Integrating Irrigation into Poverty Reduction in Vietnam

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Poverty Reduction in Vietnam

Achievements

Vietnam is located in the tropical, monsoonal Southeast Asia. The mean annual rainfall ranges from 1,700 in the northern part to 2,000 mm in the southern part and the temperature ranges from 13 to 35 °C, which are favorable conditions for agricultural production, especially rice cultivation. Vietnam's territory measures 333,000 km^2 and holds a population of approximately 77 million people. The country is officially divided into seven socioeconomic zones: The Red river delta, Northern Mountain and midlands, North-central coast, South-central coast, Central highland, Southeast and Mekong river delta

Heavily affected by several wars and constrained by a central planning policy, Vietnam had a very poor economic performance during the late 1970s and early 1980s. With a reduction of support from former socialist countries after country reunification in 1975, Vietnam soon faced food shortages. During the 1980s, 70 percent of the Vietnamese population lived in poverty. Surprisingly, the following decade witnessed a dramatic reduction of 50 percent in poverty. From 1993 to 1998, the poverty rate was reduced from 58 percent to 37 percent as measured by the overall poverty line, and from 25 percent to 15 percent as measured by a food poverty line (table 1).

Table 1. Poverty head-count index in Vietnam, in urban and rural areas (%).

Year	All Vietnam	Urban	Rural
	Food poverty		
1993	24.9	7.9	29.1
1998	15.0	2.3	18.3
	Overall poverty		
1993	58.1	25.1	66.4
1998	37.4	9.0	44.9

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The reasons for this dramatic success in poverty reduction have been highlighted as rapid economic growth and the positive impact of economic growth on poverty reduction, the main source of which has been agricultural liberalization and diversification (Poverty Working Group 1999). Since the introduction of *doi moi* (Reforms) in 1986 and with land reallocation to farm households, agricultural output and productivity have risen dramatically, increasing agricultural incomes by 61 percent contributing significantly to the rapid growth of the national economy at 8.4 percent.

