THE POTENTIALS FOR SUCCESS: UZBEK LOCAL WATER MANAGEMENT

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SUMMERY

The paper identifies the potential strengths of the Institutional Management Transfer (IMT) in Uzbekistan. Three strong characteristics of the Water User Associations (WUAs) in Uzbekistan are evaluated, the size of the member farm, its specialisation and the experience of the leadership of the WUA chairman. The paper concludes that strong and sustainable WUAs have the potential to manage water at the local level efficiently and equitably. WUAs can also take over parts of the cost of Operation and Maintenance (O&M) of the irrigation and drainage system. WUAs are known to be able to adapt to water shortages.
INTRODUCTION

Compared to other Central Asian countries the Irrigation Management Transfer (IMT) from public institutions to local users and the creation of Water User Associations (WUAs) has been slow in Uzbekistan. However, in the spring of 2000 the Uzbek government started to transfer irrigation schemes to local users. Uzbekistan has the advantage as late developer to benefit from the experience of other Central Asian countries, such as Kyrgyzstan, which privatised agriculture and introduced WUAs soon after independence in 1995.

The purpose of this study is to evaluate the potential strength of the IMT process in Uzbekistan. A brief case study from Kyrgyzstan’s IMT is used to demonstrate problems experienced there, which have been avoided so far in Uzbekistan. The paper focuses on three main characteristics of the Uzbek Water User Associations (WUAs), which imply strength, namely the size of the member farm, the nature of its specialisation and the experience of the leadership of the WUA chairman. The significance of establishing strong and sustainable WUAs is not only to manage water at the local level efficiently and equitably, but also to take over some of the costs of Operation and Maintenance (O&M) of the irrigation and drainage system. Strong WUAs are needed to adapt to water shortages, which impact water management on the national and regional level.

Identifying the political strategy

The late implementation of IMT indicates that IMT was not a high priority of the Uzbek government. Two agricultural policies dominated the first decade of independence: first, the stabilisation of cotton production and secondly the increase in food self-sufficiency on the local and national level. The importance of these goals was firstly to stabilise exports of the cash crop cotton, the main income of the Uzbek leadership, and secondly to implement food self-sufficiency as nationalistic goal of sovereign and independent Uzbekistan. The transfer of the O&M of the irrigation and drainage system to local water users had a low priority and is still hesitantly implemented. The purpose of IMT in Uzbekistan is to enable local users to take over the role as service provider for the irrigation and drainage system.

Background

Uzbekistan gained independence in 1991, and started to reform its agricultural sector from 1992 onwards. The restructuring differed from those in other Central Asian states. While Kyrgyzstan implemented privatisation of its agricultural sector in an early stage, Uzbekistan’s government opted not to abandon its control over the agricultural sector. Uzbekistan emphasised two aspects, first state-owned farms were transformed to collective or co-operative farms and secondly, household plots for agricultural production were increased in size from 0.1 ha to 0.25 ha of irrigated or 0.5 ha of unirrigated land. Little emphasis was placed on the establishment of private farms. In the mid nineties the land was still distributed unevenly among the different users: households plots accounted
for 530,000 ha, peasant farms for 350,000 ha and collective and co-operatives for 3,500,000 ha.

In 1996 the Uzbek government decided to establish WUAs on inefficient former state and collective farms. The Central Asian Irrigation Research Institute (SANIIRI) was contracted to research the experience of other countries with WUA. In addition to this, the European Technical Assistance to the Commonwealth of Independent States (TACIS) together with the government established a test project in 1998, which had as its objective to start a WUA in the Syr Dar’ya region. In 1999 SANIIRI finished its research and presented its results. In February 2000 the government decided to start privatising selected farms and ordered by decree the establishment of WUAs on these farms. (informal interview with Dr. R. Ikramov, General Director of SANIIRI July 2000). Until then the collective and co-operative farms were responsible for the irrigation and drainage systems within their territory. Privatisation did not only imply a shift in responsibility for the system but also a shift from on-farm to inter-farm management. By the summer of 2000 twelve WUAs had been established in 3 oblasts of Uzbekistan, five in Khorezm, five in Karakalpakstan and two in Syrdarya. The total area of WUAs in the oblasts were 9,500 ha, 13,500 ha and 6,000 ha respectively. In addition, Syrdarya had two unregistered WUAs.

