass (Lao Cai province, research conducted in 2004) showed that there were many traders, porters, and people doing other work. They were ethnic minorities living in the hamlets in these areas. In Tan Thanh frontier pass, a group of 5 people working as porters (of which 3 were male, 2 were female) said that they were from the Nung ethnic group living in Lung Cung and Na Mat villages (Hoang Viet commune, Van Lang district), more than 10 km from Tan Thanh. Every day they would go to the frontier pass and work as porters and come home in the evening, thanks to improvement in the roads from the village to the frontier pass. They received about VND 20-30 thousand per day for their work. 3 out of 5 people said that it was their main source of income (Institute of Economics [forthcoming]).

Development of infrastructure on transport and trade in the mountainous and remote communes or cluster of these communes also helped the poor in many local areas to change their livelihoods. The new infrastructures help local residents to access to new production factors such as new seeds, chemical fertilizers, production technique, etc., and to sell products with higher benefits. They produce not only products to meet demand of their consumption but also for selling in the market.

Development of social infrastructure works such as schools, medical stations, electricity networks, postal offices, radio systems, etc. in the communes and villages in rural areas (especially in poor and very difficult communes and villages in remote areas) have been highly appreciated by the poor and inhabitants in general. These works helped them to better access public services, and basic social services (such as culture, education, health and health care, social security, etc.). Many poor households had access to electricity,

listening to the radio, watching TV, enjoying artistic culture, receiving economic and social information, and knowledge, information on warning and preventing natural calamities, etc. Our field survey in Tong Cot commune (Ha Quang district, Cao Bang province, conducted in 2004) shows that there are 142 households of total 432 households with access to electricity, 51 households have a TV and 96 households have radio – cassette player. In Quang Han commune (Tra Linh district, Cao Bang, conducted in 2004) there are 415 households of total 532 households with access to electricity, 342 households have a TV and more than 200 households have radio – cassette player (Institute of Economics [forthcoming]).

## **4.2 Constraints and obstacles of infrastructures development and their use**

Actual infrastructure development in the rural communes and villages in Vietnam in recent years and at present shows that not all projects and infrastructure works have a positive impact and bring real benefits to the poor. To some extent it could be seen as a ‘failure’ of the policy on infrastructure and its actual development on livelihood of the poor.

### **4.2.1 ‘Failure’ of the projects and infrastructure works**

Dam building projects for preventing the penetration of water or small- scale irrigation systems and clean water supply in some poor communes in Gia Lai province (Central Highlands) can be seen as examples of the failure of the policy on infrastructure and its actual development on the poor. In Gia Lai province, there was a project on building irrigation weir in Bi village, located along the stream Ia- Klong (Ia- Grai district) funded by Program 135 with total investment cost of VND 960 million which was completed in 2002. However, one year after completion this weir did not work because civil work was too small and too shallow, flood discharge system was low, a very low capacity of water reservation and especially irrigation canals were lower than fields (therefore, there was not enough water to irrigate and water could not reach the fields). All project areas could not be irrigated as planned. The same thing happened to with a weir building project in Lan village, located in Ia- Chia stream. The total investment cost for this project was VND 450 million and it was completed in 2000, but it did not operate effectively. The irrigation system in Cuc village (also located in Ia- Klong, Ia - Grai district) was of low quality, not synchronized because there were no on- farm canals. This project with a total investment cost above VND 200 million aimed to supply clean water to some communes with extreme shortages of clean water in Krong- Pa, Ayun- Pa and Kong- Cho Ro districts. However, during the dry seasons, 100 per cent of wells and water supply system (belonging to this

project) dried up, and had no water because the depth of the wells did not meet the standard<sup>16</sup>.

The same thing happened to some projects and infrastructure structures with regards to transport, schools, medical stations, electricity networks, etc. Many transport and electricity works have been badly built and not completed. Some works on schools and medical stations in mountainous and high mountainous communes have been built and did not meet technical standards and the requirements of technical equipments; On some projects the work had not even been finished before needing repairs and renovation. There are many of reasons and factors leading to this situation. Along with the reasons of poor planning, investigation and technical design, project appraisal, etc., there are some other reasons such as weaknesses in organization, investment management, and building.

Moreover, effects of natural calamities, storms, and floods can be seen as one of the important reasons for impeding the positive impact of infrastructure in many rural areas. Every year, hundreds of infrastructure works in these areas are devastated and degraded due to these effects.

