WATER USER ASSOCIATIONS IN UZBEKISTAN AND KYRGYZSTAN: STUDY ON CONDITIONS FOR SUSTAINABLE DEVELOPMENT

by

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Occasional Paper No 32

Water Issues Study Group
School of Oriental and African Studies (SOAS)
University of London
August 2000

In cooperation with:

INTERNATIONAL WATER MANAGEMENT INSTITUTE
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ACKNOWLEDGEMENT

The author would like to thank the support team in the CGIAR programme facilitating unit in Tashkent, for the organisation of the research trip. Furthermore, the author is grateful to Dr. V. Horinkova (IWMI) and Mr. M. ul Hassan (IWMI) for their support and guidance.
INTRODUCTION

This report focuses on the newly emerging Water User Associations (WUAs) in Uzbekistan and Kyrgyzstan. Even though this report attempts to give an overall impression of the situation of WUAs, one has to keep in mind that the available information about WUAs in these countries is rather scarce and that the process of WUAs formation and establishment is ongoing.

The information about WUAs in Uzbekistan was collected during informal interviews and discussions with members and representatives of WUAs in the Syr Dar’ya oblast and in the Khorizm oblast. Furthermore, experts on WUAs from the Scientific-Information Center of the Interstate Commission on Water Coordination (SIC ICWC) and the Central Asian Irrigation Research Institute (SANIIRI) were interviewed.

The information about WUAs in Kyrgyzstan is based on literature review of reports on WUAs in the country from 1999 to date. There are ongoing projects in Kyrgyzstan with the aim to establish more WUAs. Therefore, it is assumed that the result of the evaluation undertaken is not ample as the process of WUAs formation is still continuing.

The objective of this report is to explore the recent development in Uzbekistan and Kyrgyzstan and to indicate the opportunities and constraints for future developments of WUA in the region.

LAND REFORM IN UZBEKISTAN AND KYRGYZSTAN

Uzbekistan

Uzbekistan became independent at the same time as the other Central Asian states. However, Uzbekistan did not opt to reform the agrarian sector as it happened in Kyrgyzstan. In 1991 two different types of farms existed. There were 971 kolkhozes and 1137 sovkhozes. In 1992 and 1993 500,000 ha (around 12 per cent of cultivated land) was distributed to state and collective farm employees as household plots. A further 100,000 ha of land was allocated to establish livestock farms. These farms could receive between 0.3 and 2.0 ha per head of cattle. However, the government mainly transformed the sovkhozes into different economic forms. In 1993 nearly all of the state farms (95 per cent) were transformed into joint stock companies, co-operatives or collectives. The number of kolkhozes increased from 971 to 1,374 in 1996. The distribution of land is as follows: private sector (households) 530,000 ha, farms 350,000 ha and collectives and co-operatives occupy 3,500,000 ha, respectively.

Since the beginning of the year 2000 further distribution of land has taken place. The land of unproductive kolkhozes has been allocated to their former employees. The

1 Kolkhozes are collective farms.

2 Sovkhozes are state-owned farms. While sovkhozes were financed by the state and their entire output had to be delivered to the state, the kolkhozes had their own budget and therefore were able to sell at the market. However, the difference of names deceives. The state set the production target for the kolkhozes and had also the monopoly on the market, hence the state controlled the demand. Only the surplus production of the kolkhozes was sold on the internal kolkhoze bazaars.
allocation of land depended on the density of rural population and available land. In the WUA visited in the Syr Dar’ya oblast the distributed land to private farmers and households was equal. In Khorizm oblast the situation was different, here the pressure to farm the land was much higher, this lead to smaller household plots. In Khorizm oblast the household plots did not exceed 0.25 ha.

Up till now only unprofitable farms have been privatised in Uzbekistan. Consequently the pressure on the new established farmers is higher.

Kyrgyzstan

After independence the Kyrgyz Government privatised the land used for agriculture and reformed the law on private property. The former collective and state farms were abolished and their land was divided into shares depending on density of rural population and available land. The transfer of land went along with a legal reform, which gave the new owners the right to sell and to rent property. In the follow up of the reforms a variety of different farm enterprises were established. Currently these can be distinguished as farms, peasant households, collective peasant farms, joint stock companies, agricultural co-operatives and state farms. One of the consequences of the land reform was that the number of land-share holders increased dramatically.
CASE STUDY: WUA IN UZBEKISTAN

BACKGROUND TO THE ESTABLISHMENT OF WUA IN UZBEKISTAN

In 1996 the government of Uzbekistan contracted SANIIRI to research the experience of other countries with WUAs and to establish a framework for the legal and organisational establishment of WUAs in Uzbekistan. In 1998 the European Technical Assistance to the Commonwealth of Independent States (TACIS) started a project with the government, which included 14 private farms on parts of a former state farm. The objective of the project was to rehabilitate the irrigation system, to train the farmers and to establish the first WUA. The Uzbek government could not contribute the promised funds. Consequently the rehabilitation of the irrigation system is unfinished.

In the beginning of 1999 SANIIRI completed its work and presented the results to the Ministry of Agriculture and Water. In February 2000 the government decided to continue with state farm privatisation. Unproductive collective farms became completely privatised and the land was distributed among the former farm employees.

Formerly, the state farms were responsible for the maintenance of their canals and of on-farm irrigation networks, the drainage systems and measures against the rising level of salinity. During the last decade the maintenance of the irrigation system declined. The government assumed that further privatisation would deepen the gap in fulfilling the required service and ordered by decree the establishment of WUAs. The intention was that WUAs would take over the former state and collective farm’s role as a service provider for the irrigation system.

In the TACIS project, the control of the system was handed over to the farmers in June 2000 and since then the WUA is working independently. The government originally intended to rehabilitate the old on-farm irrigation system fully and to hand over a completely restored and perfectly working system to the WUAs. It was also anticipated that the farmers would be trained and prepared for becoming more independent. Although there are already 12 WUAs established, but their system is not in perfect working condition. The training phase of the farmers has not completed.