Hunger Eradication and Poverty Reduction Program in Vietnam

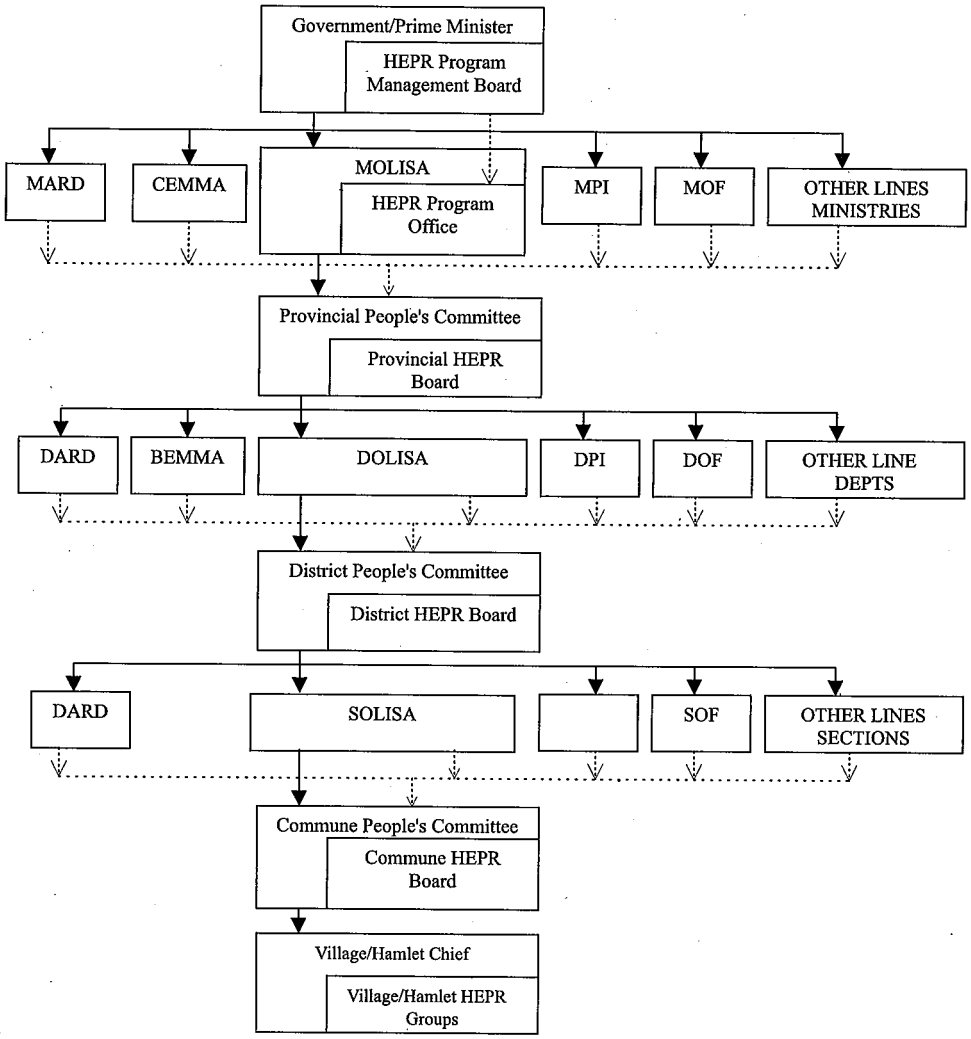
In addition to the rapid economic growth and its high impact on poverty reduction, the success in poverty reduction has also contributed to a fundamental principle of the Government of Vietnam for development that promotes economic growth with equity. To assist those left behind by economic growth, brought about by the economic reforms, public safety nets and targeted programs have been implemented. In 1998, the Hunger Eradication and Poverty Reduction (HEPR) program was established. This program integrated current local initiative pro-poor programs. HEPR involves many stakeholders in its implementation. The organizational structure is illustrated according to administrative divisions from the central government down as well as by the function of the entities involved (figure 1).

The HEPR framework embraces nine components and aims to eradicate hunger and reduce the incidence of poverty to 10 percent by 2000. The nine program components are:

- Resettlement and new economic zones (implemented by the Ministry of Agriculture and Rural Development [MARD])
- Infrastructure development in poor communes and resettlement (CEMMA)
- Promotion of agriculture and off-farm production (MARD)
- Extension services for agriculture, forestry and fisheries (MARD) and income generation (MOLISA)
- Training for HEPR staff (MOLISA and CEMMA)
- Assistance to ethnic minorities facing extreme difficulties (CEMMA)
- Credit and savings for the poor (SBV)
- Education for the poor (Ministry of Education)
- Health for the poor (Ministry of Health)

The total investment for the HEPR program during the period 1992 to 1997 was VND 10,927 billion. The HEPR funding has been integrated with other socioeconomic development programs, such as the family planning program, anti-illiteracy program, primary-school universalization program and the clean water program (Nguyen Thi Hien 2001). The HEPR provides a framework to address some of the most pressing needs of poor households. It creates opportunities for employment, access to credit, long-term land use, clean water, etc.,

Figure 1. Structure of the national target program for HEPR,



Note: Administrative Management and Supervision
Functional Management.

Source: Nguyen The Dzung and Nguyen Xuan Nguyen 1999.

for the poor. This integration of HEPR with other programs has served to further increase the positive effects of the HEPR on the poor.

Issues of Future Poverty Reduction

Although Vietnam has made considerable progress in reducing poverty over the last 5 years, poverty remains widespread and the poverty rate is still high. For the year 2000, the poverty rate was estimated at 30.5 percent by the overall poverty line and at 10 percent by the food poverty line (table 2). The poverty reduction rate in the future might not be as high as in the past due to several factors. First, the achievements in poverty reduction brought about by a high economic growth rate and the high impact of this growth on poverty during 1993–1998 are now under threat. In the future, the previous relationship between the level of growth and the impact on poverty might not hold, as Vietnam might not be able to replicate the land-based, agricultural diversification success story of the last 5-year period, which is now having its constraints. Finally, the HEPR has been evaluated as having a narrow scope, focusing mainly on the provision of subsidized credit and exemptions from health costs and school fees. Thus, the efficiency and impact of HEPR are limited and considered not as efficient as expected.

