

Study on the Formation Mechanism of Agricultural Water Price Driven by Comprehensive Water Price Reform

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Abstract : China is a large agricultural country, with a large proportion of agricultural water consumption and low water use efficiency. On the premise of ensuring the benign operation of irrigation facilities in irrigation areas, agricultural water conservation should be coordinated to reduce the burden of agricultural water use. Therefore, it is very important to do a good job in agricultural water price reform. From the practical point of view, there are still problems in the comprehensive reform of agricultural water price in most irrigation areas in China to varying degrees. Although the comprehensive reform of agricultural water price has been promoted nationwide, and some regions have even formed agricultural water price mechanisms that are more suitable for the local actual situation, most regions are still in the exploration stage. This paper mainly analyzes the problems existing in the current agricultural water price formation mechanism based on the background of the comprehensive reform of water price and the formation mechanism of agricultural water price, and puts forward corresponding optimization measures.

1. Introduction

In China's total water consumption, agricultural water consumption accounts for more than 60%. Therefore, it is critical to develop a sound water price formation mechanism, which can scientifically and effectively manage agricultural water use. From the current point of view, there are great problems in the formation mechanism of agricultural water price in China. The waste of water resources is very serious, the water price is generally low, and there is a great conflict between supply and demand. The agricultural water price is unreasonable, and the cost of water supply cannot be reached. The amount of funds required in the process of promoting the operation of farmland water conservancy projects is relatively large. It is difficult to continue to rely on the existing finance alone, but only by raising prices to solve this problem will bring greater economic burden to farmers; In addition, in terms of system management, there are great problems in agricultural water use. Up to now, there has not been a sound management and protection mechanism for water conservancy projects. In essence, agricultural water use is extensive, water saving efficiency needs to be improved, and no good water saving effect has been achieved, which has seriously affected the orderly operation of farmland water conservancy projects. It can be seen that in January 2016, the General Office of the State Council issued the Opinions on Promoting the Comprehensive Reform of Agricultural Water Price, which clarified the improvement of the agricultural water price formation mechanism and promoted it nationwide. A regional water price mechanism with local characteristics has been formed in some regions and has achieved good results.

From the perspective of the connotation of agricultural water price formation mechanism, there are different opinions and views in the academic circle. Up to now, no unified concept has been formed, and different scholars have different views. In this paper, the definition of the formation mechanism of agricultural water price mainly refers to the need to fully consider the characteristics of dynamic changes in resources, and establish a relatively complete pricing mechanism and management system for agricultural water resources by fully and effectively defining the pricing subject, water metering and planning methods, etc., based on the premise of special agricultural water rights. However, from a practical point of view, under the background of the comprehensive

reform of agricultural water price, there are still problems in the promotion of agricultural water pricing in China, such as the difficulty in formulating water price and the imperfect water use mechanism, which are not conducive to the formulation of the agricultural water price mechanism in China and the sustainable development of China's agriculture. Therefore, the interests of the government, enterprises and farmers should be fully considered in combination with local conditions to promote the government, enterprises Farmers participate in it together, so as to achieve the best results.

2. Significance of Establishing Agricultural Water Price Formation Mechanism Driven by Comprehensive Water Price Reform

2.1 It Can Strengthen Water Conservation and Promote Ecological Environment Protection

China is a large agricultural country. Agricultural water consumption accounts for a large proportion, and lacks attention to water resources. Comprehensive management needs to be improved, and agricultural water saving has not been systematically promoted. This is also a reason for the low agricultural water price. It is difficult to reflect the scarcity of water resources. Especially in some areas where water resources are not rich, the original extensive irrigation method is still used, leading to a large waste of water resources. In the long run, this irrigation method will not only lead to a large loss of soil nutrients, but also easily lead to soil salinization. For example, the north has fertile soil, rich land and developed agriculture, which is very suitable for planting large areas of food and various economic crops. If this extensive irrigation method is used, it is easy to cause soil nutrient loss, resulting in obvious restrictions on grain harvest. Through the establishment of a special agricultural water price formation mechanism, the value of water can be clarified, and farmers' water-saving awareness can be strengthened through accurate measurement, which can not only protect the soil, but also achieve the goal of saving water resources..

