

The Financial Sources for the Development of Small and Medium-Sized Irrigation Works

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ABSTRACT

THE CHINESE GOVERNMENT has paid great attention to the development of small and medium-sized irrigation projects by raising funds at different administrative levels and in different ways. In 1991, the total amount invested in irrigation works was US\$1,092 million.³ When this amount is distributed amongst the different regions of China, the amount allocated to each region is inadequate to meet financial requirements for farm irrigation development. The present policy of the Chinese Government is based on the principle of self-reliance with a subsidy from the State.

This paper presents the financial support for irrigation development from the central government and the local administrative departments at different levels. The different ways of raising funds and the corresponding policies are discussed. The paper demonstrates that with the reform of the rural economic system and the rapid development of rural enterprises, raising funds in rural areas by different ways is an effective means to promote the development of small-sized irrigation and drainage works.

INTRODUCTION

The Chinese Government considers the water sector as the lifeblood in the development of agriculture and attaches great importance to the development of hydraulic projects. High priority is attached to the expansion of irrigation and drainage works.

The total irrigated area in China as at 1990 was 48 million hectares (ha). This covers about 50 percent of the cultivated land in the whole country. At present, there are 146 large-sized irrigation projects each covering an area of over 20,000 ha, 5,156 medium-sized projects with command areas ranging from 1,000 to 20,000 ha. There are over six million small-sized irrigation works of less than 1,000 ha.

In Hubei Province, the area under irrigation amounts to 2,610,000 ha which amount to about 73.6 percent of the cultivated land of the province. There are 27 large-sized irrigation projects, 223 medium-sized and over 6,000 small-sized irrigation projects.

China is a vast country with a substantial diversity in terrain, water resources, arable farming systems and economic conditions. The priority in irrigation development is given to small-sized irrigation works. At the same time, joint development work is carried out on large and medium-sized irrigation projects. As the small-scale irrigation projects are located near the fields, they are more flexible in terms of meeting crop water demands. Generally, small-sized irrigation projects can withstand short-term droughts which occur periodically. However, the large-sized irrigation projects have the potential to withstand much severe droughts. In China's experience, the adverse effects of drought and waterlogging could be minimized by the creation and the unified operation of large, medium and small-sized irrigation works by increasing farm production substantially.

In order to develop medium and small-sized irrigation projects, the Chinese Government has adopted a strategy to raise funds at the different administrative levels and through different ways. Institutions ranging from the central government to local administrative departments are expected to allocate funds to develop irrigation projects. Collecting funds by different ways means that the State, the collectives, as well as individuals can raise money to run water conservancy works in the light of practical circumstances.

Investments by the Chinese Government in water conservancy works cover capital construction, operating expenses, and financial allocations for special projects. The principle of investment is that free investment is put in the first place and the investment with payment in the second. Projects such as flood and waterlogging control and irrigation works rely mainly on free investment, while small-sized hydropower stations and the water supply projects with sound benefits are making investment with payment. For the rural small-sized irrigation projects, the State provides financial assistance and farmers invest labor in earthwork.

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³All monetary values are expressed in United States dollars. In March 1994, the exchange rate was approximately 8.7 Chinese yuan to one dollar.

THE GOVERNMENT'S FINANCIAL SUPPORT

1. Financial Support from the Central Government

i. Investment in capital construction of water conservancy

Water conservancy projects which cover flood control, irrigation and waterlogging are built without payment while small-sized hydropower stations for agriculture development are set up with payment which is an interest-free bank loan. The payback period is 7 to 10 years. The annual investment in the Hubei Province amounts to US\$4.6 million without payment and 1,459,000 with payment.

ii. Subsidy to mitigate severe drought

The State allocates funds to the special projects to mitigate the adverse effects of severe drought. The State allocates a sum of US\$11.5 million, annually, primarily as a subsidy for mechanical equipment. The annual sum allocated to the Hubei Province amounts to about US\$230,000.

iii. The fund for special projects for grain production

This is an important measure adopted by the State to increase grain production. Since 1986, a sum of US\$115 million dollars has been allocated annually to special projects about half of which is used for the development of small-sized farm irrigation projects, mainly for the building and repairing irrigation facilities, such as reservoirs, pumping stations, river dams, and reclamation of low-yielding fields. The allocation to the Hubei Province amounts to US\$552,000 of which US\$276 is spent on irrigation works.

iv. Special fund for comprehensive development of agriculture

The purpose of this fund is to promote agriculture, irrigation and drainage, animal husbandry, fishery, forestry and rural traffic network, etc. Investment in irrigation and drainage works takes up about 50 percent. From 1986 to 1990, the total investment for irrigation and drainage works amounted to US\$1.2 billion in the whole country. In the Hubei Province about US\$9.3 million was allocated annually for construction of small-sized irrigation and drainage projects. However, 50 percent of the fund should be paid back in 5 years.

v. Free investment to provide work as a form of relief

The free investment, which provides work as a form of relief, is a kind of special fund allocated by the State for the development of water conservancy work, traffic, and capital construction of farmland. Providing work as a form of relief means that the State provides means of production and consumer goods to impoverished rural areas in an effort to build irrigation works, highways and to improve the conditions of farms. The farmers can get a certain amount of relief food and goods according to the workdays provided by them. The annual amount allocated to the Hubei Province, amounts to US\$ 6.8 million to 8.0 million.

vi. Subsidized credit for water saving irrigation technology

The State allocate a sum of US\$6.9 million annually to encourage the adoption of water saving irrigation technology. This is provided as a low-interest loan for the development of sprinkler and drip irrigation or other water-saving irrigation projects. The interest of the loan is subsidized by the State.