LOCATION OF THE EVALUATED WUA

In this paper the data collected from two WUAs are compared and analysed. The WUAs are in two different oblasts, Syr Dar’ya and Khorizm. While the Syr Dar’ya oblast is in the eastern part of the republic, next to the Tashkent oblast; Khorizm oblast is in the north-west of the republic next to Karakalpakstan.

SIZES OF THE WUA MEMBER FARM

The WUA in the Syr Dar’ya oblast had two distinct types of members: private farms and households. The land allocated to individual farmers was 15-30 ha and to households around 20 ha each. The difference between the two is that farmers had land on lease for 10 years while households had only for 1 year. Altogether the WUA consisted of 14 farmers and 16 households. The situation in Syr Dar’ya oblast is an exception, in terms of the size of household farms.
While the former state farm in the Khorizm oblast occupied 963 ha, the WUA occupied only 761 ha of irrigated land. The remaining land was distributed to households as small plots of 0.25 ha and to former state farm employees who did not want to become farmers. Each of these former employees had a plot of 1200m². On the territory of the state farm are now 53 private farms with an average of 14 ha each.

While in the Syr Dar’ya oblast households and farmers could become members of the WUA, in the Khorizm oblast this was not the case. There, the small landholders had a plot of land, which was dependent on irrigation, but they could not become members of the WUA. Therefore, small landholders had no responsibility for the irrigation system as such. It seems that the decision to exclude small landholders was based on the small size of the land plots. It is also possible that this was a decision based on control and power relation. It is easier to control a small number of WUA members than a large number in which small plots are included, and small landholders have the same rights as large farms.

**Reasons for forming a WUA**

It seems that in 1996 the government decided to establish WUAs by contracting SANIIRI. The formation of WUAs on privatized farms was ordered by presidential decree in the beginning of the year 2000. Therefore, the farmers had no other choice but to respond positively to the formation of the WUA. If they had refused then it is doubtful that they could become independent farmers. In the case of the WUA in the Syr Dar’ya oblast, the initial 14 members were joined by 16 households. Due to the suggested evidence it is questionable that this was based on a free decision. As a result farmers and households have a weak legal status. In addition government authorities can take the distributed land away. This suggests that the farmers and households were not in a position to oppose the formation of WUAs and did not participate by any means to form the WUAs.

**Top-down or bottom-up strategies for initiating a WUA**

As stated above, the formation of WUAs was ordered. The state initiated the research in WUAs and contracted SANIIRI to provide guidelines for WUAs to be set up and to give advice to the new institutions. SANIIRI not only worked very closely with the established WUAs, it also established research stations in the villages to keep record of the changes.

It seems that at the local level in the Khorizm oblast the former state farm manager had responsibility for the formation of the WUA. The fact that WUAs are not established voluntarily within the local community implies that either representatives of the state or the former state farms have to initiate WUAs. This indicates that the WUAs are established through a hierarchical structure from above and do not represent local movements or initiatives.

**Interest in establishing a WUA**

During interviews with SANIIRI experts it was argued that the farmers were happy that the old system was disappearing and that farmers were willing to establish WUAs. As confirmation for this trend was mentioned the increase of members in the WUA in Syr Dar’ya oblast, the number of members increased from 14 to 30. Furthermore the experts expected that the number of WUAs would rise in future.
However, there seems to be no WUA activity. As argued above, one of the conditions for privatisation was that the private farmers had to be organised in WUAs. Furthermore, prior to the formation of the WUA in the Syr Dar’ya oblast TACIS had repaired the irrigation system for the first members of the WUA. It could be assumed that the late joiners were hoping that their irrigation systems would be rehabilitated as well. Farmers have an interest to form a WUA if they can have the system repaired so that it delivers water to everybody.

The land reforms have just been implemented. Their only experience is as state farm employees where the state farm takes responsibility for the irrigation system. It is arguable that because the farmers are used to the fact that the state takes responsibility of the system they have now the expectation that the state will continue to be in charge of the irrigation system. The state promise ‘to rehabilitate the system’ could lead to a manifestation of this assumption.

It can be concluded that farmers have no motivation to form WUAs and that the establishment of WUAs does not imply that farmers are convinced about the functions of WUAs.

WILLINGNESS TO PAY

In both WUAs fees had been collected neither for the WUA nor for the operation and maintenance of the irrigation system. The representative of the WUA in the Khorizm oblast expected that the fees would cover the maintenance of the irrigation and drainage system, the maintenance of the hydrological machinery, and the wages of the employees of the WUA. However, interviews with farmers indicated that farmers were not even willing to pay the full price of operation and maintenance, without freeing the prices for their products and abandoning the state order system. Farmers in the Syr Dar’ya oblast stated, that the land is now their responsibility and that they are taking care of the land and of the irrigation system. Even though they could not afford payments for the maintenance of the irrigation system, they were willing to invest their labour, and to maintain the system by themselves.

WATER CHARGES

Every water user, household or farmer has to pay a water tax. The tax is 0,11 soum/m³ water. At present the metering takes place at the take over point, which is at the border of the former state farm. The WUA collects the tax from the farmers. In the WUA in the Syr Dar’ya oblast no problems were reported about tax collection. Even though the farmers could not determine how much water does the individual farm or a household plot use. The tax was so low that the payment did not lead to disputes among the water users. Farmers calculated that the tax was only about 1 per cent of the total farming cost. An expert from SANIIRI stated that the real price of water is 0,9 soum/m³.

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3 However, in the Syr Dar’ya oblast the irrigation system is utilising cannalets, which are already 30 years old. (nominal life expectancy is 25 years) For the repair and maintenance of the system skilled and trained labour will be necessary and it is doubtful that the farmers can take over this responsibility by themselves.