2.2 It Can Clarify the Cost of Water Use and Realize Fair Water Use in Agriculture

From the previous situation of agricultural water use, although farmers also pay water fees specifically, the payment standards are not uniform, and the metering facilities are not perfect. Due to various factors, some farmers do not know much about water consumption and the amount of water fees payable. There is a huge gap between the price of agricultural water and the price of agricultural water. According to the overall agricultural production cost structure, the water fees are not scientific and reasonable, There are great problems in the allocation of rights and responsibilities. In some places, unauthorized exploitation of groundwater has also occurred, which has also had an impact on water metering, and even affected some water conservancy construction. Therefore, through the establishment of the agricultural water price formation mechanism, it is clear that the government, enterprises and farmers should share their own water costs, and give play to the farmers' own collaborative management function, to avoid the defects of indirect management of village cadres, to prevent malicious charges, to ensure that the collection of water fees is scientific and reasonable, and to ease the burden and pressure of farmers in all aspects.

2.3 Clarify the Obligations of All Parties and Promote the Sound Operation of Water Conservancy Projects

According to the sources of farmland water conservancy funds in China, the national and local financial expenditure is the main source, and the masses will also be initiated to raise funds by themselves. In essence, the agricultural water price is charged according to the specific cost of water supply, and the depreciation of the fixed assets invested in labor is not included in it. Therefore, the agricultural water price is lower than the water supply cost. The cost of farmland water conservancy management is seriously insufficient. From the perspective of the government, It is extremely difficult to provide financial support for all water conservancy projects. In addition, the agricultural water price in most regions of China was low and in a loss state, which had a serious

impact on the normal operation of the water supply sector, easily led to the lag in the maintenance of water conservancy projects, posed a serious threat to the safety of the project, and it was difficult to obtain effective commissions for water supply revenue. Then, by establishing a special agricultural water price formation mechanism and adhering to the principle of “who invests, who builds”, the leverage role of the price itself can be fully and effectively played. The supply and demand parties should make friendly agreements, fully define the price, fully integrate it with the agricultural water precise subsidy mechanism, ensure the interests of all parties, and then promote all parties in the society to actively participate in the water conservancy construction project.

3. Problems in the Formation Mechanism of Agricultural Water Price under the Background of Comprehensive Water Price Reform

3.1 Agricultural Water Price Composition Needs to Be Improved

In fact, after the reform in some regions of China, the agricultural water price is generally low, the farmers' own economic capacity needs to be improved, and there is great enthusiasm and initiative in protecting grain production. The farmers are not aware of the problems related to the scarcity of water resources, and it is difficult to fully display the value system of water supply cost itself. There is a big gap between the pricing of agricultural water and the operation and maintenance costs of water conservancy facilities. For example, in Jingzhou City, Hubei Province, although a local agricultural water price formation mechanism has been established, it mainly distinguishes food crops, cash crops and aquaculture, sets prices separately, and proposes relevant policies. However, from the perspective of some subordinate counties and cities, the pricing was not strictly based on the way of progressive price increase over quota, which did not form a good constraint mechanism for most farmers.

3.2 Agricultural Water Price Adjustment Mechanism is Not Perfect

In essence, water resources are characterized by strong circulation and mobility. In view of this feature, there is no special basis or method for water price adjustment in some regions in the south of China, nor is there any measure to use different water prices in different periods according to some regions in the north. This is mainly because most areas in the south are rich in water resources, so they will not face pressure on water use. From the aspect of agricultural water price reform, the irrigation water right is fully defined, and the management status of some farmland is too fragmented. In this way, if the water right is still verified on a household by household basis, the management cost will be greatly increased, but the actual effect is poor, so it lacks certain practical significance.