#### **4.2.2 Difficulties for the poor**

At present there are still a great many poor in rural areas facing difficulties in terms of participation in infrastructure development as well as access to and benefits from projects and infrastructure works. Shortages and weaknesses, or 'failure' of projects and infrastructure works as mentioned above are the main obstacles. One of the severest difficulties people face is paying a contribution to the building of infrastructure works in the hamlet and paying fees for using the services provided by these infrastructure works.

Our field surveys in Hai Phuc commune (Nam Dinh province, conducted in 2003), Van Khe (Vinh Phuc province, in 2002), Chuyen Ngoai and Tan Son commune (Ha Nam province, in 2004) and Khanh Ninh commune (Ninh Binh province, in 2004) show that even the poor have to contribute money for upgrading village roads, for building or upgrading village drainage works, on -farm canals, expanding electricity networks from the communal and village center to households (Institute of Economics [2003]). This contribution depends on the regulation of each commune and village. In some cases for example in Khanh Ninh commune and in Hai Phuc commune, there is an exemption for the poor households, or the poor have to contribute their labor instead of money. This is a burden for poor households.

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<sup>16</sup> 'Dai Doan Ket' Newspaper, No 66, 19/8/2003.

Fees for health care services, education and electricity are also a considerable burden for poor farmers. The very low expenditure level on these services in their total expenditure illustrates their low benefits and difficulties that the poor face in term of access to and benefits from this infrastructure work. In Khanh Ninh commune (Ninh Binh province) as well as in Hai Phuc (Nam Dinh), 100 per cent of the poor households could access electricity easily, but the level of people using it and electricity fees paid by poor households were very low, ten times lower than rich households in fact. They usually use electricity for lighting or for their children study for about 1- 2 hours in the evening in order to economize their money. Similar situations can be observed in poor households in Tong Cot commune and in Quang Han commune (Cao Bang province, Institute of Economics [forthcoming]).

High education expenditure and economic difficulties were the main concerns of many poor and their children in terms of benefits from infrastructure on education. Many poor households in rural areas do not send their children to school or their children had to drop out because their parents wanted their children to suppliment their household incomes. Many pupils dropped out due to difficulties in paying education fees and other contributions, not because they are lacking in schools or because schools are located too far from their house. According to the results of the VHLSS survey in 2002, 68.9 per cent out of the pupils who had dropped out in the mountainous communes was due to economic difficulties. Households had no money to afford education fees; only 20.7 per cent dropped out due to school location, and 0.52 per cent due to over crowded classrooms in the school. The percentage of pupils in primary school who dropped out for similar reasons in the remote areas was 77.6 per cent, 20.3 per cent, and 0.34 per cent respectively. The reasons for pupils dropping out in the secondary school were also similar.

Relating to infrastructure for health service, many poor households had favorable condition to access these services and there was a positive impact of this work, but high fees for medical examinations reduced opportunities for the poor to benefit from this service. To pay the medical examination fee, poor in rural areas had to rely on their relatives, community or they had to borrow money that made their life more difficult<sup>17</sup>.

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<sup>17</sup> Central government as well as ministries, related branches and local authorities have policies on exemption education fees for the poor and providing health insurance certificate for the poor (free of charge for medical examinations) in general, but the education fee exemption is not very much, and at present the proportion of the poor pupils receiving the education fee exemption as well as proportion of the poor in rural areas receiving health insurance certificates are very low (MOLISA-UNDP [2004])

## 5. CONCLUSION

This study is about policy changes and actual development of infrastructure in rural Vietnam from *Doi Moi* to the present, and its impacts on the livelihoods of people living in poverty in rural areas. The study presents the big achievements and the positive impact of policy changes and its reality, therefore millions of poor in rural communes have the opportunity to benefit and improve their livelihoods and many of them have escaped from poverty. However, the study also presents constraints of the policy on rural infrastructure and its actual development in the communes and villages and factors hindering its positive impacts on livelihoods of the poor. On the other hand, the study also mentions obstacles the poor face in dealing with disadvantages of infrastructure as well as their participation in building, and getting benefits from projects and infrastructure works in the communes and villages in rural areas nowadays. Therefore, along with policy efforts for intensifying support to infrastructure development in rural areas, Vietnam needs to give priority to the poor in rural areas in particular for production development, improving their incomes and to support them in terms of upgrading their capacity to access and benefit from basic social services.

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