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Konya Ovası Proje Alanı Sulama Yatırım Fonları İçin Alacaklı Şirket ve Çiftçinin Katılımı Üzerine Bir Araştırma

Muhittin ÇELEBİ[1,2], Coşkun SAĞLAM[1]

[1]Selçuk University Çumra Vocational College, Konya/Turkey

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Özet

Konya Kapalı Havzasında geniş arazi varlığına karşın su kaynakları oldukça yetersizdir. İlk devlet yatırımının başladığı 1907'den bu güne kadar Konya Ovaları Projesi(KOP) ile 374.260 hektar alan sulamaya açılabilmiştir. Proje tamamlandığında 617.923 ha alan sulanabilecektir. Bütçeden KOP için ayrılan ödenek önemli boyutta artırılmazsa projenin tamamlanması çok uzun zaman alacaktır. Bölgede üretimden pazarlamaya kadar çözülmesi gereken önemli sorunlar mevcuttur. Bu yüzden projenin gerçekleşme hızını ve işletme karlılığını artıracak yeni yöntemler geliştirilmesi yararlı olacaktır. Bu bağlamda yatırımcıların ve çiftçilerin yatırım ve işletme yönetimine katılmaları faydalı olabilir. Bu çalışmada KOP alanındaki sulama kooperatiflerinin ve sulama birliklerinin yöneticileriyle ve çiftçilerle anket çalışması yürütülmüş, tarımsal altyapının finansmanına ve işletme yönetimine katılma konusundaki görüşleri sorulmuştur. Sonuç olarak, çiftçilerin75%'i yatırımlara katılabileceklerini ifade etmişlerdir.

Anahtar Kelimeler: *Konya Ovaları Projeleri(KOP), Üretim, Pazarlama, Sulama yatırımları*

A Research on Participation of Creditor Companies and Farmers To Irrigation Investment Funds in Konya Plain Project Area

Abstract

Konya Closed Basin (KCB) with very limited water resources has large-scale irrgated farmland. From 1907, 374.260 hectares (ha) area has been irrigated in Konya Plain Project (KOP). When the Project is completed, the irrigated area will be about 617.923 ha. Unless the budget appropriation is increased substantially, the project will be ended in a long time. Therefore, contributions of investors and farmers to the KOP investment fund for irrigation systems are necessary to accelerate the completion of those projects., After this, agricultural income will increase through a process of profitable production and marketing. In this study, farmers and directors of the Irrigation Cooperative (IC) and Çumra Water Users Association (WUA) were surveyed by regarding participation of the Creditor Company and farmers in the fund for investment and management of agricultural enterprises. The results showed that about 75% of farmers will contribute to the investment fund.

Key words: *Konya Plain Project (KOP); Production; Marketing; Irrigation Investment.*

Introduction

The demand for water, vital important, will continue especially for semi-arid regions of the world due to rapid population growth, urbanization, industrialization and irrigation. In Turkey, water scarcity problem is one of the most important issues on the political arena. Optimistic scenarios suggest that, by 2050, 30–40% more fresh water will be used in agriculture and global food demand will reach up 70–90% higher by comparison to current requirements. Under remaining water productivity in agriculture with present levels, water demands will increase by a similar amount (de Fraitur and Wichelns. 2007). In some areas of the world demand for water for various uses exceeds supply. For much of the world there is a pending crisis of water supply, not because of a shortage of water but because of mismanagement of water resources (Molden *et al.* 2007). Although worldwide the total amount of water made available by the hydrologic cycle is enough to provide the world's current population with adequate freshwater, most of this water is concentrated in specific regions, leaving other areas water-deficient. Whenever the demand for fresh water increases, a competition among municipal, industrial and agricultural sectors often ends up in a decreased allocation to agriculture (Qadir *et al.* 2003). Globally in agriculture, there needs to be investment of funds that will help address the needs in the areas of agricultural science and technology, policies and institutions, economic reform and global agricultural trade inequities. It has been estimated that there are sufficient land and water resources available to satisfy global food demands during the next 50 years, but if water is well managed in agriculture (de Fraiture *et al*. 2010 a, b).