Success story: meeting high priority goals

UN Food and Agricultural Organisation (FAO) data indicates that Uzbekistan succeeded in the main goals identified, namely to stabilise cotton production and to achieve food self-sufficiency during the process of land reform. The area allocated to cotton declined only from 1.6 to 1.5 million hectares in the time period from 1992 to 1999. The area allocated to wheat increased from 0.6 to 1 million ha. The yield per hectare doubled. (a possible explanation is the emphasis the government gave to secure grain production and its willingness to allocate and to substitute fertilizers and pesticides to achieve this goal.) Increasing the size of the household plots stabilised the income of the rural population. Unemployment increased during the period of transition, but the rural population was able to rely on its own agricultural production for additional income. The state reforms pursued the strategy of stabilisation of the rural areas through land allocation. Land allocation has been used to supplement the reduced incomes associated with unemployment.

Problems for low priority goals?

Spoor points out that ‘there is a fear that the break-up of large production units into small peasant farms will lead to deterioration of the existing irrigation structures’. (Spoor, 1999, p.7) In addition to the problem of water system deterioration, is the problem of ‘collective action’ to achieve equitable and sustainable water management. Furthermore, a rise in the number of water users is positively correlated to the occurrence of conflict over scarce resources. The more fragmented system also increased the transaction-costs of co-operation, implementation and monitoring of agreed procedures. The initiative of the government in 1996 to research possible types of WUAs suggests, that the government
was afraid of initiating the transition of state farms to private farms without first setting-up institutions, which would guide the farmers in managing the irrigation systems. Transition without a framework would have weakened the irrigation structure and endangered the production of cotton and grain crops.

**Land reforms: a trigger for local conflicts and unsustainable rural systems?**

**Case study: land reforms in Kyrgyzstan**

Land reforms in the Central Asian states have increased the number of water users. Former on-farm irrigation canals have become transformed into inter-farm irrigation canals, without any facilities for measuring water use at the outlets to the individual farms. Privatisation has aggravated the complexity of the new water-use situation.

New conflicts over water resources are associated with the emergence of the new small-scale farms. Kyrgyzstan is a primary example. While in 1990 450 state and collective farms existed, by 1996 the number of farm enterprises had increased to 40,000. Out of these 38,000 are small-scale farms, with an average arable land area of less than 9 hectares. However, a study on WUAs in Kyrgyzstan conducted by the Social and Economic Research Associates (SERA) indicates that the average allocated plots of WUA members are even smaller. The study has been conducted in three villages, of which two are in the Osh and one in the Jalalbad oblast. The average size varied between 0.11 ha in Aq Tash, 0.8 ha in Ali Anarov in Osh and 0.11 ha in Kenesh in Jalalabad.

The high number of water users increased the potential for local conflict. Indeed, SERA reports small-scale conflicts over local water resources. The disputes are about the quantity and the quality of water. Conflicts-situation arise between individual farmers at the front and the tail of irrigation systems. Farmers complained “about the poor availability of the water as well as its poor quality”. (SERA 1999, p.31) Furthermore, SERA points out the potential for conflict “between whole settlements or villages at the head and tail end of the canals”. (SERA 1999, p.31)

The farm size has implications for the livelihood strategy of the individual farmers. SERA indicates that the rural population in Osh does not only depend on agricultural production. Hence, farming is not a full-time profession. The income-structure has diversified. According to SERA rural households depend for 47 per cent of their income on salaries, 25 per cent on subsistence production, 15 per cent on agricultural income and the remaining 13 per cent comes from pensions, trade and benefits. Hence, rural household cannot sustain themselves from their agricultural production alone.

