

IRRIGATION ASSOCIATIONS AND PUBLIC-PRIVATE-PARTNERSHIP IN IRRIGATION DEVELOPMENT AND MANAGEMENT IN TURKEY

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ABSTRACT

Turkey has been one of the pioneers in irrigation sector reform. The almost full transfer of irrigation systems to the irrigation associations (IAs) has helped to overcome some of the problems such as collection of irrigation fees. However, an increase in water use efficiency remains a challenge. Moreover, the outcomes of irrigation management decentralization particularly in terms of participatory performances of IAs display mixed results. In the early periods of devolution, IAs were established by reference to various local government laws. IAs finally gained clear legal status with the adoption of the Irrigation Associations Law which brought many facets to the decentralized structure and functioning of the IAs. However, recently, major amendments to the Irrigation Associations Law were made, which brought back significant government role and control in the administration of the IAs. On the other hand, privatization through service procurement and Build-Operate-Transfer (BOT) models was also tried to be applied in irrigation management. Yet, despite the enabling legal environment, so far, these models could not be implemented in the irrigation sector in Turkey mainly due to a lack of consensus among stakeholders.

Keywords : Irrigation Associations, Irrigation management, Irrigation development, Public-Private-Partnership, Turkey.

1. INTRODUCTION

Turkey has been one of the frontrunners in irrigation sector reform. The almost full transfer of irrigation systems to water user organizations, namely the irrigation associations (IAs), has dramatically empowered users of Turkey's irrigation systems. IAs have helped to overcome some of the problems, such as collection of irrigation fees and operation of the irrigation network. However, an increase in water use efficiency remains a challenge. Considering the period before and after transfer to IAs, there is no significant change in irrigation efficiency. Moreover, the outcomes of irrigation management decentralization, particularly in terms of participatory performances of IAs, display mixed results. Hence, the paper will look into the reasons behind water use inefficiencies and poor participatory performance of IAs.

Under the accelerated transfer program in the 1990s, IAs were established by reference to various local government laws. For about a decade the need for an enabling law that would determine the principles of IA functioning was articulated by various stakeholders. IAs finally gained a clear legal status following the legislation of the Irrigation Associations Law in 2011. With this law, which is essentially based on decentralization, many changes are brought to the structure and functioning of the irrigation associations. However, in 2018, major amendments have been made into this law, which put IAs strictly back under the control of the central state water agency. Hence, the paper will investigate why this roll back process may have occurred at the legislative level.

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On the other hand, from the 1980s onward, Turkey has experienced extensive privatization measures in a number of sectors including water supply and hydropower. In this context, Build-Operate-Transfer (BOT) model was considered as an effective way to generate a partnership between public and private sectors as well as to join their financial resources, know-how and expertise to meet the challenges facing service provision systems. However, the privatization process, including the BOT model in the water sector, has resulted in mixed and mostly unsatisfactory results. Despite these disappointing results, the BOT model was also tried to be applied in irrigation projects in the early 2000s. Yet, not enough private sector companies have displayed interest in the bids, which disabled a competitive environment. Thus, by utilizing primary sources, the paper will discuss the reasons why the BOT could not be implemented in the irrigation sector in Turkey.

2. IRRIGATION MANAGEMENT REFORM

The Establishment Law (No. 6200) entitles the State Hydraulic Works (DSI in Turkish acronym), which is the central water agency responsible for the construction, management and operation and maintenance (O&M) of the large-scale public irrigation schemes, to transfer O&M of irrigation systems to irrigation management organizations, such as village administrations, municipalities, cooperatives, irrigation associations, and other private legal entities. Irrigation association (IA) is a form of transfer considered innovative, where the irrigation scheme covers more than one local administrative unit, for example, a village or municipality. From the early 1960s, DSI had a program for such transfers relating to secondary and tertiary canals (Kibaroglu and Baskan 2011). The process has gained momentum since 1993, the management of irrigation covering more than two million hectares has been handed over to local administrations or to irrigation associations (Kibaroglu et al. 2009).

Efforts to increase the amount of irrigation schemes transferred to IAs have been motivated by the poor performance – in terms of cost recovery, equity, efficiency in O&M and repairs – of many large irrigation schemes by government agencies, namely DSI. Following the transfer of O&M, DSI maintains only the ownership of the resource infrastructure. The responsibility for the secondary and tertiary canals is transferred to the IAs or irrigation cooperatives. A cooperative is different from irrigation association as it is owned and operated by its members who share its profits or benefits (Svendsen and Nott 2000).

