

Case study: Innovative Water Resource Management Mechanism in Rural Communities of Fujian Province China (#401)

Description

Fujian located in the south eastern coast of China is characterized by subtropical monsoon climate with abundant water resources, but uneven distribution. Irrigation infrastructure, particularly in the rural areas, is crucial for local economic development. Agriculture sector relies heavily on the water resource. Due to its incomplete water management systems and regimes, plus the ineffective management and maintenance of the basic water infrastructures, the existing water facilities do not satisfy the current development.

Since the reform policy started from 1992, series of policies were reformed in Fujian Province of China in small scale water infrastructures construction. These reforms include also changes in agriculture water management and the encouragement of farmers to contribute to more effective use of water without compromising their agriculture yields.

Actions taken

In recent years, the irrigation infrastructure department of Fujian provinces actively has cooperated with local farmer water management agencies and organizations to explore the innovative participatory management system and explore the new mechanism of local water management. The main reason was to achieve more effective water use for agricultural production. In order to do so, new regimes of water use and water fees were proposed to farmers that constituted farmers association.

Lessons Learned

The community participation in irrigation water resource management proved to be suitable for small scale farms. It still needs to be tested in medium and large agriculture schemes.

Significance of this case to IWRM

This case indicates that the direct involvement of water users will result in rational use of water resources. IWRM approaches were applied in the rural communities.

Tools and knowledge applied in this case

B3.03 Civil Society Organisations

C1.01 Demand and Supply

C6.1 Demand efficiency

Key Words

Farmer, Water Management Association, Infrastructure

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Background

Over the last two decades, China has made noticeable improvements in rural agriculture irrigation and the improvement in rural agriculture production. Command and control methods of centrally planned economy in China have had consequences that agriculture production and the irrigation water infrastructure and management is controlled by the government and in collective ownership. Although it allows some degree of integrated management with participation of professional water managers, the major management is still government centred, which means there is no substantial public participation under this form.

The traditional and routine irrigation infrastructure and water use management system under the centrally planning regime resulted in ill – functioned infrastructure, old dated farming methods producing low agriculture yields and unprecedented water losses.

Since the reform policy started from 1992, new policies implemented in the rural area of China, the dual management regime is applied in small rural communities. It means that centrally controlled decision and policy making is complemented by local participatory system. This encouraged farmers to take part in governmental efforts to more effective water management without decreasing the agriculture production benefits.

This participatory management regime helps to address some problems of the traditional water management regime exists that cause the decrease of agriculture productivity. These problems include ineffective irrigation infrastructure and water wasting due to the even distribution water charging system.

Action Taken

(1) Strengthen leadership and got more support from the government

All Fujian water managing authorities worked continuously to enhance the leadership and provide greater guidance to support small scale farmers. The Fujian government encouraged farmers to establish farmer associations that would take over of managing irrigation infrastructure, including operation and maintenance. For instance, the authorities of San Ming city stressed the importance of establishing the cooperative rural water management association during series of conferences and agricultural meetings. Similar awareness raising events were organized in the cities of Longyan and Nanping. The water managing authorities in city Long Yan, Nan Ping established the working groups to take lead in monitoring and evaluation during the project implementation. The water managing authorities of Putian issued a document “Enhance the Rural Farmer Water Resources Management Association Construction” to enhance

the significance of establishing the farmer water user association, and identify the responsibility, requirements and goal of these association.

(2) Policy advocacy

In addition to technical guidance and public awareness campaigns, farmers were provided by subsidies encouraging them to register in the farmer water association. For example, the city government of Quanzhou provided two thousand US dollars to support the town where water association is established. Water associations are created by water users who are formally registered in the farmer water association.

The Wuping town government issued “Small farming land water facility maintenance method in Wuping Town”. This manual explains reasons why and how to apply better farming methods. It also describes roles and responsibilities of farmers associations, and other institutional and technical aspects of proposed reforms in agriculture water management. This was followed by other cities. Shang hang town issued the “Method of Farming Land Water infrastructure maintenance”. The financial department of Shanghang town offered 800 US dollars to help the establishment of each water association.

In the town of Yongding, they integrate water facility construction with the establishment of the water association. The subsidy from the city will be used as the reward for founding the water association and will allow the association to take over its responsibility for water infrastructure maintenance. The local government will also provide 800 US dollar for each water association as reward.

(3) Pilot project implementation

Several small communities were selected to test how direct involvement of farmers will impact the performance of irrigation. Totally 88 pilot sites were selected where 73 farmer water associations applied new rules of agriculture water regime.

Some works have been done in these water associations for instance, exploring the most effective water management regime, fund raising in water infrastructure building and maintenance, enhance the safety of water reservoir, reducing the water leakage, cleaning water sediments. The water association established a new water release system that secured a release of optimal water allocation taking into account dry and/or flood periods.

In addition, the water association provided quarterly water infrastructure check and maintenance to ensure the good performance of those water infrastructures. This helped significant in increasing the effectiveness and efficiency of the current water infrastructures.

(4) Establishment of Transparent Water Charge Mechanism

Problem of water wasting exists widely due to the even distribution water charging system. The new established water charging system helps to streamline the water charging system and solving the charging dilemmas. After launching the participatory management approaches, the

water fee is reasonable linked specifically to the water consumption of each farmer. After each water release, the water association will measure the water consumption of each water user and charge them quarterly. This transparent water charge helped to enhance the awareness on water saving and contribute in optimal water use and allocation.

Achievements

1) Direct involvement of farmers on agriculture water management performance. Establishing the public participatory mechanism, assign the ownership, water use and the management and decision making to the small scale farms are the main achievements in Fujian province. The reform of governance regime allowed farmers to elect their leadership. Building the new mechanism that combines the “duty, right and benefit” so as to motive the responsibility and participation of the organizers and ensure the long term achievement and benefit.

2) Proving water saving used in agriculture. A market oriented principle of water use charge created an incentive of water saving. This resulted in solving problems of water wastage, duplicated water charging process, irregular water charging methods, charge evasion, and fraud. It contributes significantly in shaping more effective and clear charging system.

3) Clarified the water supply mechanism solve the water use dilemma. For a very long period of time, farmers in that rural area used the water that belongs to everyone. On one hand, there is severe shortage of water resources, but on the other hand water has been wasted in ill functioned irrigation system. The participatory water management mechanism is helpful in resolving these problems. It made the water supplier and demander meet with each other, establish a market driven mechanism. This new system supported to identify responsibility of both farmers and municipal government. A lot of disputes among the water supply process have been solved.

4) Solve the funding problem for the water infrastructure and strengthen the effective management. In the past, the main responsibility of the government was to construct irrigation facilities including operation and maintenance. Establishment of farmer association has shifted this responsibility to them and the government is in the role of oversight. Subsidies supported initial investments, but these are targeted for a direct benefit of farmers.

Future plans

Till the December of 2009, totally 1746 farmer associations were registered of total 2260 irrigation association. The Fujian government adopted the action plan on “Integrated Agricultural Medium Scale Irrigation and Water Management Project and the Promotion of Rural Water Resources Management” that envisages to enlarge the irrigation area up to more than 60% and introduce the water saving scheme to medium-size irrigation facilities.

Lessons Learned and the replicability

The project resulted in a closer alignment of water availability and water use. The reduction in water use has been realized through implementation of water saving irrigation methods and direct involvement of farmers in agriculture water management. Importantly, farmers have not sacrificed profitability to reduce water use.

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