The arable land of the Konya Plain is 2.659.890 ha, of which approximately 1.653.000 ha are cultivated

[2]*Sorumlu Yazar:* mcelebi@selcuk.edu.tr

every year while 1.008.306 ha are left fallow. Annual available water potential is 3.82 hm^3 and the irrigation water deficit is 8.2 hm^3 for the area. The irrigated areas are 374.260 ha as 23 %, (Ciftci and Kutlar 2007). The Konya Plain Project, the second largest agricultural irrigation project in Turkey, is the oldest project. Farmers in the Konya region have more experiences about irrigation than other regions of Turkey. The largest irrigated amount of the area in KOP is located in Çumra town. The Konya basin has some problems such as water scarcity, irrigation water management and agricultural policies. There are salinity and marketing problems as well in basin.

The main water resources of the Konya Plain are Beyşehir Lake and groundwater. Pinarkaya (2004) suggested that additional water resources are needed to irrigate whole cultivated lands of Konya basin. This problem can be solved by transfering water to the Konya Closed Basin from neighbour basins. The Konya Plain Project has three new dams, whose sources are the Göksu River and the Gembos Basin. KOP also includes municipal and industrial needs and the protection of wetlands. 414 000 hm^3 of water will be obtained from Göksu and 130.000 hm^3 from Gembos Basins to the Konya Plain by KOP. Even if Konya Plain Project is completed, only 617.923 ha of the total 1.900.000 ha irrigable land will be irrigated. Çelebi (2004) reported that irrigated area could be increased about 66 % and 88 % by uses of sprinkle and drip irrigation methods, respectively under well management. Furthermore, under conditions of completely water reserves uses, huge amount of land will not be irrigated. Therefore, irrigation water resources should be used efficiently in irrigation.

But it is also essential that higher level institutions such as the national law and water administration provide mechanisms and policies that increase security of access to users (Lautze and Giordano 2006, Trawick 2003). It should be noted that low profitability is due to deficiencies in agricultural policies and production as well as marketing projections in Turkey. Any measure taken to increase production without market guarantee will eventuately lead to failure (Tuzun *et al.* 2003). Agricultural cooperative credit associations and similar organizations are not at the desired level in Turkey (Akuzum *et al.* 2001). About one-third of the world's irrigated lands have reduction in productivity as a consequence of poor irrigation water management (Anonymous 1998). Implementing required technologies and finding or developing new markets are the most critical elements for success (Anonymous 2004). Modern irrigation systems, management systems and institutional arrangements are necessary to meet the multiple objectives of equity, environmental integrity and economic efficiency (Martinez *et al.* 2010). Water management models used in some countries are follows; The institutions Water Boards of "Waterschaps" in the Netherlands (Anonymous 2005), The National Water Resources Management System (SINGREH) in Brazil (Bragaa *et al.* 2009), The Tennessee Valley Authority in USA (Anonymous 2010), Integrated water resources management (IWRM) in the Ferghana Valley (FV) Project includes Kyrgyzstan, Tajikistan and Uzbekistan (Abdullaev *et al.* 2009).

This paper, therefore, focused on mainly irrigation water management strategies for Konya Closed Basin of Turkey.

Materials and Methods

The KOP area, one of the semi-arid climate regions of Turkey with an average rainfall of about 326 mm, includes Çumra, some parts of Karapınar, Karatay, Eregli, Beyşehir, Seydişehir, Akören, and a part of the Karaman province. Most rainfall has observed between May and September, so little precipitation falls within plant growth period. The geographical position of KOP project is 36º46 - 38º45' N latitudes and 32º07'-33º30' E longitudes. KOP includes the Çumra, Beyşehir and Gembos Basins as well as upper parts of the Göksu Basin. The elevation in the project area varies from 1000 m to 2877m. In general, soil in Konya plain is heavy-textured, in some parts of medium-textured and in a little part of coarse-textured. KOP project area is shown in Figure 1.