IAs have helped to overcome some of the problems such as collection of irrigation fees, maintaining the secondary and tertiary canals and operation of the irrigation network. A comparison of the DSI expenditure for operation and management before (1991) and after transfer (2005) shows a substantial decrease from 100 to 16 percent. Thus, the economic target of the transfer process was achieved. However, an increase in water use efficiency remains a challenge. According to the latest records, the irrigation efficiency was around 40 percent in irrigated areas managed by the Irrigation Associations, meaning that 60 percent of diverted water is lost (Topcu et al 2019). Considering the period before and after transfer to irrigation associations, there is no significant change in irrigation efficiency.

Moreover, funding of operation and maintenance costs often remains difficult. Maintenance and rehabilitation have become even more critical, because about one-third of the irrigation network is over 40 years old. This affect maintenance, repair, and renewal needs. Turkey has a considerable investment stock in water. Looking at DSI's portfolio in Turkey we understand that about half of all the facilities are older than 20 years. A rule of thumb suggests that such facilities tend to need serious

renewal when they reach about 30 years of age. Over the next decades, Turkey will likely face a major and rapidly growing repair and renewal challenge and corresponding investment requirements.

The outcomes of irrigation management decentralization particularly in terms of participatory performances of irrigation associations display mixed results. Harris (2005) claims that state agencies in Turkey had high expectations from the IAs, which were expected to increase efficiency, to promote the sustainability of irrigation resources, and to establish horizontal networks. However, there are divergences in farmer satisfaction from the services they receive from the IAs (Kadirbeyoglu and Ozertan 2015). Furthermore, IAs were unable to implement participatory irrigation Operation and Management in some local contexts characterized by power asymmetries. In such settings, the associations are sometimes captured by powerful and large landowners, who can use the association resources for their own benefit. In other contexts, local participatory management of irrigation enabled a more efficient co-management of irrigation, especially at times of drought. The state agency and the associations were able to devise new payment mechanisms to reduce the amount of irrigation without endangering the crops (Kadirbeyoglu and Ozertan 2015). Given the importance of sustainable agriculture and water usage for Turkey – a whole-of-Turkey study on the participatory performance of IAs, and associated environmental sustainability (pollution, salinisation, and water scarcity) issues is absolutely necessary. This is directly related to long-term agricultural productivity.

The pricing of irrigation water by the IAs does not support the diffusion of water-saving methods, either. IAs collect irrigation fees to cover the operation, maintenance and administration costs; there is no charge for the amount of water used by the farmers. In many regions, the irrigation fee is based on the type of the cultivated crop and the size of the irrigated land. With the existing canal irrigation systems, it is impossible to measure the water consumption at the farm level and to implement volumetric prices. Thus, the widespread adoption of water-saving technologies does not seem probable in the short-term due to the lack of an enabling combination of training, economic incentives and infrastructure. However, since 2003, DSI has been constructing piped (pressurized) irrigation systems. If expanded onto larger areas, these systems can facilitate water metering and contribute to the diffusion of water-saving irrigation methods by eliminating the extra energy costs.

The legal standing of the IA should in principle be guaranteed by an enabling law, which authorizes its establishment and the transfer agreement between the state agency and the irrigation association (Kibaroglu et al. 2009). However, in Turkey, the accelerated transfer program progressed much faster than planned, and there was no opportunity to prepare an enabling law. The associations were established by reference to three laws: Village Law (No. 442), Local Government Law (No. 1580) and Provincial Governance Law (No. 5442). The need for a new law that would determine the principles of IA functioning was articulated by different agencies. In 2005, IAs were brought under the jurisdiction of a new legislation pertaining to Local Administrative Unions Law (No. 5355, 26 May 2005). That legislation did not bring about major changes.

IAs finally gained public legal authority status following the legislation of the Irrigation Associations Law No. 6172, which entered into force 08.03.2011. With this law, many changes are brought to the structure and functioning of the IA. Accordingly, IAs are set up by the local authorities in an irrigation zone and apply to DSI in order to sign the transfer agreement and protocol, which gives them the right to collect fees and assigns them the responsibility to distribute water and maintain the canals. According

to the Law, IAs are responsible for the operation, management, maintenance and repair (Ozerol 2013).

The Law No. 6172 changed the “one farmer, one vote” principle by increasing the weight of those farmers who own or rent tracts larger than the average in their IA. Accordingly, the number of votes in the election of councilors depends on the size of land a farmer owns or rents (for a period longer than 5 years) with a maximum of 5 votes per farmer. The chairperson of the association is elected by the members of the irrigation association’s assembly (parliament) for a 4-year term and is the head of the executive committee, which decides on matters related to the management of the associations. Technical staffs are hired to operate the system. In line with the Law No. 6172, the associations are not allowed to spend more than 30% of their yearly budget on personnel expenditures.

