

Irrigation Intervention Strategies for Poverty Alleviation: Lessons from Experience

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IRRIGATION AGAINST POVERTY

Poverty can be defined as a state of existence where one lacks the capacity to meet the basic human needs. These needs are based on socioeconomic development conditions, as well as a range of customs and habits that are accepted by the society. In the above context, the poverty line may be defined differently by each country and region. In accordance with the definition of poverty held by the United Nations, if the poverty line is defined as US\$1 per person per day, then the world has around 1–2 billion people living in poverty of which, 90 percent are living in the Asian region. If the poverty line is set at US\$3 per person per day, then about 50 percent of the world's population is living in poverty. Based on these facts, the international community has pledged a campaign launching an “attack on poverty.”

The first decade of the twenty-first century is the decade dedicated to seeking poverty alleviation in the world. Strengthening the fight against poverty is motivated by the morals, values, politics and economy of the society. The international community has set a goal to reduce by half the number of poor people in the world by 2015. This ambitious goal depends on the determination of every poor country and the effective assistance from the international community. In accordance with the World Bank and Asian Development Bank's assessment, if poverty alleviation is not improved actively in the next decade, the speed of poverty alleviation will remain the same as in the past decade. By the year 2015, the world is forecast to still have 950 million poor who earn less than US\$1 per person per day.

Four key goals in the poverty alleviation program in rural areas that the international community pledges actively to address include:

- Attaching special importance to the production of basic foods such as rice and potatoes.
- Improving irrigation and drainage systems to increase the effectiveness and quality of using water in agriculture.
- Looking beyond general economic development, to concentrate on an equitable distribution of social property that is beneficial for the poor.
- Paying special attention to traditionally disadvantaged groups, such as women, ethnic minorities, and inhabitants living with degraded resources, such as land.

Vietnam is one of the poorest countries in the world. In 2000, the per capita GDP was about US\$400. According to the national poverty line that was defined in November 2000,

Vietnam currently has about 17 percent of the population living in poverty. By the World Bank's poverty line, Vietnam has more than 30 percent of the population living in poverty. Moreover, about 90 percent of the poor people live in rural areas, which are primarily characterized as mountainous areas lacking sufficient water resources to develop agricultural production. Most of the high mountainous areas have adequate water resources for living activities and production for only for 6 months a year. Poverty in Vietnam is caused by various reasons that can be classified into 3 main groups:

- i Harsh natural conditions (e.g., irregular rain and sun patterns, floods and other natural calamities, divided terrain, difficult access to transport network, lack/overabundance of water for production during the year).
- ii The education/knowledge level of the poor people is low, backward customs and habits, the communities lack adequate management capacity to use water effectively.
- iii The State policy mechanism is slow to reform, especially, mechanisms and policies for the development of infrastructure for rural areas and agriculture, including irrigation.

The above conclusions show that irrigation can have a strong impact on poverty alleviation in agricultural countries, such as Vietnam. However, irrigation development is not only dependent on the State invested capital, but it is also dependent on appropriate mechanisms to encourage investment, management, as well as the exploitation and use of water resources at the macro and micro levels. Since the State budget is limited, it is essential to mobilize communities, people, and the private sector to participate in irrigation development. The community has the responsibility to manage, exploit, and use water resources effectively, as well as to regularly maintain irrigation works.

The voices of people—lessons drawn of irrigation intervention for poverty alleviation in agriculture

Vietnam is an agricultural country with approximately 77 percent of the population living in rural areas and engaged in agriculture. This rural population accounts for 90 percent of the poor people in the country. The urban population accounts for 23 percent of the population, but urban poor only account for 10 percent of the total poor. In the 1950s, 90 percent of the population was living in rural areas. This gave rise to a Vietnamese folk-song with the following lyric: *first, is water, second is manure, third is work, and fourth is seed*. It is unknown exactly when this folk-song originated, but we can see that farmers have long realized the importance of water: it is irrigation for agriculture.

Since feudalism, Vietnamese had recognized the importance of irrigation for agricultural development. Many doctors' theses written during the period 1446–1778 dealt with economic and agricultural development. Irrigation was always given priority. The doctorate thesis of Nguyen Khuyen was given special attention. In the 1960s, some important irrigation works

were built in Vietnam such as Bac Hung Hai irrigation system to irrigate 300 thousand lands ha in Hung Yen province and a thousands land of ha in Hai Duong and Thai Binh. In the late 1980s, the Vietnamese people have paid special attention to the development of irrigation systems, including at the macro and micro levels.