Shah, in his research on IMT in the small-holder irrigation context, identifies a diversified livelihood strategy of farms and the small size of farms as constraints for the sustainability of WUAs. He reasons that “the small holder is less a peasant and more of a farm worker with limited entrepreneurial skills”, furthermore, because of the small irrigation plots farmers “pursue a diversified portfolio of income-earning activities which limit their stake in the irrigation system.” (Shah 2000, p.3) He concludes that small-scale farmers are often unable to mange the scheme and the “management transfer then often reduces to plain abandonment”. (Shah 2000, p.3) These lessons and identified dangers can be helpful for IMT in Uzbekistan.
Advantages of the Uzbek IMT:

Size

The size of farms in Uzbekistan is on average larger than the farms in Kyrgyzstan. Data from two WUAs in the Syr Dar’ya and Khorizm oblast indicates that the size of the member farms of the WUAs is on average 22 ha and 14 ha respectively. Rural households with small land plots were not eligible to become members of the WUAs. On the one hand this approach seems reasonable because household plots are only 0.25 ha, furthermore the number of rural households using irrigated water is large, this would complicate the structure of duties for the members for O&M as well as for the participation in the WUA itself.

However, evidence of the role of household plots during the time of the Soviet Union, leads to the suggestion that households use their irrigation plots intensively for food production. Using water in a irrigation scheme causes externalities to other users, in terms of quantity, quality and availability, furthermore household plots rely together with larger farms on the same irrigation and drainage system. Consequently, household, which make use of the systems, should bear some of the responsibilities of the WUA. However, it is questionable whether households should be full members with equal voting rights and with equal responsibilities for operation and maintenance of the system.

The constraining factors on households joining WUAs outnumber the potential benefits. Undoubtedly, there is a positive relationship between the number of members of WUAs and the level of the associated transaction costs. Small numbers of members face lower transaction costs. Shah argues that the kind of agricultural production (subsistence or commercial) is relevant for the success of the IMT. He claims that the quality of irrigation service is positively connected to the net income/hectare through improvements in productivity. He suggests, “net income/hectare from low-input subsistence agriculture is far less responsive to irrigation service quality compared to commercial agriculture”. (Shah 2000, p.10) Hence, commercial farmers not only have a higher productive capacity but also would have a higher willingness to accept higher costs of self-management of the system. Subsistence household farmers have less incentive to assure the costs of the better services, provided by WUAs.

Shah continues to reason that “international IMT experience suggests that all or a majority of farmers in successful IMT cases are full-time farmers deriving a substantial proportion of their livelihoods from irrigated farming”. (Shah 2000, p.15) This is because for commercial farmers the total cost in percent of operation and maintenance is lower than for subsistence farmers. Income from small-holdings provides only a small part of the income of the individual households. Hence, small-holders will be worse off when it is expected that they have to contribute to the costs of managing and financing the irrigation scheme.

Government policy that farms specialise in cotton and grain production may lead to the creation of a profitable commercialised sector, as soon as prices determined by the state have been abandoned and farmers will be able to get the appropriate prices for their
products. Lipovsky points out that the specialisation in cotton crops is not only more profit yielding than food crops, but it also provides more jobs in agriculture. (Lipovsky, p.536) Hence, the commercialisation and specialisation in cotton has a number of positive impacts on rural communities in Uzbekistan.

Leadership

A constraint on smooth and successful IMT in Central Asia is the fact that the operators of state and collective farms were not independent farmers but specialised employees of large agricultural businesses. Hence, their training was task specific and for the majority of workers did not include knowledge of managing a farm, or of the O&M of the irrigation and drainage system. Furthermore these operators were inexperienced in entrepreneurial decision-making. Consequently, the task of managing a farm, and taking full responsibility for the O&M of the irrigation and drainage system is new to them. Inexperience in the face of the new management challenges might explain why newly independent farmers as members for WUAs tend to nominate and vote for managers or experts of the former state or collective farms. (compare SERA report 1999, Baumann 1999, Johnson III 1999) The analysis of collected data from field trips in Uzbekistan to a WUA in Khorezm oblast (study on the sustainability of WUAs in Uzbekistan/Kyrgyzstan for the International Water Management Institute (IWMI)) indicates that the representatives of the WUA do not share the same interests as the members of the WUAs. For example, a principal-agent analysis of the management-structure of the WUAs in Uzbekistan indicates that the representative of the WUA (the agent) has different interest than the body of members of the WUA (the principal), and therefore the representative would not act on behalf of the members of the WUA. The conclusion is based on the fact that the representative of the WUA, even though a water user, does not have to be a member of the association; hence, he/she does not share the same burden as the members. These burdens include firstly the costs of O&M, secondly the obligation to follow a policy of agricultural production. In addition, the representative of the WUAs is less prone to uncertainty because he/she can diversify his/her strategy for livelihood security.