4 This figure is still very low. At the time of the field research US$ 1 had the value of 600 Uzbek soum.
The government plans to introduce water charges, which reflect the real situation in Uzbekistan. These charges take into consideration: first, the region in which the farm is located; second, the source of water (canal or directly the river), and third the quality of the delivered water. The first two criteria resemble the costs of water delivery, such as energy cost for pumping stations, maintenance of canals and hydrological equipment. The third criteria highlights the fact that irrigation water downstream is not of the same quality as water upstream. Hence, the efficiency of irrigation is reduced because of differences in water salinity. In the present situation because of farmers lacking funds these water charges cannot be implemented.

**ELECTIONS**

The SANIIRI expert confirmed that the election procedures in the established WUAs were open and fair. Farmers nominated their own candidates. However, this does not imply that the farmers knew about the principles of the WUA or that they were informed about the responsibilities of the elected representatives or about the financial consequences. While in the WUA in the Syr Dar’ya oblast the farmers voted for a farmer and were convinced that only farmers were allowed as candidates, this was not the case in the Khorizm oblast, where the former state-farm manager was elected. The former manager was not a farmer himself and therefore was not a member of the WUA. In the Khorizm oblast households and small holders were not members of the WUA and had therefore not the right to participate in the elections even though they were directly affected by the policies of the WUA.

**WUA LEADERSHIP**

During the field visit, it was not possible to attend an official meeting of the WUA. However, during the meetings with the WUA representatives and farmers in the Khorizm oblast, it became evident that the members delegated responsibility mostly to the chairman of the WUA, who took control. When directly approached, the board members avoided answering questions and waited for the chairman to answer the questions for them. This differed from the situation in Syr Dar’ya oblast where the farmers were more willing to participate in a discussion and to answer the issues raised. This could be taken as an indication that the WUA in the Syr Dar’ya oblast had more grass root level participation.

**REPRESENTATIVES OF THE WUA**

In the Syr Dar’ya oblast the WUA had elected only two representatives, a president and his assistant. In the Khorizm oblast the situation differed tremendously. Different elected bodies supported the private farms. They had a WUA and a farm organisation, which was responsible for the problems the farmers faced with banks, government departments, delayed payment and subsidies. Furthermore, a land planner who gave recommendation for the cropping systems and planned production supported farmers. It seemed that the former high-level farm employees just took over the control. However, this group was dominated and controlled by the chairman of the WUA.

**PARTICIPATION OF THE WUAs MEMBERS**

No meetings had taken place in both WUAs since the initial election phase. In the Syr Dar’ya oblast the members of the WUA were not interested in the WUA, since water was not scarce. However, farmers worked together in terms of sharing water. They
distributed the water accordingly with a time schedule of delivery. Furthermore, farmers traded their water rights. If the farmers did not need the water on the day, which was allocated to them, they exchanged the water allocation day with other farmers of the WUA.

In both WUAs it was not anticipated to have any meeting during the year 2000, although the water situation in the Khorizm oblast was less favourable for the farmers and the problems with water stealing was the main concern of WUA representative. It is questionable that farmers had the possibility to participate actively and to voice their problems.

The willingness to participate and to identify participation as an activity of members of the WUA is difficult to evaluate. In the Syr Dar’ya oblast farmers participated they communicated about the water allocation and distribution and exchanged their water rights. However, it is difficult to differentiate whether farmers acted as neighbours of a village or as members of a WUA. That no meeting had taken place in the Syr Dar’ya oblast cannot be identified as lack of participation. If there were no issues to resolve no meeting was necessary. The interviews indicated that the farmers were not well informed about the constitutional framework of the WUA. This could be interpreted as lack of interest in participation in the institution. They were only interested in practical issues, which were related to farming. However, it is questionable if farmers received any information about the framework of the WUA.

In the Khorizm oblast the level of information of the farmers about the WUA was based on the time they joined the WUA. Latecomers were not aware of the operations and functions of the WUA.

**Training of Members**

In both WUAs it was claimed that initial training sessions for the farmers had taken place. However, during interviews it became evident that not all farmers had participated in the training sessions. There was no training given to farmers who joined the WUA at a later date. Furthermore, the chairman of the WUA in the Khorizm oblast stated that the farmers did not need training as such, because they lived and worked on state or collective farms and therefore they had the necessary experience. However, he admitted that the former employees of the farms were specialized in specific activities, such as tractor operators. This indicates that their knowledge of how to operate and manage a farm economically is limited. There was no evidence about the training courses provided. It is questionable whether training took place and if it did what was its duration and intensity.

**Conflict Management and Dispute Resolution**

In both WUAs there were no mechanisms to measure if the water distribution was fair and equal, however the level of conflict varied. In the Syr Dar’ya oblast the members of the WUA did not have any conflicts regarding the distribution of water. Water was not perceived as a scarce resource. The water was shared among the village community and the farmers looked after each other's interest.
In the Khorizm oblast the situation was different, water was perceived as a scarce resource. The chairman of the WUA stated that the equal distribution is at present the biggest problem of the WUA and water disputes are common.

It can be assumed that there will be an additional potential conflict in the Khorizm oblast in the future. Small land shareholders and households use the irrigation system, but are not responsible for the maintenance of the system. Additionally the water intakes to the small plots are not measured. This implies that the households and small plots benefit from the system without taking any responsibility or liability for the system. This policy is an invitation for misuse. Even though, it is arguable that the allocated plots are only for subsistence. In 1995 household plots occupying only 15 per cent of the land produced 76 per cent of total meat production, 81 per cent of milk and 66 per cent of eggs. This indicates that the households play a vital role for the agricultural sector production of the country. These plots are used intensively and will also make intensive use of the available water resources.

**EMPOWERMENT OF THE FARMERS**

In the Syr Dar’ya oblast farmers stated in the discussion that they were satisfied with taking over the land. They did not distinguish between taking over the land or taking over the irrigation system. They felt responsible for the system, because they accepted it as their own property and therefore felt the duty to look after it. However, they still felt dependent on the state, because the structure of the state order system did not allow them to make their independent decisions about crops.