The revenues of the association consist mostly of fees collected from the users. The fees depend on the crop that will be cultivated and are set by each association (Unver and Gupta 2002). Self-auditing mechanisms for the IAs existed but they were not widely used. Prior to the Law No. 6172, a group of councilors could be selected to audit the accounts, to question the chair, and to scrutinize the yearly activity report submitted to the council by the chair (Kadirbeyoglu and Ozertan 2015). The Law No. 6172 established an audit committee selected from among the councilors. However, the extent to which this committee can perform its duties depends on the power asymmetries in the local context. There are external checks and balances in the system as well in that it is the responsibility of the Office of the Governor to monitor the activities of the IAs and to approve their fees and budgets. The Office of the Governor is in charge of establishing an audit commission to scrutinize the finances and administration of the associations.

On 19 April 2018, with a new Law No. 7139, major amendments were made in Law No. 6172 along with the amendments made in Law No. 6200. With this new law, chair of the IA will be appointed by the Minister from among the civil servants upon the suggestion of DSI (Article 9). The IA assembly will not elect the chair anymore. This is, in fact, against the main principle of Law No. 6172, which is based on the principle of decentralization and local management. It brings back central control of irrigation management by DSI and the Ministry. Moreover, responsibility for abolition of an IA is taken away from the IA assembly (Article 20). In determination of the fact that the IA is not fulfilling its objectives, the association will be abolished with the approval of the Minister upon the suggestion of DSI (Camlibel 2018).

3. PUBLIC-PRIVATE-PARTNERSHIP MODEL IN IRRIGATION DEVELOPMENT AND MANAGEMENT

Following the efforts of global actors, such as the World Bank, the water sector has experienced a massive wave of privatization covering different regions of the world. In this context, from the 1980s onward, Turkey has experienced extensive privatization measures in a number of sectors including water and energy distribution, hydropower infrastructure, telecommunication and health care. The government has been looking for alternative ways to channel professional expertise through numerous forms of Public Private Partnerships (PPPs), which were/are expected to contribute to achieving national goals in affordable ways. Build-Operate-Transfer (BOT) was one of the first public private partnership models implemented in various large-scale public facilities in Turkey. The BOT model is seen as an effective way to generate a partnership between public and private sectors and to join their financial resources, know-how and expertise to meet the challenges facing service provision systems normally supplied by governments.

However, the privatization process, including the various public private partnership models in the water sector, has resulted in mixed and mostly unsatisfactory results. Despite these disappointing results, the successive governments in Turkey continue to favor the partnerships established between the public and private sectors as a way to contain efficiency problems and financial deadlocks of large-scale development facilities. In this line of reasoning, privatization of irrigation systems was considered in the last two decades.

The new Law No. 7139 (19 April 2018), which made major amendments to the Irrigation Associations Law No. 6172 and to the DSI establishment Law No. 6200, brought new arrangements for the O&M of irrigation systems. Accordingly, under specified conditions, DSI can transfer O&M of the irrigation systems to Metropolitan Municipalities, which could also transfer irrigation management to the Investment Monitoring and Coordination Administrations, which operates under its mandate. This Administration also can transfer O&M of irrigation systems to District Municipalities or to the Water and Sewerage Administrations. The irrigation systems, which are out of the domain of the Metropolitan Municipalities, could be transferred to the Municipalities and Special Provincial Administrations.

As the Law No. 7139 stipulates, the administrations (municipalities, private entities etc.) that take over irrigation systems shall be under obligation to manage these systems according to intended project purposes while they will fulfil maintenance and repair services, and build additional irrigation and drainage systems, which are deemed necessary by the DSI. They will conduct rehabilitation or get it done and determine water use service fee to be charged from the beneficiaries. This fee should not be less than the minimum water use service fee, which is determined by the Minister.

According to same Law (No. 7139) DSI can use service procurement (privatization) method for O&M of the irrigation systems. The related By-Law, which determines the specific conditions (i.e., rights and obligations of farmers/irrigators, private sector and the government) for the implementation of the Law No. 7139 is under consideration by the DSI.

During the preparation of the Law No. 7139, the draft version of the law was harshly criticized in the Parliament (Turkish Grand National Assembly). The concerned MPs from the two main opposition parties rejected the law by claiming that it would open the way to privatization of irrigation water and the irrigated lands would be grabbed by international/foreign companies. The opposition groups also claimed that service procurement from private entities would let these private entities to determine the water use service fees without any control, and the private entities would also collect the fees any time they would deem right, though the farmers usually afford to pay the water service fees at the end of the irrigation seasons. The opposition also expressed that the private entities would charge drastically higher water use service fees since their first concern is profit maximization (Hurriyet 2018).

