

The Transfer of Water Authority and the Role of WUAs in Lower Seyhan River Basin

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1. Introduction

Turkey is considered one of the countries that achieved successful transfer of government water management systems to water user associations. Since 1994, the government accelerated transfer program and water management of nearly one million hectares of publicly irrigated land were rapidly transferred to local water users associations within three years. By 2002, the transfer of the management authority reached roughly 2 million hectares of irrigated land. If this trend is going to continue, what would be the present and future role of water users associations in irrigation water management? This paper first reviews the environment that Turkish government required to transfer water management authority. Second, the objectives and responsibilities of water users associations in irrigation project are mentioned. Also we compare the changes in O&M costs as well as water charges after transferring authority to water users associations.

2. Why were WUAs formed?

During the early 1950s, the Turkish government slowly started transferring the role of irrigation water management to water users. Three laws became the base for transferring authority of water management to water user associations (hereafter WUAs). Those are 1953 DSI Establishment law¹ (Law number 6200), 1954 Municipality law (Law number 1580), and 1960 Cooperative law (Law number 1163). Until 1993 small-scale irrigation systems were transferred to water users at a pace of about 2,000 hectares per year. DSI encouraged farmers to organize Irrigation Groups (IGs) or

Water User Groups (WUGs) with limited responsibility for operation and maintenance. After 1994, large-scale irrigation systems including Lower Seyhan Irrigation Project (LSIP) started to be transferred to WUAs (Tekinel, 2001).

The main reason that Turkish government accelerated the transfer of water management authority is as follows². First, the government budget problem made it difficult to pay overtime salary after 5pm, which became the statewide problem. Thus the cost of operation and maintenance became a huge burden to DSI. Second, since the 1980s small government is preferred and government tried to cut budget and freeze new employment to achieve this goal (Stevenson, M. and G. Nott, 2000). Third, as a result of budget cuts, DSI was not able to provide enough service to beneficiary farmers. Not only O&M of public irrigation systems were costly, water fee collection rate by DSI was quite low (42%) and became unsustainable. Therefore, the establishment of WUAs and the transfer of management authority to WUAs was the policy tool to decentralize water management authority and to perform more economically efficient operation and maintenance services.

During the 1960s-1980s, mainly small projects were transferred to WUAs. During the 1990s, because DSI failed to provide enough service, farmers themselves were willing to take responsibility of water management. One DSI official mentioned that farmers were more ready and eager to take responsibilities while DSI was not yet ready to transfer them officially. The acceleration of transferring water management

¹ Enacted Dec. 18, 1953; Effective Feb. 28, 1954. DSI is General Directorate of State Hydraulic Works, Ministry of Energy and Natural Resources.

² Based on the interview with Mr. Ergün Döker and Mr. Faruk Cenap Erdoğan, DSI Operation and Maintenance Department in Ankara in October 11, 2002.

authority after 1994 proceeded rapidly beyond DSI expectations. During the initial phase, 10,000 hectares were transferred to WUAs compared to annual average of 2,000 hectares before the acceleration program. By 1995, DSI had already transferred 800,000 hectares to WUAs, the level that was expected to reach in 2000. DSI had already achieved the goal of 2000 five years earlier.

Stevenson and Nott (2000) point out the specific characteristic of transfer program in Turkey. First, the transfer program utilized the existing local government organizations and leaders rather than local farmers' grassroots organizations. Local organizations are village and municipality governments and their heads. Second, the scale of transferred units and the number of beneficiary farmers involved is quite large and the average size of WUAs is 6,500 hectares. This average unit size to be transferred is much larger than those in Southeast and South Asia. The staff of regional DSI operation and maintenance division played a major role in implementing the transfer program at the local level.

3. The Role of WUAs

Currently in Turkey about 91% of transferring organizations are WUAs. The remaining of 9% includes municipalities, cooperatives, water user groups (WUGs)/irrigation groups (IGs). Before 1994, WUGs or IGs, headed by a village head, took responsibility of O&M for tertiary distribution canals and thus considered appropriate intermediate organization for WUAs. The followings are the types of various transferring organizations based on the local government in the irrigation scheme (Tekinel, 2001):

- i) An irrigation scheme can be transferred to *WUAs* where there is more than one local administrative unit (village, legal entities, municipalities) within one irrigation scheme.
- ii) An irrigation scheme can be transferred to *Municipality* where the irrigation scheme serves only single village. Mayor is the natural chairman of this organization.

- iii) An irrigation scheme can be transferred to *Village organization* where the scheme serves only single village. Muhtar (village head) is the natural chairman of this organization.

- iv) An irrigation scheme can be transferred to *Cooperatives* where legal cooperative can be formed with a request of a minimum 15 farmers before a scheme is undertaken.

When WUAs are established, the irrigation facilities were turned over based on the turnover contract and protocols made between DSI and WUAs. While DSI owns the irrigation facilities and is responsible for carrying water through main canals, operation and maintenance is transferred to WUAs and they are responsible from the main canal (Mert, 2003). Water rights, on the other hand, were not transferred to WUAs (Scheumann, 1997). Thus the government still possesses the rights over water resources in irrigation project.

Objectives of the WUAs are as follows (Stevenson and Nott, 2000):

- a) Providing adequate and timely irrigation water supplies to all farmers in the unit
- b) Providing irrigation service in a reliable and sustainable manner
- c) Contracting O&M costs
- d) Collecting service fees from all benefiting farmers
- e) Acquiring mechanical equipment for maintenance and repair.