Where there are functional participatory WUAs the agent (the representative of the WUA) would be farmer him/herself. This would guarantee that the agent would share the same interests as the other farmers, and that he/she would benefit from a functioning WUA, because the agent (the representative) would belong to the group of principals (farmers) him/herself. Furthermore, the agent would be under the pressure of normative compliance and would be morally obliged to act to the benefit of the whole community of principals. This would also have the benefit if he/she would act according to the rules him/herself, then the other members of the WUA would more willingly follow the rules as well and water allocation disputes would be more easily resolved. Overall the implication is that the agent if also a principal would have the incentive to maximise his/her own benefit by maximising the benefit of the members and to make the WUA a long-term sustainable venture.

However, case studies from other countries (such as Turkey) show that there is not always a direct link between principal and agent; for example the heads of villages or mayors of municipalities take the responsibility for water distribution and O&M. (Svendsen and Nott 1997, p.3) The role of the principal can be merely a social function without them being a stakeholder or an agent themselves.
Svendson and Nott emphasise that the chairman “is the key figure in the association and provides leadership, direction, and executive action.” (Svendsen and Nott 1997, p.8) Meinzen-Dick points out “the importance of leadership (…) to reduce the costs of interaction and organisation and act as a catalyst for the emergence of cooperation”. (Meinzen-Dick 1994, p.16) It seems reasonable to assume that a chairman of a WUA is chosen because of his/her status in the community, or his/her experience. The former manager of the state or collective farm fit both these qualifying characteristics. Hence, even though the chairman is not a principal him/herself, it might have advantages in terms of reducing transaction costs and achieving compliance. Meinzen-Dick argues, “the skills of individuals occupying leadership positions are as important to WUA success as the definitions of the roles themselves”. (Meinzen-Dick 1994, p.30)

Given the situation that the new farmers are not trained in the diverse skills required for irrigated farming and water management, it seems to be a practical solution that the old managers of the former state and collective farms have guiding positions. Especially, taken into consideration that in Uzbekistan the irrigation system lacks appropriate monitoring systems to measure the intake of water at the farm level; hence, a strong figure to facilitate co-operation is necessary.

The pilot project of TACIS in Uzbekistan has proven to be sufficiently successful in terms of local participation, the co-ordination of collective action, conflict prevention and resolution and water management at the local level. The project succeeded without the influence of former main stakeholders. Considering this success, it seems reasonable to assume that the transitional phase of IMT on the local level can be guided with the assistance of NGOs and international organisations. Assistance is necessary for initial guidance to find acceptable solutions for community based local water management and to train newly independent farmers on their responsibilities with respect to the O&M of the irrigation and drainage system. The pilot project demonstrates that it is possible to succeed in establishing a WUA without of the old nomenclatura or other elite groups.

Conclusion: Benefits for Uzbekistan

A comparative evaluation of land reforms in Kyrgyzstan and Uzbekistan indicates that Uzbekistan has two advantages for implementing Irrigation Management Transfer. First, Uzbekistan has the advantage of large farms, which will be capable of functioning as commercial agri-businesses. Secondly Uzbekistan has strong leadership in its WUAs, which guides farmers to manage water more efficiently and equitably. Both characteristics will enable Uzbekistan to establish strong and sustainable WUAs, capable of taking over some of the costs for operation and maintenance of the irrigation and drainage system.

The example of Pakistan demonstrates, that functional WUAs are able to manage scarce water on an equitable basis. In the long-term it will be possible to raise awareness of the significance of water scarcity to induce shifts to more water saving techniques. This could lead to either further agricultural development or to water savings for the environment i.e. the Aral Sea. Such measures would reduce the tension over water in Central Asia.
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