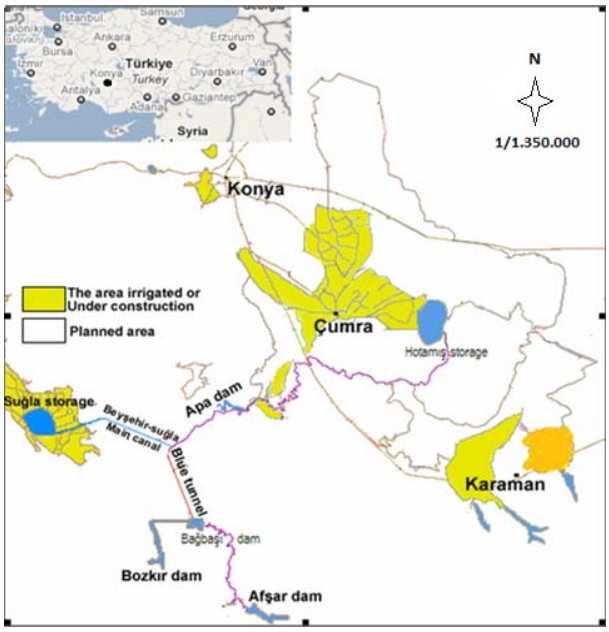

Figure1. View of the KOP.

The study was performed 140 randomly selected farmers and 21 managers of IC and Çumra WUA, in 2009. We examined four different models: two of them previously proposed by Selli *et al*. (2006) and other two models firstly proposed by us. The survey

was carried out by face to face survey technique. A sample of the survey is given in Table 1.

Results and Discussion

Table 1. A sample of the survey

Are you successful enough in production and marketing?	Yes	No		
How long does KOP take?	<10 years	10-20 years	>20 years	
Model 2: Credit agreements with the creditor for irrigation structures are made by WUA with credit guarantee by government.	acceptable	not acceptable		
Model 3: Fund should be provided by creditor, but credit guarantee should be given by the farmers with mortgage certificate.	acceptable	Not acceptable		
Model A: Investments are made by a creditor company under an arbitration committee consisting of representatives from the Government, the University, the relevant companies, and the farmers. All agricultural activities and marketing are carried out by the creditor company in the region. The jobs that do not require expertise will be hired out to the people living in the area. If the farmers who own land in the area do not want to work, a monthly payment determined by the arbitration committee will be paid to them. At the end of the year, this amount will be deducted from their profits. The creditor company will educate the local people about production and marketing.	acceptable	not acceptable		
Model B: The irrigation system is built by the creditor company. The company does not interfere in production and marketing, but carries out the distribution of water and maintenance of the facilities	acceptable	not acceptable		
Which type of company do you choose for model A and B?	National and foreign companies partnership	National companies	National companies and farmers partnership	If the company is succesful, the type of company is not important.

Table 2. Are you successful enough in production and marketing?

		Successful	Failure
Farmers	Number	13	127
	%	9.3	90.7
Managers	Number	2	19
	%	9.52	90.48
Total	Number	15	146
	%	9.31	90.69

In Table 2, about 90.7% of the participants stated that they were not successful in production and marketing. Farmers (90.7%) and managers (%90.5) had similar ideas. The findings of this study were in agreement with those reported by Tuzun *et al.* (2003) These results clearly indicate that model A is usefull for solving the production and marketing problems.

The results obtained from farmers, and managers within KOP are given in Tables 2- 5.

The participants expectations regarding the length of completion for the KOP and their answers are given in Table 3.

Table 3. How long does KOP take?