**CONSTRAINING FACTORS**

**Legal Framework For Land Allocation**

In Uzbekistan it is possible to distinguish four different state institutions responsible for the control and the protection of the land: local, district and oblast governments and additionally the Republican Cabinet of Ministers.

The district government takes the responsibility to allocate farmland for ownership, use and lease to citizens, enterprises and private farms. However it has also the authority to withdraw the land again from the owners, users or leaseholders. The reasons for the withdrawal could be unlawful use of land, less than normative agricultural yield, reduction in soil fertility or environmental harm.

Even though in Article 10 ‘the Law on Land,’ it is stated that land for lifetime inheritable possessions shall be allocated to private farmers, in practice land is given to private farmers only on a 10 year lease and to households on a one year lease. This leaves the new farmers with the uncertainty that the land might not be given to them in the next year. Furthermore, the regional government has the possibility to withdraw land and to allocate a different land plot to the farmer that reduces further the certainty of ownership. With these conditions in place it would be understandable that farmers may not be interested to invest in land, which is allocated to them, especially in the long term, considering a cost-intensive investment such as rehabilitation of the irrigation and drainage system.
**State Order**

The system of state order is still in place for certain agricultural products, such as cotton, grain and rice. Cotton is the main product for the Uzbek export industry. The supply and demand market for cotton production is completely regulated by the state. On the demand side farmers have to sell cotton to cotton ginners, which are mostly state-owned manufacturers processing the raw cotton. Local governments (*hakims*) demand from farmers that they produce a certain yield of cotton per ha. In theory, if the farmers are able to produce more than demanded, they can sell this cotton at higher prices on the market. However, the state regulates the market for cotton and has the monopoly for the cotton market, therefore the farmers can only sell at fixed state prices, which do not reflect world market prices. Hence the farmers can only get the fixed state prices. In practice the *hakims* order cotton for the region, and if a farmer produces more the *hakim* takes all of the production to compensate for farmers who produced less.

The Uzbek government follows the strategy of food self-sufficiency, the rice and grain production are fixed. For the past five years according to the state order 1 million ha of irrigated land is used for grain production. The state order for rice decreased to the level of 150,000 ha. Additionally, to these two main food crops the area allocated to vineyards and orchards and to fodder ordered by the state is 330,000 and 400,000 ha, respectively. Other crops are not state-ordered and their production is dependent on the individual decision of the farmer.

However, as the example of the Syr Dar’ya WUA will indicate, farmers are not left with a lot of choices in crop cultivation. At the time when the WUA was formed, farmers had to allocate 60 per cent of their land to cotton and 30 per cent to grain. The remaining 10 per cent were left to their individual choice.

**Financial Resources**

Farmers can take bank loans and can apply for an advance payment from the state that would cover 80 per cent of their production costs. However, this only applies to the products ordered by the state. If the crop fails the farmer takes full responsibility of the loan. Considering the high maintenance cost, lack of machinery, lack of spare parts, high quotas for state orders and low prices for state ordered goods, the risk factor is too high. Hence farmers are not willing to take the risk to take bank loans.

It is possible to take a mortgage on the land owned. But as farmers and households just hold the land in lease they would not be able to take a mortgage for a long-term investment.
CASE STUDY: WUA IN KYRGYZSTAN

BACKGROUND

In 1995 water users formed the first WUAs within the borders of the former state and collective farms. Individuals on decision of the founders, physical or juridical persons, established these WUAs. In 1996 the Asian Development Bank upon special request of the government carried out work in on-farm irrigation improvement. This included workshops, which promoted the importance to form WUA. Such workshops have been held in 4 oblast, namely: Chui, Osh, Issyk-Kul and Tales. This action resulted in an increase in WUAs. In the time period 1996-98 about 50 WUAs were established with a command area of 91,800 ha. By November 1999 about 132,000 ha were covered by 77 WUA all of them formally established and registered. Besides these additional 130 WUAs were functioning informally on a command area of 125,000 ha. The average size of a WUA is 1,800 ha. The formally established WUAs are in the following oblasts:

- Osh: 41 WUA (67,500 ha)
- Jallal-Abad: 18 WUA (29,300 ha)
- Chui: 6 WUA (13,800 ha)
- Talas: 4 WUA (7,400 ha)
- Issyk-Kul: 7 WUA (11,400 ha)
- Narun: 1WUA (2,300 ha)

HELP IN ESTABLISHING WUAS

At present some international projects concerning WUAs in Kyrgyzstan are ongoing or proposed such as a World Bank (WB) project on implementation for on-farm irrigation. This project is supposed for 6-7 years starting in 2000. The objective of the WB project is to increase agricultural production on irrigated land, through establishing sustainable WUAs. Naturally these WUAs have to be trained and strengthened in operation and maintenance of on-farm network.

A pilot project financed by a Japanese grant was conducted in which the irrigation system of 4 WUAs (2 in Chui, 1 in Osh and 1 in Isyk-Kul) was rehabilitated. The total expenditure was US$ 100,000. The rehabilitation per ha was done at an average expense of US$ 12.5. Further examinations in 10 farms showed that to improve on-farm network operation approximately US$ 100 per ha would be required.

LOCATION OF THE EVALUATED WUA

In this paper the collected data of ten village-based WUAs are compared and analysed. The villages are in four different oblasts, in Osh & Jalalabad in the southern part and in Chui and Issy-Kul in the northern part of the Republic. The three villages analysed in the Baumann report are sokuluk in the Sokuluk rayon, Ak-Bashkat in the Zhaiyl rayon and Syn-Tash in the Issyk-Ata rayon, all in Chui oblast. The SERA report analyses two villages in the Osh and one in the Jalalabad oblast. The two villages in Osh are Aq Tash in Karasu Rayon and Ali Anarov in Aravan Rayon, and the village in Jalalabad is Kenesh in Bazar Korgon Rayon. (SERA, p.8) Last but not least the Johnson report is based on data collected in four villages: in Uzyn-Kyr and Milyan-fan in Chui oblast, Toru-Aigyr in Issy-Kul oblast and Toolos-Nuakat in Osh oblast. (Johnson, p.5)
SIZES OF THE WUA MEMBER FARM

In the process of the reforms, agricultural land was distributed to workers and pensioners of the collective farms. The size of the plots depended on the available land and on the density of the population. Consequently the allocated land differed from area to area. While in Kolos the size of allocated land plots was 1.63 ha, in the sample area analysed in the SERA report the average land allocated to members was 0.11 ha in Aq Tash, 0.8 ha in Ali Anarov and 0.11 ha in Kenesh. This is due to the fact that the southern part of the Republic is more populated. Not only was the size of the allocated plot dependent on the region and its density but also on the time the former employee decided to leave the state farms. Baumann points out that the people who claimed their share later got two different plots, and many had to leave their land to pay for their share of the debts accumulated by the former state farm. Early leavers had also more assets, such as machinery or livestock.