3.3 Difficult to Collect Agricultural Water Charges

In recent years, the climate change is relatively large, leading to the low output of agricultural products in many parts of the country, and the obvious increase in the planting cost of agricultural products. However, under the backlog of all kinds of imported food, most farmers are in a state of growth but can not increase their income. The affordability of water charges is generally low, which seriously affects the seasonality and initiative of farmers to participate in agricultural production. The rise in the price of water charges leads to a great resistance in the hearts of farmers, It affects the enthusiasm of farmers to pay water bills. For example, Jingmen City, Hubei Province, is a hilly area, and the distribution of water resources is obviously uneven. Many places use groundwater for irrigation by drilling wells, and the water resources of groundwater cannot be allocated. It is difficult to clarify the water rights of this part, and the pricing is even more difficult. It can be seen that the phenomenon of evading water fees is relatively serious, and poor households have no ability to pay water fees, This in turn increases the difficulty in collecting agricultural water charges.

4. Effective Suggestions on Improving Agricultural Water Price Formation Mechanism under the Background of Comprehensive Water Price Reform

3.4 Fully Consider Various Factors and Improve the Dynamic Adjustment Mechanism of Agricultural Water Price

Under the background of comprehensive water price reform, it is necessary to understand the basic situation of agricultural water use management in combination with the basic situation of the construction of local farmland water conservancy facilities, take full account of the actual demand for water resources, water supply costs, user types, water consumption and other factors, fully and effectively consider the suggestions of all parties, master important events, clarify the relevant plans for agricultural water price adjustment, and establish a sound dynamic adjustment mechanism for agricultural water prices, In order to ensure that the agricultural water price after actual adjustment can be accepted and has certain feasibility.

3.5 Promote the Balance between Supply and Demand, and Improve the Formation Mechanism of Agricultural Water Price

Based on the relevant situation of local water resources and various factors such as the local financial subsidy capacity, the specific price of agricultural water should be determined to ensure the scientific rationality of the price. The agricultural water price formulation and the operation and maintenance cost of water conservancy projects should be fully integrated to promote the dynamic balance between the two. On the other hand, it is also necessary to improve the agricultural water-saving punishment mechanism, systematically analyze the over quota progressive price increase system, implement the method of graded water price, appropriately increase the water price, and regularly collect water fees, so that users can establish a strong sense of water-saving and save agricultural water.

3.6 Reduce the Difficulty of Payment and Improve the Water Conservancy Service System At the Grass-Roots Level

In China's agricultural areas, most of them are farmers, with relatively low overall cultural literacy and relatively weak economic capacity. It is difficult to pay for agricultural water. Therefore, it is necessary to build a sound grass-roots water conservancy service organization and farmers' water cooperation organization, reduce the difficulty of payment, and improve the grass-roots water conservancy service system. First of all, we should further deepen the reform of the management and maintenance unit system, fully and effectively implement the responsibilities related to the maintenance of water conservancy projects, fully recognize the importance of the construction of water pipe stations in township areas, carry out systematic training for grass-roots water conservancy service personnel, and build a number of excellent irrigation service teams. Secondly, pay attention to the orderly construction of farmers' water use associations. This is mainly to allow farmers to participate in the process of joint management. From the perspective of personnel composition, the president must be appointed by a special person, and the vice president should preferably be held by a village cadre, so as to facilitate subsequent management, facilitate subsequent collaborative charging, and improve the service level of the association itself as much as possible; Finally, carry out systematic publicity on the water-saving society, scientifically and effectively manage the user's water use, change the state of long-term free water use in rural areas, obtain the understanding and support of farmers, promote the orderly development of water price reform, and obtain the support and recognition of the general public.

4. Conclusion

The formation mechanism of agricultural water price is mainly to promote sustainable agricultural development, save water resources and promote ecological balance. In general, in the process of making up the cost of agricultural water supply, agricultural water prices should also fully consider the affordability of farmers themselves, and establish a relatively reasonable agricultural water price sharing mechanism, punishment and reward mechanism. This can not only ensure the fairness and standardization of agricultural water price subsidies, but also improve the

enthusiasm of farmers to pay water bills. At the same time, the formulation of agricultural water price formation mechanism should also take full account of local water resources and environment, crop types, irrigation methods, geographical environment and other factors, so as to improve the dynamic adjustment mechanism of agricultural water price, strictly implement in accordance with the special water price adjustment plan, ensure the feasibility of the agricultural water price formation mechanism, and achieve the purpose of adjusting water prices and saving water resources.

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