Table 2. Poverty rate in Vietnam 1996–2000.

Region	Rate of Poor Household (%)						
	Food poverty			Income poverty			
	1998	1999	2000	1993	1998	1999	2000
Northern upland	22.4	15.5	13.5	79.0	59.0	55.5	52.1
Red river delta	8.4	6.5	5.3	63.0	29.0	24.1	20.1
North-central	24.6	20.2	16.1	75.0	48.0	43.5	39.5
Central coast	17.8	15.9	11.2	50.0	35.0	32.4	30.0
Central highland	25.7	15.7	13.1	70.0	52.0	48.8	45.8
South east	4.8	4.1	3.5	33.0	8.0	5.4	3.6
Mekong delta	15.4	13.7	11.1	47.	37.0	35.2	33.5
Whole country	15.7	13.0	10.0	58.0	37.0	35.5	30.5

Source: MOLISA 2001.

Can Irrigation Help?

How Irrigation Helps Poverty Reduction in Vietnam

In Vietnam, 90 percent of the poor live in rural areas and 80 percent of them are farmers. Since most of the poor are farmers, what happens to agriculture will have a significant effect on the lives of the poor. Rural poverty is associated with monoculture practice and low yields due to a lack of water resources or water-control infrastructures. A survey by MOLISA, in 2000, showed that a lack of safe water supply and irrigation is the most significant issues related to the poor and that infrastructure development focusing on irrigation, schools and clinics will improve the status of the poor.

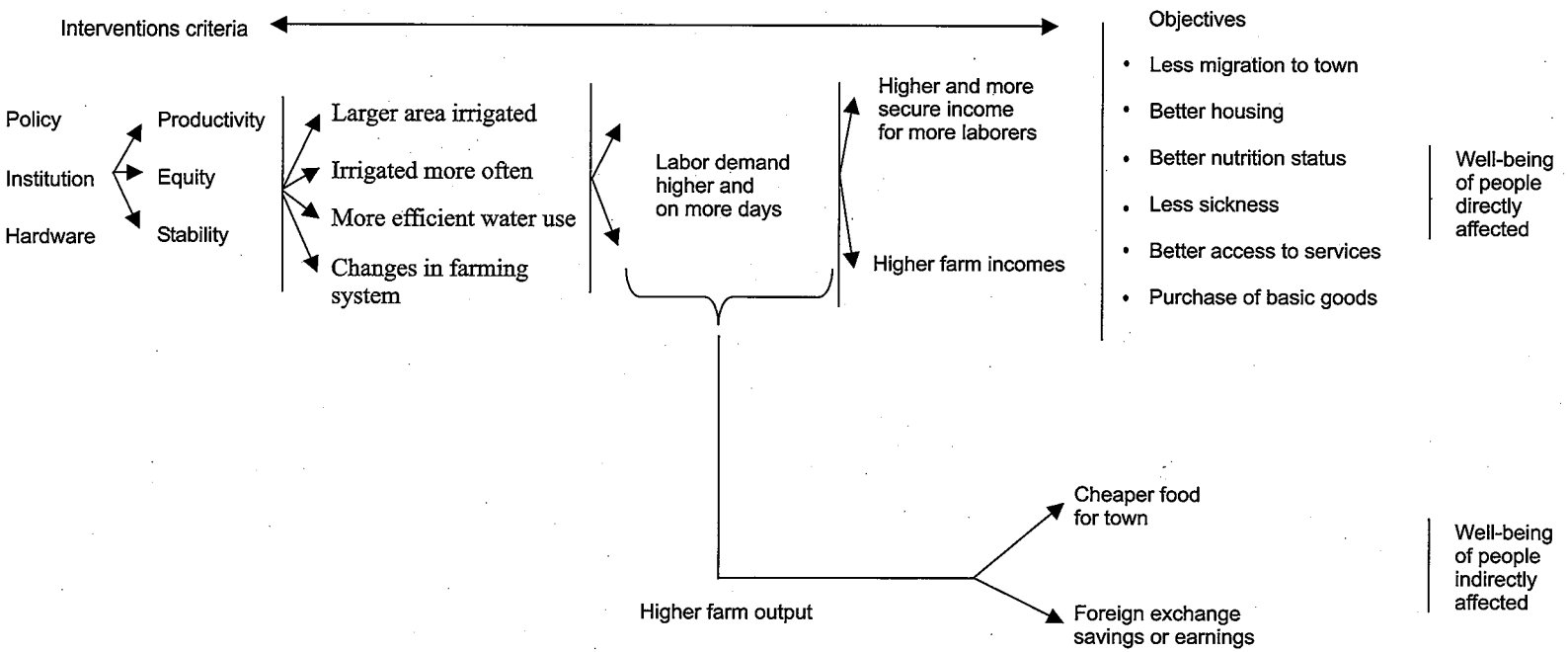
As a rice-based country, land and irrigation are two of the most important factors affecting farm production in rural Vietnam. Cropping intensity on irrigated land is 5.4 times higher than in the rain-fed areas. Many studies have indicated strong correlations between the status of farm size, farm irrigated area and farmer welfare across the country. Generally, the better-off the expenditure group the larger is its landholdings and irrigated land area (World Bank 1995).