In the example of Kolos the remaining land was split into 13 different peasant farms. Each of these farms has an area of no more than 150 ha. Furthermore the “immovable assets such as schools, clinics, warehouses, garage, buses, workshops, bakeries, cow-sheds and heavy machinery (cranes, excavators and the pedigree dairy herd) are kept as joint property among the 13 peasant farms”. (Baumann, p.13) This indicates that not only the size differs tremendously among the members of the WUA, but also their available assets.

REASONS OF FORMING A WUA

In his research, Johnson indicated that WUAs were not necessarily formed because of water resource scarcity or water distribution problems among the farmers, but because it was possible to access external funds. Therefore some hydro services had been renamed, “in the hope that becoming a WUA would increase their chances of obtaining project improvement funds” (Johnson, p.1). He continued, that associations responded to the question if they would have formed a WUA without funding with a clear ‘no’ (Johnson, p.1). This indicates that the formation of a WUA was not necessarily in response to immediate irrigation problems, but under the objective to obtain infrastructure improvements and equipment.

Different experiences have been made in other regions, which the SERA report points out. In one case, two of the three villages visited had established a WUA (in Aq Tash and Ali Anariv), which were founded in response to severe irrigation problems, such as rule breaching, water stealing and water shortages. There it was thought that a local institution could deal with the difficulties experienced. The evidence suggests that the objectives for forming WUAs were diverse.

TOP-DOWN OR BOTTOM-UP STRATEGIES FOR INITIATING A WUA

In Aq Tash the leaders of the former state farm took the initiative to establish a WUA and they are the representatives in the formed WUA. (SERA, p.29) However, the forming of the WUA was motivated through the experience of neighbouring villages and the district supported the establishment by helping with the institutional procedures. The literature reviewed suggests that even if the local small farmers had the willingness to establish a WUA, the initiative for forming a WUA came in most cases from above. Farmers were avoiding to take responsibility and delegated these responsibilities to others, who were willing to take control, in these cases former
state-farm managers, or people, who had been in position with responsibility, such as
senior engineers or hydro-technicians. Under these circumstances it is questionable if
these established associations are reflecting a participatory movement or just the will
of an elite. Furthermore it seems that under these conditions farmers can be
manipulated and used through the interest of a minority.

**INTEREST IN ESTABLISHING A WUA**

The evidence suggests that the interest in establishing a WUA vary with the locations
and the water problems of that area. Overall, water is not perceived as a priority,
however, this is more due to the fact that farmers and households have many other
obstacles in the phase of transition. Farmers gaining independence and taking over
control of the land perceive full responsibility of the irrigation system as too high a
burden in terms of finance and labour. Baumann states that “the notion of a WUA did
not excite any interest at all, in fact, if anything, people were annoyed at the
suggestion that they should take responsibility for the system as well as paying for it”.
(Baumann, p.30).

Even though, water for irrigation is not perceived as the main problem, cases of
farmers breaching rules and stealing water have been reported. This would indicate
that water availability is important. However, in most cases farmers received their
water allocation in time and the quantity of water was sufficient. Nevertheless, the
SERA report states that two of three villages established WUAs, because of severe
irrigation problems and the need of farmers to deal with the arising problems on a
local and communal basis. Furthermore, it was stated that the reasons for the
formation of a WUA were the “difficulty of organising and safeguarding water
independently”. (SERA, p.15).

However, in the other villages evaluated this was not perceived as a need to establish
WUAs. The willingness within the local community to participate actively in WUAs
was limited. In the villages analysed by Baumann there was no demand to improve
the irrigation and drainage system. However, in the villages visited by the SERA team
the irrigation canals and ditches had broken down and farmers saw it necessary that
canals were repaired or concrete canals were installed.

However, in the two villages visited by the SERA team, the former state farm leaders
initiated WUAs. Therefore it is not transparent, if the formation of WUA was because
of a broad interest of the farmers of the two villages, or if it was just in the interest of
the old elite.

**WILLINGNESS TO PAY**

The interest to establish WUAs is strongly related with the willingness to pay higher
fees for water and some type of membership fee to WUAs. In the Baumann report of
the villages in Chui oblast it was argued that a few farmers would be willing to pay
fees for water, which were higher than the current level. However, the farmers would
pay only under the condition that the canals were repaired and the irrigation system
updated. About 17 per cent of the respondents in Chui were willing to pay the full
rehabilitation cost. This figure is high if one takes into account that the Chui irrigation
problems are not perceived as urgent. An explanation could be that these respondents
were members of co-operatives and therefore not directly responsible for the payment.
However, the government anticipated that the farmers should be responsible for 100 per cent of the rehabilitation cost. In reality, the most positive response from farmers to the issue of cost recovery was in Osh where 70 per cent of the farmers were willing to pay 20 per cent of the rehabilitation costs. The willingness to pay for operation and maintenance was directly related to the level of irrigation problems experienced. Hence, the respondents in Osh were more positive as compared to the respondents in Chui.