On the other hand, during the parliamentary debate, the government representative, namely the concerned Minister reportedly stated that "Water is not infinite. Without private sector involvement and related contracts, farmers keep practicing flood irrigation. We are proposing the related provisions of this law in order to prevent water waste. In the draft, we list the possible entities for irrigation take over as municipalities, private and public entities, which included, in fact, irrigation associations. With this law we would like to open the way for BOT projects. In this BOT model there is no transfer of the ownership of public irrigation systems to private

entities. We have given a lot of thought to this issue, which will not cause any harm. We plan to clarify and facilitate the implementation of this law by issuing a related by-law” (Hurriyet 2018).

After these deliberations, the Law No. 7139 has been adopted on 19 April 2018, with further changes that addressed some of the concerns of the opposition. Since its adoption, some changes were introduced in the administration of the irrigation associations. In this context, dozens of new chairs were appointed to the irrigation associations by the Ministry upon the recommendation of the DSI. The new chairs are civil servants some of whom have been affiliated with the O&M department of the DSI. Yet, a considerable number of these chairs have not been trained in any professional field related to irrigation management. Hence, DSI has spent the year 2018 by giving extensive trainings to these chairs on O&M of irrigation systems (DSI 2019).

On the other hand, there is no evidence yet regarding transferring irrigation systems to the municipalities or to private entities (Yildiz 2019). This is basically due to the fact that privatization (PPP), including the BOT model in irrigation, still presents some complexities and risks, which could not be overcome easily. The levels of risks, such as commercial risks and water-specific risks, are quite high in the irrigation sector. BOT arrangements are more sensitive to commercial risks than public contracts, as the service provider is required to take risk of collecting fees from farmers. On the other hand, regarding farmers' benefits in the PPPs, general expectation and results from few cases around the world are improved but more expensive service because of decreased government subsidies not fully compensated by efficiency gains (World Bank 2007). In Turkey, strong political and social issues relate to water, food, and agricultural production, which also constitute a certain degree of risk. Moreover, devaluation and export market risks should also be significantly considered (T24 2018).

DSI has tried the BOT model for the first time in the Manyas Irrigation Project in 2008, situated in the western Anatolia, the Aegean part of Turkey. However, in the absence of a proposal given by any private sector company, the bid was cancelled. A year later, in 2009, a tender was organized for the construction of the Odemis Beydag Irrigation project with BOT model. But, only three companies have presented proposals in the tender, and out of the three, only one bid was deemed valid. Yet, even that proposal was above the average cost of the Project and it was impossible to sustain the competitive environment. Thus, that bid was also cancelled (MoFWA 2017).

4. CONCLUSIONS

The latest national development plan (Kalkinma Bakanligi 2013) in Turkey emphasizes that priority is given to water, food and nutrition security in a competitive environment, hence, infrastructure investments in sectors like irrigation will continue with an intention to support economic growth in the medium and long term. Yet, these macro-level policies require operationalization through the practices of adequate institutions. This paper critically analyzed how these macro level policies are put into practice by concerned public and private institutions with a particular focus on irrigation associations.

DSI has transferred a large amount of irrigation schemes to IAs because of its poor performance in O&M and cost recovery of the expanding irrigation systems. It was also envisaged that by means of decentralization from the state to the farmers equity and efficiency could be sustained in irrigation systems management. However, it took

more than a decade to empower the IAs with enabling legislation, which would lead IAs to establish proper administrative structure as well as O&M functions. Yet, successive governments have developed negative opinions about the administrative and technical performances of the IAs. While governments highlighted the cases of corruption in the administrative performance of IAs, particularly generated through illegal actions of chairs, researchers underlined the poor performance of IAs in irrigation water management. By reporting through various case studies systemic inefficiencies (low level irrigation ratios; excess water use etc.) and inequities has been noted in IAs' administrative and technical (i.e. water distribution) functioning. Thus, the government lately introduced a major change in the law of the IAs, which puts them under close government control particularly by appointing the chairs of the IAs from among civil servants working at various public institutions.

The latest legislative change also brought the option of transferring the O&M of the irrigation systems to municipalities or private entities rather than mandating the IAs. Even though the objective of privatization of irrigation management through the BOT model could not be fulfilled so far due to the structural impediments, the government keeps the option of service procurement open with a view to using private sector management for the upcoming large-scale irrigation systems. Yet, introduction of privatization models in irrigation faced with fierce reaction of the opposition parties as well as farmers who are members of either the IAs or irrigation cooperatives. Turkish case of irrigation management devolution and possible privatization models demonstrates that a broader consensus among major stakeholders, namely the farmers, the government, private sector, civil society and the academia, becomes absolute necessity for any reform to make positive impact on equity and efficiency in irrigation management.

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