Recently, there have been changes to the way in which irrigation is managed. Previously, the State and the cooperatives had the responsibility to manage irrigation, but now the management has been transferred to local residents and the State only partially assists in management duties. The poor have accepted these changes and they are ready to participate in water management, devising plans for further development in the irrigation building program, and increasing benefits for people, especially the poor.

Another experience concerns the Song Quao irrigation, a series of small-scale irrigation constructions under international projects that aimed to support localities with a high incidence of poverty. In the past, there were no irrigation works. Between 30 and 35 percent of the population in Song Quao lacked food for 2–3 months each year. Local authorities regularly had to provide relief assistance in the period between crop harvesting and traditional Tet. Two years after the irrigation schemes came into use, the poverty incidence has gone decreased by more than a half. There are no longer persons lacking food for 1–2 months each year. As a result, the local authorities do not have to provide relief every year. The poor realize that these benefits are caused by the effective development of the irrigation works.

From the experiences gained during the 1992–1997 period, it was resolved to address the poverty problem. By 1998, the Prime Minister approved the “National Target Program on Hunger Elimination and Poverty Alleviation,” a program on socioeconomic development in mountainous and remote communes with extreme difficulties. The “National Target Program for Hunger Elimination and Poverty Alleviation” incorporates nine fundamental approaches. One of the important approaches involves helping poor communes develop basic infrastructure, such as micro irrigation works, schools, clinics, roads, safety water, power, and markets. Importantly, micro irrigation is defined as a priority. Under the project, the State has spent trillions of Vietnamese Dong (VND) in poor communes¹; people have contributed millions of working days and hundreds of billion VND to build 6000 irrigation works. Due to heavy activity in numerous poverty alleviation programs and projects, the poverty rate was reduced from 30 percent in 1992 to 10 percent in the year 2000 (using the official Vietnamese poverty line definition). This Poverty Alleviation program is seen as the most effective one in the renovation process of all the national programs. The international community has also recognized Vietnam as a bright point on poverty alleviation efforts worldwide. This good result has been realized partially through the important contribution of irrigation development in agricultural development and poverty alleviation.

¹The exchange rate for the Vietnamese Dong was approximately US\$1 = VND 14,800 on 6 June 2001, which reflects a steady increase since 1998.

SUGGESTIONS ON MECHANISMS AND POLICIES AS IRRIGATION INTERVENTION STRATEGIES IN AGRICULTURE

From the experience of the past several decades, the impact of irrigation on poverty alleviation needs to be oriented clearly across the macro and micro levels, from village, commune, district, and province levels up to the national level, even to the international level. Every level needs to be oriented specifically:

1. Identify development needs founded on participation of residents, particularly, the needs of poor households, poor areas, women and ethnic minorities in mountainous and remote areas. To do this effectively it is required to propagate, educate and increase residents' awareness. Suitable techniques and tools for residents to identify their real needs should be developed.
2. Identify investment mechanisms for the development of irrigation works from district to national levels funded by the State budget. However, it is necessary to focus on various levels more concretely, to make clear the relative contributions from the Central budget and the local budget. Regarding small-scale irrigation works in communes and villages, the State plays a role to create proper mechanisms, while the local people contribute budget, working days, and monitoring. Communes and villages can organize the implementation of management plans. Regarding poor communes, the State assists from 30–50 percent of the required budget. Regarding extremely difficult communes, the State assists by providing between 70 and 80 percent of the budget and the local people contribute required working days. To ensure the desired outcome that communes have constructions and local people have work to increase incomes, there is a priority to use poor laborers with payment.
3. Define clear administrative mechanisms and use for every irrigation construction, within the context of strengthening the administrative reform. It is necessary to strengthen decentralization for localities. The responsibility to manage and maintain small-scale irrigation is assigned to local people by formulating groups for water management and use (i.e., a community organization of local people).
4. Every administrative management level has to steer overall irrigation system to provide for agricultural production, including drainage concerns. In a few areas, administration only pays attention to irrigation not drainage, thus causing flood; mainly in Cuu Long (Mekong) Delta and Northern mountainous provinces. The floods in nine central coastal areas in 1999 and seven Cuu Long provinces in the year 2000 caused over 70,000 households to fall into poverty and thousands of households to nearly fall into poverty.
5. To encourage private sector mechanisms to participate in developing irrigation systems, especially small-scale water conservancy projects. Water conservancy projects

contribute to increase agricultural production to ensure food for household and commune levels.

6. Irrigation systems can be only brought into play effectively when natural water resources are protected. This is closely related to environment protection, mainly forest protection. Therefore, irrigation development strategies should be joined with forest protection and hydroelectric strategies. Vietnam has lessons drawn on this issue, in the northern mountainous provinces, because of widespread forest destruction, some irrigation works lack water in the dry season that would not occur if forests are protected and covered.