2. Financial Support from Provincial Administrative Departments

The Chinese Government is keen that the initiatives of the administrative departments from provinces, prefectures and counties should be brought into full play in an effort to develop small-sized farm irrigation works. In addition to a certain amount of fund provided by the central government every year, provincial administrative departments should also appropriate a portion of the fund from its financial budget for the construction of irrigation works.

The investments in water conservancy works by the Hubei Province are as follows:

- i. The investment in capital construction of water conservancy is mainly used for the establishment of irrigation works and of a part of its conveyance system. Annually there is a free investment of US\$172,000 which irrigation and drainage projects take up 55 percent; water supply projects 10 percent; flood control projects 30 percent and capital facility projects 5 percent.
- ii. Subsidy for small-sized irrigation and drainage projects. The financial departments of the Hubei Province allocate a sum of US\$9.7 million to subsidize small-sized irrigation and drainage works. These include:
 - a. About US\$4.0 million is spent in small-sized reservoirs, irrigation channels, pumping stations, low-yield land transformation, etc., Farmers contribute the labor while the State provides subsidies mainly for purchasing steel, cement and other facilities.
 - b. About US\$0.69 million is allocated as subsidies to pumping stations mainly for the repairing of pumps, energy and management expenses.
 - c. About US\$0.9 million is allocated to subsidize projects such as the water and soil conservation, the transformation of slope land into terraced fields and the improvement of farm irrigation conditions. The average subsidy for a hectare of land is US\$172.
 - d. A sum of US\$862/ha is allocated as a subsidy for sprinkler and drip irrigation facilities.
 - e. A subsidy of US\$2.76 million is provided for the construction of small-sized rural hydropower stations. Of this amount, 50 percent is subsidized without payback; the balance 50 percent is with payment and it will be collected 7 to 10 years later.
- iii. Providing subsidized loans for rural water supply projects. The financial departments of the Hubei Province allocate US\$230,000 as a loan at a subsidized interest rate for rural water supply schemes. The loans are channeled through the banks. The State subsidizes the interest for about 3 to 5 years.
- iv. Awards. Every year, the financial department of the Hubei Province allocates 115,000 US dollars to be awarded to the advanced counties and cities that have achieved positive results in capital construction of farm irrigation works.

3. Financial Support from the Local Administration

A precondition of the central and provincial financial departments for investment in irrigation projects is that local administrative departments from prefectures, cities, and counties must provide a certain amount of finance for water conservancy works in accordance with the policy of sharing investment.

The investments made by the local administration at different levels of prefectures and counties of the Hubei Province totaled over US\$2.9 million. This sum was mainly used for the works of renovating and repairing irrigation facilities, and of drought control, etc. The beneficiaries are responsible for the earthwork.

FARMERS' COLLECTING FUND

China's irrigation sector covers a vast area. The financial allocations made by the central government to local administrative departments for the development of irrigation works are quite substantial. For example, in 1991, the total allocation amounted to US\$1,092 million. Yet, this amount is inadequate to meet the demand of farm irrigation development in the different parts of the country. Recently, the Chinese Government has encouraged the regions to be self-reliant and central government assistance is limited to subsidies. The regions are expected to mobilize labor and financial resources at different levels for irrigation development. Since the Third Session of the 11th Congress of the Communist Party of China, when far-reaching economic reforms were introduced, there has been great achievements with regard to the aspect of collecting funds for the construction of water conservancy. The main adopted reforms are as follows:

i. Labor accumulation system

As stipulated by the State each farmer contributes a force of 10 to 20 workdays every year for capital construction. The labor is mainly for building of irrigation and drainage works. State funds are used mainly for purchasing of materials, facilities and for the payment of wages of technical workers.

ii. Encouraging farmers to collect funds for the construction of water conservancy

There are many ways of collecting funds. For example, funds can be collected by villages, production groups and individuals. All irrigation projects built by the farmers' collective fund are owned and managed by the farmers themselves. State support is confined to the provision of technical and construction materials.

iii. Setting up of a fund for water conservancy

In some places funds, are collected from the beneficiary farmers and self-employed laborers in villages and towns who are engaged in industry and business. The funds are used for improving and building water conservancy works.

iv. Running a sharing system in an effort to build water conservancy works

In some regions the sharing system works on the basis of cooperative system, which draws on the experience of the farm sharing system. The rule stipulates that one is [voluntary] to buy a share and the property rights are shared by members of cooperative group. Shareholders draw extra profits according to stock, and taking risks is their responsibility.

v. Foreign capital investments

The Hubei Province obtained a loan of US\$80 million from the World Bank. A substantial amount of this was spent in irrigation development. From the winter of 1992 to March 1993, the Guangdong Province invested foreign capital to the value of US\$46 million.

CONCLUSION

1. China's guiding principle in the development of irrigation and drainage lays emphasis on the development of small-sized irrigation works.
2. As small-sized farm irrigation projects cover a vast area, funds should be collected through different administrative levels and in different ways. It is necessary to adhere to the guiding principle of self-reliant irrigation projects with some State assistance in the form subsidies.
3. The government departments formulate policies to encourage farmers to collect funds for the development of water conservancy works. With the implementation of economic reforms, the village and township enterprises have developed rapidly and have become the mainstay of the rural economy. It is justifiable to allocate a certain portion of funds from the profits generated by the village and township enterprises for the development of farm irrigation works.
4. The State has responsibility to support rural water conservancy projects by providing technical know-how and construction materials.

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