Irrigation is an important component of increased agricultural productivity. As has been affirmed by Vietnamese farmers, "the first is water, the second manure, the third industriousness and the fourth variety." Statistics and research have shown that, together with other factors, water contributes 16 to 35 percent to rice productivity and 18 percent to maize yields. In the Mekong river delta, irrigation development, since the unification of the country, has increased yields from 4.5 tons/ha in 1975 to 9.5 tons/ha in 1990 and then to 10 to 12 tons/ha in 1999.

Irrigation can raise farm income by increasing the cultivable land area, enhancing crop choice, increasing cropping intensity, allowing the use of HYVs and improving conditions for land grouping to boost labor productivity. Irrigation also brings many spillover effects through increased and more evenly distributed farm labor opportunities and improved wage rates, reduced emigration, improved security against impoverishment, lower food prices, better nutrition throughout the year, growth in nonfarm employment, greater urban-rural contact and new social networks, and more water for nonagriculture uses (figure 2).

Five underlying causes of poverty in Vietnam were identified by UNDP as a) isolation (lack of access to markets, production and sociocultural services), b) high risk (the changes of market, crop failure, natural calamities), c) lack of access to available resources (land and credit), d) unsustainability (household economy, economic and natural environments, etc.), and e) weak participation (in planning and decision-making process). Poverty reduction efforts in Vietnam have thus focused on the reduction and elimination of these causes.

Figure 2. Irrigation interventions, criteria, objectives and beneficial causal chains.



Source: Modified from Chambers 1988.

Table 3. Poverty reduction and irrigation interventions.

Reduction of Poverty-Causes	Interventions
Reducing isolation	*Policy, law, regulation, programs, support system*
Physical, locational	Decentralization
Social and cultural	Privatization
Communication and access to information	Financial autonomy
Broadening access	Farmer involvement
Land and technology	*Institutions*
Credit and finance	Structure, function and tasks of provincial,
Vocational skills	system and field-level organizations and
Markets	linkages among them
Reducing risk	Autonomy, accountability and transparency
Market changes	Water allocation, conflict resolution, system maintenance
Harvest	Resource mobilization (water fee, structure for investment)
Natural calamities	IMT, PIM, WUA
Increasing participation	*Irrigation infrastructures*
in economy	Head works, main canal and regulators
in planning	Distributaries
in other decision making	Field-level structures
Sustainable resource use	
Higher productivity	
Better management	
Greater awareness	
Appropriate incentives	

