REGIONAL BEAT

Institutional Options for Irrigation: the Bulgarian Case

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During the transition period the irrigation water usage in Bulgaria declined by nearly 85% and many parts of the existing canal systems were abandoned. We review the roots of the problem and discuss possible institutional options to cope with the situation. The following determinants of institutional change are considered: features of transactions related to nature; characteristics of actors; governance structure; and property rights system. Data and information refer to interviews conducted in the Plovdiv region.

Determinants of Institutional Change

The existing irrigation systems in the Plovdiv region were designed to serve large water users, but after the land reform they are now supposed to serve many small farmers. The state remains the owner of water resources in the country, while the farmers have acquired users' rights. However, they have to pay a fee. The main canal systems and water reservoirs are owned by the state, but the property rights on canals bringing water to fields have become unclear. Only the main canals have been sufficiently maintained since land reform started. Low excludability and heterogeneity in water usage due to the land fragmentation are important factors.

The spectrum of actors who are involved in irrigation in the region is broad: many small agricultural producers close to retirement age with weakly developed cooperation among them; large commercial farmers; a state-owned firm (The Irrigation Company) which controls the main canals, thus having monopoly over the water supply; local representatives of the water firm collecting water fees; and, local municipalities which often mediate irrigation conflicts.

The water price is set by the state and as such is only weakly related to the delivery cost. The coordination mechanism is poorly developed at a local level. Regular monitoring of water consumption is reduced to the main canals. The conflict resolution mechanism is underdeveloped or missing entirely and sanctioning is ineffective.

Institutional Options

Four institutional options were investigated for their potential to solve the appropriation and provision problems.

(1) Local municipalities receive legal rights on the secondary canals and organize irrigation.

This option will improve the appropriation and provision activities at a village level, but not the coordination between municipalities. There are further shortcomings: municipalities may lack capacity, since they are not specialized in irrigation; agricultural producers (water users) are only indirectly

involved in the decision making; and administrative boundaries rarely coincide with the irrigation system boundaries. The small farmers will likely support this option, but large farmers will resist since many of them have good relations with the water supplier. The Irrigation Company will support this option since it prefers to deal with a few larger water users rather than with many small farmers.

(2) Associations of water users receive legal rights on the secondary canals and organize irrigation at a distinct level of irrigation system.

The main advantages of this option are that the services are provided by a specialized organization, the water users are directly involved in decision-making, and that the water user associations (WUA) operate a distinctive part of the irrigation system. The success of the WUAs to solve the provision and appropriation problems depends on the development of supportive social structures. The small producers will give weak support as they have short planning horizon and lack organization capacity. The large producers will support the WUAs only if they make available resources for new investment. The behaviour of IC will be conditioned by two main considerations. The company has lower transaction costs if it sells water to large units, like the WUAs, but IC will be less co-operative if the WUAs increase their bargain power. Hence, IC will resist the concentration process of water user associations.

(3) Farmers participate in the Irrigation Company (IC) management.

The inclusion of farmers in the management of IC is a response to the market failure. The very large producers will support this option since they can participate directly and this will strengthen their position. Smaller farmers will have to find a way to elect representatives protecting their interests in the management board of IC. However, because of lack of organization capacity and social capital this might be very difficult, thus taking the advantage of this option might be very limited for smaller farmers.

(4) Court procedures regarding water conflicts are simplified and improved

Improvement of the court procedure provides the actors with effective formal sanctioning mechanisms. Even in the case of self-governance, it is necessary the state to back up the group decisions. The small farmers will probably be indifferent to this option, while large producers may see in it a way to enforce the control over the operation of IC. The Irrigation Company will support the changes that help to sanction violators of water rules, but it will oppose the changes which increase its obligations, particularly, timely water delivery.

Conclusions

This analysis suggests that a the composition of the options that emerge will depend on the local conditions. The municipality could be a transitional option in villages with little social capital. WUA is better for villages with more social capital. Participation of farmers' representatives in the Irrigation Company management is attainable in areas with well-established organizations of small farmers. Finally, strengthening the external sanctioning mechanisms seems to be important step for the success of any of the options.