In Osh and Jalalbad farmers were in principle willing to pay for irrigation services. In Osh over 70 per cent were willing to pay around US$ 10 for operation and maintenance but not even 50 per cent wanted to pay for partial rehabilitation and operation and maintenance. The SERA report argues that the increased acceptance of payments for the irrigation is because farmers are aware that the support of the government will decrease and that they have to take responsibility. However, it is questionable if with ‘responsibility’ is meant that the farmers were willing to pay and to take care of the system themselves. For example, in Chui the response to the question if farmers would be willing to pay members of a WUA was negative. This answer was given regardless of the income group. However, the questionnaire distinguished between paying for operation and maintenance and fees for a WUA. Farmers were willing to pay for operation and maintenance if government institutions were taking the responsibility for the system.

To sum up the experience in different regions it could be argued that the low willingness to pay for the irrigation and drainage system is directly related to the low capacity of the farmers to pay and that irrigation and drainage is low on the list of needs. SERA’s evaluation let to the conclusion that farmers perceived irrigation as a minor problem. In the ranking of perceived agricultural problems and priority payments water comes after machinery and fuel; fertilisers and pesticide; and technical support.

It has to be pointed out that barter economy in Kyrgyzstan is high, the implication is that farmers would make their contribution towards the charged fees in kind, rather than in cash. However, the reports do not indicate if the farmers would be willing to contribute to the rehabilitation of the irrigation system in labour. The question of willingness to pay for rehabilitation, operation and maintenance does not reflect if farmers would be willing to contribute for example with their labour.

The actual water charges in the Osh oblast were 3 tyins per cubic meter. The WUA bought water from the rayon and distributed it to the farmers for 3.5 tyins. Farmers were paying the water charges either in kind or in barter. In case of Aq Tash the charges were paid mainly in kind, however in Ali Anarov the charges were paid half in kind and half in cash. Both villages did not have any problems with the collection of payment or stated that the fees were not paid on time. (SERA, p.30)

**Elections**

As it is indicated above, the sizes of the farms vary to a great extent. This influenced the election procedures of the WUAs. For example, in Ali Anarov individual

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3 US$ 1 had the value of approximately 41 Kyrgys soms. (SERA, p.15)
households could register for WUA’s elections. Households and collective farms were equal members in the WUA. Each member had one vote. (SERA, p.30) However, in the case of the Karasu rayon, households with less then one hectare were not able to register for the elections. Groups had to be formed which exceeded one hectare in size. This indicates that the procedures are diverse and even if there is a legal framework for WUA there is room for flexibility.

It is argued that the election procedures were open and fair. However, the farmers were not necessarily informed of the externalities of the WUA, such as external funding, fees and loans. Furthermore, the farmers were not aware of their role, such as participation. It is stated that one of the reasons for the lack of interest was that at that time external funds were not allocated. It could also be argued that the Soviet legacy has left a feeling that elections do not really matter and that they will not change the influence of institutions.

It is questionable if the elections and the system of representation reflect the current land reforms. If the process of transition is still ongoing and households are either leaving the former state farms or re-entering into collectives then the flexibility of the system of representation and membership has to be high.

WUA LEADERSHIP

In all the articles it is pointed out that the leaders of the WUAs are very influential and powerful. As a broad generalisation one can say that either the village council had control over the WUA or former leaders of state farms took over control. In some cases the meetings were held in the village council, a symbol of the dominance of this institution. Furthermore, in cases where the WUAs were renamed former hydro-technical units of the former state farms, the hierarchy did not change with renaming. In cases in which the former state farm leader was the chairman of the WUA, it is questionable to what extent his decisions are reflecting the real interest of the farmers. Observed meetings indicated that farmers did not participate in the decision making process.

REPRESENTATIVES OF THE WUA

In Aq Tash and Ali Anarov the members of the WUA elected a board of representatives. The members of the board consisted of a chairman, an accountant and a mirab. These were paid positions. In addition four elected members advised the board. All members of the board were elected on merit. For example the chairman of the WUA in Aq Tash had twenty years work experience as hydro-technician on a collective farm. The advisors were elected on a one-year basis, and were usually the leaders of former state or co-operatives farms.

The SERA report points out that the members of the WUA seemed to be satisfied with the arrangements, and ‘appeared happy to delegate authority and responsibility’ to individuals they thought would be able to manage. (SERA, p.22) However, this does not imply that the activities of the representatives were transparent for the members.
PARTICIPATION OF THE WUAS MEMBERS

It is difficult to define and to measure participation in any social movement. Here it is differentiated whether members of WUAs are passive clients, whether they actively participate, either through knowledge about the operation and function of the WUA, or whether they work within the given structures.

Prime example of non-participation is the WUA in Sokuluk. Baumann points out that even though the WUA was established recently, nobody knew about it and if they did its operation and function was unclear. Similar was the situation at Ak Bashat. A WUA was established. However nobody in the village knew anything about it. (Baumann, p.29) The experiences were better in Aq Tash and Ali Anarov, the two villages visited from the SERA team. Here the majority of the farmers knew about the WUA and participated in the first election. However, the farmers were not involved for example they did not know the terms of contracts. Furthermore, farmers, who had split up from the collective farm were not even aware of the operation or function of the WUA. Even households were unaware of how to apply for water.

It can be pointed out that the members of the WUA were not involved in the decision making process over water or irrigation. Decisions were viewed as the responsibility of the leaders, and the farmers were either content with this situation or saw themselves as being unable to change the situation. (SERA, p.14)

The experience of the visited villages was different in Osh and Chui oblast. In Ali Anarov the respondents had not only attended the meetings and participated in the early elections, but also were aware of their rights and the procedures of the WUA. The farmers seemed to be satisfied with the institutional development of the WUA. However they delegated the decision making to the elected leaders. In Aq Tash farmers were aware of the procedures of the WUA. Only the members of the collective farms were actively participating.

Even though the farms generally lacked accurate measuring devices, the farmers in Osh were aware of the amount of water allocated to their plots and were able to judge the received volume. If farmers felt that they had been treated unfairly and that there was inequity in the delivered supplies, they brought this to the attention of the WUA. This could be interpreted as participation, because farmers were working within the structures of the WUAs.