The irrigation components and causes of poverty displayed in the above table show several different ways that irrigation can help the poor to overcome poverty. Irrigation can have a direct impact on some of the causes and indirect impact on others. Changes in the different irrigation policy factors will have different indirect impacts on the water resources variables that will, in turn, directly or indirectly impact the poor situation. For example, as far as the poor have less access to irrigation water, compared to the better off, increasing water access for the poor will help to definitely increase their production. The equity in water allocation will thus increase the income-generating capacity of the poor by improving land quality, reducing risks by ensuring good harvests, and allowing crop diversification, which can cope with market fluctuations. Changes in the structure of irrigation management organizations with a PIM orientation will increase farmer participation in the decision-making process, which will improve the management of the irrigation system.

Integrating Irrigation into HERP

The Government of Vietnam has realized the importance of irrigation in economic growth and the state budget for investment in irrigation development has received high priority. For example, during the period 1996–2000, 14.1 trillion VND was invested in irrigation development. As a result, in 2000, the irrigated area rose by 3.3 million hectares, the drainage area rose to 1.4 million hectares, salinity prevention rose to 700,000 hectares, and water supply for industrial and domestic use rose to 5 billion cubic meters (m^3) of water. The annual irrigated rice area is 6.870 million hectares. The area of irrigated upland and industrial crops amounted to 808,000 hectares.

Irrigation has also been added as a tool into the HEPR program. During the period 1999 to 2000, approximately 600 billion VND were invested in irrigation in poor regions. Irrigation activities alone have built 240 hydraulic structures. These irrigation projects have successfully developed 14,670 hectares in the wild for developing agricultural production, to ensure the stability of 368,000 hectares of summer crop and 88,000 hectares of winter crop. The efforts have also helped solve the problem of domestic water shortages of more than 1 million people. Moreover, the efforts have helped build 390 small- and medium-sized hydropower stations to supply 32,200 kW of electricity to the mountainous areas where the national power grid has not yet been extended (Nguyen The Ba 2001).

Except for approximately 10 percent of the total annual funding allocated directly to poor regions in the HEPR program, the emphasis for irrigation development has been on technical and production aspects. In irrigation development projects, the emphasis is placed mainly on the capacity of the headworks, conveyance canals and area to be irrigated. Policies and institutions are mentioned less often while the poverty dimension is almost missing entirely. Thus, despite heavy investment in the irrigation sector, the total irrigated land of 3 million hectares represents less than 70 percent of the total designed capacity of the irrigation systems. Many irrigation schemes need rehabilitation after only a few years of use. On average, hydraulic works are used at only 50 to 60 percent of the designed potential. Many small works utilize only 25 to 30 percent of the designed potential. In some places, the hydraulic works have been destroyed (Nguyen Xuan Tiep 2001). Yields and cropping intensity are low and crop diversification is constrained because of inadequate irrigation and drainage in the

peripheral areas of irrigation systems in even the most heavily irrigation-invested regions. There is great potential for increasing the irrigation performance of existing irrigation systems and thus the well-being of the rural poor by identifying and adopting appropriate political, economic, financial, institutional, governance and technical interventions in the irrigation sector.

Poverty reduction through interventions in the irrigation sector is a crucial part of the overall national poverty reduction program. Irrigation interventions should be carried out in such a way that the national poverty reduction program is most effective. Despite the fact that Vietnam has considerably reduced poverty during the last decade and the knowledge that irrigation plays a very important role in economic growth and poverty reduction, there is currently no poverty reduction program for the irrigation sector. Additionally, it is widely believed that irrigation has not been well incorporated in the HERP program. In the near future, as the fight against poverty in Vietnam becomes more complicated, the great potential for poverty reduction through irrigation interventions needs to be better recognized and incorporated into the HEPR program.

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