Responsibilities of WUAs include:

- a) Scheduling and delivering water within the WUA unit
- b) Monitoring deliveries to farms
- c) Collecting operational monitoring data
- d) Resolving disputes
- e) Paying irrigation pumping costs.

4. Impacts of transferring authority to WUAs

In Lower Seyhan Irrigation Project (LSIP), there are currently 18 WUAs mostly established during 1994-1996. Their command area with irrigation infrastructure ranges from 1,650 hectares (Cumhuriyet) to 14,354 hectares (Güney Yüreğir)

and the number of members from 285 (Ata) to 4,731 (Toroslar) as shown in Table 1. The right bank, Tarsus Plain, has 8 WUAs and the left bank, Yüreğir Plain, has 8 WUAs. Although available data is limited, the impacts of transferring authority from DSI to WUAs can be mainly summarized in four points. Those are: i) reduction of O&M costs, ii) reduction of water fee, iii) increased fee collection rate by WUAs, iv) equitable distribution of water among head and tail farmers.

Table 2. Water fee by DSI and WUA in Region 6, Turkey

crop	Fee by DSI before 1994 (MTL/dc)	Fee by WUA 2003 (MTL/dc)
corn	10	5.5
soybean	8	4.5
cotton	15.5	5.5
melons	8	5.5

Source: Mert (2003). MTL: million Turkish Lira; dc: 0.1 hectare.

The assessment of irrigation scheme in Yüreğir Plain during 1994-5 indicated that the total O&M costs by WUA was only 41% of the cost paid by DSI (Scheumann, 1997). In case of LSIP, water fee became less than a fee assessed by DSI (Table 2). Stevenson and Nott (2000) reported, however, that water fee doubled when WUAs were established during the early 1990s. Since water fee is generally not only the cost of water but also a service fee of WUAs to farmers, there is a regional variation depending on the endowment of the WUAs and the above statement of Stevenson and Nott (2000) should be examined carefully. Also water fee for each crop is determined by WUAs before the next irrigation season. A wide range of water fees depending on the WUA may raise a question of equity among farmers in the irrigation project.

Fee collection rate, on the other hand, increased drastically. From 1989 to 1994, average collection rate by DSI was 37.6 percent (Yazar, 2002), while many WUAs could collect more than 70% of assessed fee in 2002 (Table 1). Also, farmers

consider water allocation became equitable among head and tail farmers compared to DSI regime. Therefore, WUAs had an impact of alleviating inequality along the distribution canal. Whether the efficiency of water use has improved by WUAs is another question to be answered.

5. Conclusion

The WUAs that were established rapidly after 1994 became the major actor of water management in Turkey. The benefits of reducing the O&M costs and alleviating inequality of water distribution are considered large. WUAs contribution on improving water efficiency and their basinwide impact of water use and allocation are still need to be investigated further.

6. References

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Table 1. Characteristics of Water Users Associations in Lower Seyhan Irrigation Project (July 2003)

no.	WJA name	Established	Conveyance canal	Main canal	şebeke içi [ha]	şebeke dışı [ha]	Member 2002	Water fee [MTL/da] (2002 corn)	Fee collection rate [%] (2002)	Parcel No.	Ave. Parcel size [ha]	Tenant /Landload ratio
1	Yeşilova	1994	TS0	TS3	3740	0	413	6.0	85	881	2.9	35/65
2	Altınova	1995	TS0	TS5	5379	0	694	5.0		1465	3.7	50/50
3	Toroslar	1995	TS0	TS1, 2	13700	0	4731	6.1	80	9795	1.2	30/70
4	Onköy	1994	TS0	TS8,9,10	8887	0	1589	6.5	77	4044	2.2	30/70
5	Çukurova	1995	TS0	TS3	6847	0	1757	6.0	85	3123	1.6	20/80
6	Yukarı Seyhan	1996	TS0	TS3	4150	0	734	6.0	79	1578	2.4	30/70
7	Seyhan	1994	TS0	TS3	3300	100	651	6.5	79	1288	2.3	15/85
8	Pamukova	1995	TS0	TS6,7	11982	0	2070	6.0		4956	2.2	50/50
9	Kadıköy	1994	YS0	YS8	9683	1886	1275	4.0	65	1640	5.2	65/35
10	Yüreğir Akarsu	1995	YS0	YS2	7523	0	918	5.0	91	1666	4.3	25/75
11	Çotlu	1994	YS0	YS4	2425	790	310	5.0	89	971	1.9	40/60
12	Gökova	1994	YS0	YS6	3315	0	435	5.3	80	734	4.5	60/40
13	Güney Yüreğir	1994	YS0	YS5,3	14354	2175	1620	4.8	73	3419	3.5	40/60
14	Yeni Gök	1994	YS0	(YS8) YS9	1864	2867	519	4.8	61	735	2.4	80/20
15	Cumhuriyet	1994	YS0	YS0	1650	0	606	6.7	90	1161	1.3	60/40
16	Gazi	1994	YS0	YS7	5650	1447	569	3.5	85	1270	3.8	30/70
17	Ata	1996	YS0	(YS7)	n.a.	4360	283	4.5	61	996	n.a.	30/70
18	Kuzey Yüreğir	1994	YS0	YS1	3070	539	1141	4.8	53	1133	2.6	70/30
19	Handeresi	1999	reservoir		260	0	179	11.4	69	240	0.9	20/80
20	Karaisalı	1996	reservoir		1343	0	480 (2108)	4.5	65	674	2	30/70

Note: şebeke içi=inside of infrastructure; şebeke dışı=outside of infrastructure. T=Tarsus Plain; Y=Yüreğir Plain