TRAINING OF MEMBERS

During the process of land reform, employees of the former state farms became farmers or owners of household plots. These employees even thought working on a state farm did not necessarily had the capability to manage a farm by themselves. These workers might have been specialists in a brigade such as tractor driver or even accountant on the farm. This implies that their knowledge about water-use and irrigation is very limited so is their capability of strategic planning and analysis of costs and profits in agriculture. Therefore a special training is necessary for them to establish a sustainable farming enterprise. However, as it is pointed out by Johnson “the only training given to date has been related to WUA registration”. (Johnson, p.2) Furthermore, the overall lack of participation and lack of knowledge of the WUA leads to the conclusion that the organisations did not promote active participation, or
establish workshops for the farmers and households, which would have encouraged them to participate.

**CONFLICT MANAGEMENT AND DISPUTE RESOLUTION.**

The WUAs of Aq Tash and Ali Anarov reported conflicts about water quality and quantity. These conflicts were mainly between the head and tail end of the irrigation system. The tail-enders complained about poor water availability and low water quality. The water for the tail end had to pass through fields, and was therefore muddy. The WUA tried to resolve the disputes among farmers. In the case that no agreement was reached, the case was referred to the aksakal court.

Farmers in Ali Anarov reported water thefts of other private farmers or even of the former state farm. To deal with these incidents the WUA introduced a system of fines, which ranged from 100 to 1000 soms. The implementation of fines influenced positively the situation and contributed to a decrease in water thefts. (SERA, p.31).

**EMPOWERMENT OF THE FARMERS**

The SERA report argues that in Aq Tash and Ali Anarov the farmers had the feeling that the WUA had the responsibility over the irrigation system and the members of the WUA perceived themselves as the owners of the system. In the study in Kenesh where a WUA did not exist, the farmers had the feeling that the regional government was responsible for the system. This could suggest that the forming of the WUA raised a sense of ownership within the system. It is possible to interpret the sense of ownership and the feeling of responsibility as empowerment of the farmers.

**CONSTRAINING FACTORS**

**Land Distribution**

It is argued that to claim one’s fair share of the farm “takes considerable human and some economic resources”. One of the reasons could be that the former state farms are still providing social security. Leaving the farm implies the exchange of security for uncertainty. Currently the state farms still provide for those who cannot claim their land, either due to financial or personal reasons. However, the early leavers of the state farm are better off as compared to the late leavers. While in the beginning the leaving employees perceived one good plot of land, together with livestock or machinery such as tractors or lorries, the land of the late leavers might be separated in two plots. Furthermore, the debts of the state-farms increased, hence the late-leavers had to pay their share of the debts and leave plots or livestock behind to pay off the debts. Consequently, individuals hesitated to leave the former state farms. The poor situation of the late leavers brings the former state manager even more in a power position. He can threat the individual farmers that he will pay them out and that they have to leave the former state farm.

**Land Reform Still In Transition**

The land reform is still going on. While on the one hand farmers are still leaving the former state farms, others are considering re-integrating again into a collective farm, but generally a different farm. Different establishments such as former state farms, cooperatives, farmers, mini-farmers and households make the current situation unstable. This environment is constraining for the establishment of WUAs. First, it could imply
that farmers do not take responsibility for the irrigation system, and just shift this duty to the collective. Second, the ongoing changes make it difficult to establish who would be responsible and where would he/she be responsible for the irrigation system.

Social Constraints

The land reforms established a social and economic diversity. The SERA reports states that the wealth is distributed evenly, 15 per cent are poor, 70 per cent middle class and 15 per cent are wealthy. On the other hand the UNDP country report argues that 60 per cent of the population lives below the minimum poverty line of 7 US$ monthly, which is approximately 290 som (Kyrgyz currency). (SERA, p.15) However, the current level of barter, payment in kind, even for official public employment and the policy that every land plot owner is employed and not dependent on welfare, make it difficult to assess the real state of poverty and wealth distribution. This has to be considered if WUAs are implemented.

Power Of Old Institutions In New Roles

Prime example of the power of the old institutions is the chairman of the former state farm Lenina in the Sokuluk Rayon. The state farm is broken up into 13 smaller farms. The former chairman of Lenina manages one of them. The movable and immovable assets (see above) of the former state farms are now collectively owned by the 13 farms. The former chairman is elected as representative of the farms and he controls all the assets. Baumann questions whether the co-operation of the 13 farms is based on a free decision or if it is a forced co-operation. Until recently the former state farm manager was also chairman of the village council, which is still renting office space from his farm assets. Even though he is no longer chairman of the council, he still has influence. The council complained about its independence.

Not only the former managers of state farms availed their influential position the local village council has also managed to secure its position. The council is on one hand stakeholder and on the other it represents owner of the National Fund land. Furthermore, the council can take loans on behalf of the farmers, as in the case of one village in Osh, where farmers were not aware that the local council borrowed money in their names.

Hedgehogs Versus Foxes

The rural population in Osh does not only depend on agriculture. Their income is diverse. This has future implication for farming, their ability to pay and their willingness to participate in WUA. The SERA report states that households depend by 47 per cent on salaries. Even though the salaries come from agricultural employment, it shows that the main income is not based on their own agricultural production. In addition it is argued that 13 per cent comes from pensions, trade and benefits. Hence the household cannot sustain itself from its agricultural production, but is dependent on other income. SERA reports that the remaining 40 per cent of household income consist of 25 per cent subsistence production and 15 per cent agricultural income.

It is further distinguished between household, which can be classified as rich or middle class. In both cases the households have diversified their income structure. While the middle class households depend on wage labour (not specified), livestock and growing both subsistence and cash crops, the households which are classified as
rich have also access to employment (officials, lawyers, physicians, factory managers) furthermore they have large numbers of livestock and established trade networks.