		<10 years	10-20 years	> 20 years
Farmers	Number	54	25	61
	%	38.54	17.86	43.6
Managers	Number	2	10	9
	%	9.52	47.62	42.86
Total	Number	56	35	70
	%	34.78	21.74	43.48

Totally about 34.8% of the participants think that the KOP project is going to complete in less than 10

years, and 65.2% of them longer than 10 years. The rates of farmers and managers expected in less than 10 years are 38.5% and 9.5%, respectively (Table 3). Expectations of the farmers and managers are considerably different. By comparison KOP with the Southeastern Anatolia Project, GAP, it is possible to say that farmers in KOP have positive expectation about project completation date.

Table 4. The opinions of the participants about Model 2, 3, A and B.

Models			Applicable	Not applicable
Model 2	Farmers	Number	106	34
		%	75.72	24.28
	Managers	Number	15	6
		%	71.43	28.57
	Total	Number	121	40
		%	75.15	24.85
Model 3	Farmers	Number	83	57
		%	59.29	40.71
	Managers	Number	10	11
		%	47.62	52.38
	Total	Number	93	68
		%	57.76	42.24
Model A	Farmers	Number	100	40
		%	71.43	28.57
	Managers	Number	16	5
		%	76.19	23.81
	Total	Number	116	45
		%	72.05	27.95
Model B	Farmers	Number	117	23
		%	83.57	16.43
	Managers	Number	17	4
		%	80.95	19.05
	Total	Number	134	27
		%	83.23	16.77

The farmers have not examined about Model 1 proposed by Selli *et al.* (2006). Since we think that farmers may not able to find the funds or credit for the investment without the leadership and guarantee of the government. In the past, government had difficulty about receiveing the money from the farmers.

The responses of the participants about model 2, 3, A and B were were given in Table 4.

In examine models, the dams, tunnels and main canal will be constructed by the government, but funds of secondary canal and other infrastructures will be costed by farmers. Currently, the cost of those infrastructures built by the General Directorate of State Hydrolic Works (DSI) is reimbursed by over a long term. In Table 4, the participants stated that they may contribute to the cost of these facilities in long term. The study results showed that 75.2% and 57.8% of participants stated that model 2 and model 3 are applicable, respectively. By removing lien in model 3, the rate of participants rejected model 2 will decrease from 42.2% to 24.9%. Although Model 2 and 3 were applicable, Model A (72.1%) and B (83.2%) were preferred greater by the farmers. The main reason for the decreasing tendency could be fear of losing their lands by lien. The participants accepted model A and model B were 72.1% and 83.2%, respectively. By eliminating problems in production, financing and marketing partially or completely with application of model A and B, farmers can have a positive tendency toward these models. However, due to business activities and authority transfer in model B, it may be preferred more than model A. Although both farmers and managers approved models A and B, farmers preferred model B (83.6%) to model A (71.4%).

The participants accepted models A were asked the additional question as "Which type of company do you want to prefer?" Their responses are presented in Table 5.

The partnership of national companies with farmers as 43.1%, national companies as 32.8%, with total of 75.9% of participants have preferred national company. Few participants as 6.9% have preferred national and foreign companies' partnership.

Table 5. If you accepted models A, which type of company would you prefer?

		National and foreign companies partnership	National companies	partnership of national companies with farmers	If the company performs businness succesfully, type of company is not important
Farmers	Number	6	33	44	17
	%	6	33	44	17
IC and WUA Managers	Number	2	5	6	3
	%	12,50	31,25	37,5	18,75
Total	Number	8	38	50	20
	%	6.9	32.76	43.1	17.24

Conclusion

The study was carried out to determine the expectations of farmers about suitability of some Models for KOP. The farmers were examined by applications of four different Models and their production and marketing problems. Although all models have the capacity for solving the problems, they have some advantages and disadvantages. In present research, Model B

was preferred more followed by Model A. Such Models were more practical for eliminating problems associated by production and marketing. Irrigation increases crop yields significantly especially in arid and semi-arid regions. By use of these four models, irrigation projects will be completed earlier due to the not having butget problem. In this context, farmers will be responsible for paying the all irrigation systems costs so that those irrigation structures will be well managed.

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