If households are not able to utilise their land, they rent it out. This suggests that poor households might depend even more on rent and wage labour, than on their agricultural production. If they grow crops, it is to assume that this is for food self-sufficiency and not for the market.

SERA argues that off-farm economic activities will be important for the payments for the irrigation system. However, it is questionable, whether the middle to upper income groups would continue with the agricultural production if additional agricultural cost will be implemented and their main income depends on non-agricultural activity. Furthermore, it is doubtful that these groups are interested to participate actively in WUAs, it seems that for them the transaction cost of participation could be too high.

**Informal Institutions Still In Place**

Informal institutions are either prevailing or old institutions become more relevant again. The institutional system of the Soviet Union left negative aspects behind. Because of the centralised planning and decision making authorities, an individual did not have to take the initiative and could depend on higher authorities. This suggests that an individual is not accustomed to bottom-up approaches, and would have difficulties to take the initiative in the decision making process. The former dependence on higher authorities might also lead to a principal-agent situation, in which the principal is not interested to control the agent.

The social security system of the state weakened and it nearly vanished. The individual orientated him/herself towards other security structures. The most common is the informal network along tribal and clan lines. This might have implications on the establishment of WUA and might lead to favouritism along ethnic lines.

Even old institutions are prevailing, such as the hierarchical structure of the state farm or the structures of the village committees. As demonstrated above the old structures secured their positions, and will influence the future development of the local communities.
CONCLUSION

- With the exception of the WUA formed during the TACIS project, the WUAs in Uzbekistan consist only of larger farms and not on additional household plots. This has advantages and disadvantages. It is not anticipated that household plots will be charged for the operation and maintenance of the irrigation system. This is an unfair treatment if one takes into consideration that the households make intensive use of their plots, and therefore will use the irrigation system intensively. However, as Shah argues, if WUAs consist of too small sized farms, then it is more likely, that these WUAs are unsustainable. The system in Uzbekistan might be unfair, but it could lead to more sustainability for the WUA in the long-term perspective.

- The experience in Kyrgyzstan suggests that there is not a real difference between rich and poor households in terms of their reliability on external funds. This implies that the differentiation of Shah between hedgehogs and foxes and their influence on the sustainability of WUAs does not grip in Kyrgyzstan in the current period of transition. However, in the long-term perspective it seems that if the WUAs continue to be formed by farmers with a diversified income structure, the WUAs will not be sustainable.

- Compared to Kyrgyzstan, Uzbekistan has the disadvantage of the state order system and the fixed prices for cotton and wheat. Farmers are not free to make independent decisions and have not the possibility to make real profits. This implies that members of the WUAs will be constrained through controlled markets. Additionally, in both countries the market is still not fully operational in terms of markets and supporting service structures. This will further contribute to unsustainability of the WUAs.

- It seems that the governments in these two countries want to hand over the responsibility of the irrigation and drainage system to the farmers without supporting structures in place. This cannot guarantee that the systems will work efficiently in the long term.

- It seems that the perception in Uzbekistan and Kyrgyzstan is that WUAs can take over the real cost for the irrigation and drainage system. However, it can be interpreted as success if the private and the governmental sector share the cost of the irrigation and drainage systems. Especially, if one considers that the irrigation system in Uzbekistan relies heavily on pumping stations, which lift up water to a maximum of 170 meters. Under the old soviet system it was economically feasible to build irrigation systems in areas, which were dependent on highly cost-intensive technologies, in terms of operation and maintenance. However, if farmers have to pay the full price then it is questionable if newly developed areas are financially sustainable or if the farmers are economically forced to leave their farms and the irrigation area. This will have social consequences, which the government and the experts seem not to be fully aware of as yet.

- Furthermore, it is questionable whether during the transition period the formation of WUAs with the aim to let farmers pay the full cost of the irrigation system is the right decision taking into account the high level of poverty in Kyrgyzstan. Taking over the full O&M of the system will give
further rise to unequal property relations. One of the consequences could be that the number of former state farm employees taking their land share and leaving the former state farms would decrease. Furthermore, if the farms have to pay the full price for rehabilitation and O&M service, the debts of the former state farms will rise dramatically. This will have further implication on the willingness of the former state farm employees to leave, because the debts of the former state farm are charged to them proportionally.

- In both countries the legal framework concerning property is weak. In Uzbekistan agricultural land is only leased to farmers and not owned by them. Hence farmers do not have the legal backing for a long-term investment in irrigation rehabilitation. A change in the legal framework, which guarantees property ownership might increase the interest of the farmers to form WUAs and to take control of the irrigation system.

- The willingness to pay for the irrigation service and the interest to establish WUAs would further increase if the service is improved and if the government in Uzbekistan begins to rehabilitate the system, which was promised earlier. It is evident that farmers are not willing to take over a system, which does not work, but for which they will have the financial responsibility. Farmers will be unwilling to compensate for the neglect of the last 30 years.

- In Uzbekistan old institutions have taken control. It is arguable that this is based on the experience of the former state farm managers. In Kyrgyzstan further progress has been made in the reforms of the organisation of the irrigation management. However, it seems that this process is not helpful in terms of democratic development of the WUAs. In any case, if former leaders are held accountable for their decisions and their actions are transparent then the development could be meaningful and sustainable in future and WUAs could become a participatory bottom-up movement. Naturally, members of WUAs will need guidance that will be helpful in their initiative to make changes in the structure of the WUAs. However, as the TACIS pilot project in Uzbekistan indicates farmers want to take responsibility for their irrigation system and are willing to participate in WUAs, if the old institutions are not obstructing them. Furthermore, the project in Uzbekistan showed that farmers feel empowered if the WUA is a participatory bottom-up movement.

- Hopefully, the influence of the old structure is transitional and through internal and external adjustments the WUAs can grow into strong and sustainable farm organisations, representing the interest and needs of farmers as well as operating and maintaining the irrigation and drainage system.
BIBLIOGRAPHY


Baumann, P.: Kyrgyz Republic, agriculture area development project, social diagnosis, July 1999.


