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The Politics of Irrigation Reform in Tajikistan

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Zentrum für internationale Entwicklungs- und
Umweltforschung der Justus-Liebig-Universität Gießen
Discussion Paper

The Politics of Irrigation Reform in Tajikistan

by

Jenniver Sehring*

No 29

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- Center for international Development and Environmental Research (ZEU)

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List of abbreviations

ACTED	Agence d'Aide à la Coopération Technique et au Développement
AAH	Action Against Hunger
CBO	Community-based organization
CD	Community Development
CFPS	Center for Farm Privatization Support
DF	Dekhan Farm
DRD	Direct Rule Districts
GAA	German Agro Action (Deutsche Welthungerhilfe)
IWMI-CA	International Water Management Institute, Regional Office Central Asia
MIWM	Ministry of Irrigation and Water Management
MSDSP	Mountain Societies Development Support Program
OVKh	Province water management department (<i>Oblastnoe upravlenie vodnogo khozyaystvo</i>)
PRA	Participatory Rural Appraisal
RVKh	District water management department (<i>Rayonnoe upravlenie vodnogo khozyaystvo</i>)
UNDP	United Nations Development Program
VDC	Village development committee
WUA	Water User Association

Preface

The present study was compiled within the framework of the research project "*Water Shortage, Water Use Conflicts and Water Management in Arid Environments of Central Asia*". Its objective is to analyze the causes and the effects of the growing water shortage and the increasing deterioration of the water quality in this region. The research activities compare the situation in four inland basins of Central Asia: the Aral Sea Basin, the Ili-Balkhash Basin, the Issyk-Kul Basin, and the Tarim Basin. One component of the project focuses on questions of water management on interstate as well as national level.

This four-year research project was made possible by a grant of the Volkswagen Foundation as part of the program "Central Asia / Caucasia in the focus of science" ("Mittelasiien /Kaukasus im Fokus der Wissenschaft"). I am very grateful for this support.

Prof. Dr. Ernst Giese
Project Manager

1. Introduction

The mountainous country of Tajikistan in Central Asia has only 6% of arable land. This land however is crucial for the survival of the people, especially after the economic breakdown following the collapse of the Soviet Union and the subsequent civil war. The agricultural use of this scarce land is for more than 80% only possible with irrigation. Although the country is rich in water resources, inefficient usage leads to water shortages. In quantitative terms, 85% of water use in Tajikistan is devoted to irrigation agriculture (UNECE 2004: 137). Identifying shortcomings in irrigation management and reforming it towards efficient and sustainable systems is hence one priority in the general reform of water resources management.

1.1 Problem statement

Tajikistan, like many other countries, follows a reform approach towards participatory irrigation management (PIM). The reform in Tajikistan transfers the responsibility of the secondary channels (on-farm channels¹) to Water User Associations (WUAs) that are expected to be responsible for the operation and maintenance of these systems, for the collection of water charges, for equitable water distribution and conflict resolution. There has been considerable research on this subject worldwide that has disproved that once WUAs are established they would result in efficient and equitable water management, although this still presents a predominant assumption (Mott MacDonald, DFID 2005:S-1; Narain 2004).

This paper builds on the premise that WUA performance is closely interrelated with institutional and political aspects of the water sector and the societal environment in general and that one reason for the failure of many PIM reforms is that these aspects have been neglected by practitioners and academics. In their seminal book on the politics of irrigation reform, Mollinga and Bolding state that “the word ‘politics’ is virtually absent in formal policy discourse on irrigation reform” (Mollinga, Bolding 2004:4). This is ascribed to the perception that irrigation would be a merely technical

¹ The term ‘on-farm channels’ refers to the channels on the territory of the former kolkhozes or sovkhozes, for which these have been responsible, in contrast to off-farm channels, which are state-managed. While these terms are still in use, it would be more precise today to distinguish between main (state-managed), secondary (between today’s farms) and tertiary (inside farms) channels.

system based on rational decision-making and implementation by experts (engineers and 'hydrocrats'). The aim of this paper is to make a contribution to the emerging discussion on the political nature of irrigation management and especially irrigation management reform via a case study of Tajikistan. It also aims to contribute to a better understanding of the problems and challenges of the irrigation reform processes in Tajikistan.

Politics is for the purpose of this study defined in its relation to natural resource use as by Kerkvliet (1990:11; quoted in Mollinga, Bolding 2004:6):

"...the debates, conflicts, decisions, and cooperation among individuals, groups, and organizations regarding the control, allocation, and use of resources and the values and ideas underlying these activities".

In this sense, politics refers to the process of policy-making – who's ideas and values are represented in policy decisions – as well as the process of policy implementation – who actually decides and who in which way influences implementation and compliance of these decisions. An analysis of the institutional and political factors in irrigation reform involves an investigation of the actors: Who are the relevant actors that pursue decisions for reform? Who is responsible for implementing these policy decisions? Who is actually implementing them and who is not? Special attention was drawn to the role of local institutions concerning implementation. Institutions are understood as formal and informal rules – societally accepted ways of behavior, such as laws, traditions, norms, and values, which can be embodied in organizations. It also refers to the cognitive systems underlying those rules. Informal societal rules can comply with or undermine state rules.

The paper will show that institutional change in water management is rather a complex process of 'institutional bricolage' (Cleaver 2002, Galvan 2004) than the simple displacement of one institutional arrangement by another. Institutional bricolage describes a non-determined movement albeit the choice is limited by the elements available. It emphasizes the unspecific character of the process of institutional change in which institutions are 'put together' by the bricoleurs putting and using pre-existing institutional elements already available and perceived as useful. In the process of designing institutions, the bricoleurs can patch together elements of different institutional logics available to them. Bricolage offers therefore an approach of institutional change that lies between path dependency and the development of new, alternative paths that are certainly never completely "new" but a

re-combination of existing institutional elements and new concepts. Additionally, the concept allows analyzing not only the constraining aspects of institutions but also the creative potential of actors.

Another main argument of the paper is that the strong involvement of donor agencies at different stages of the policy process has a strong impact on the lack of ownership and the implementation of reform policies and has even counterproductive effects on state reform capacities.

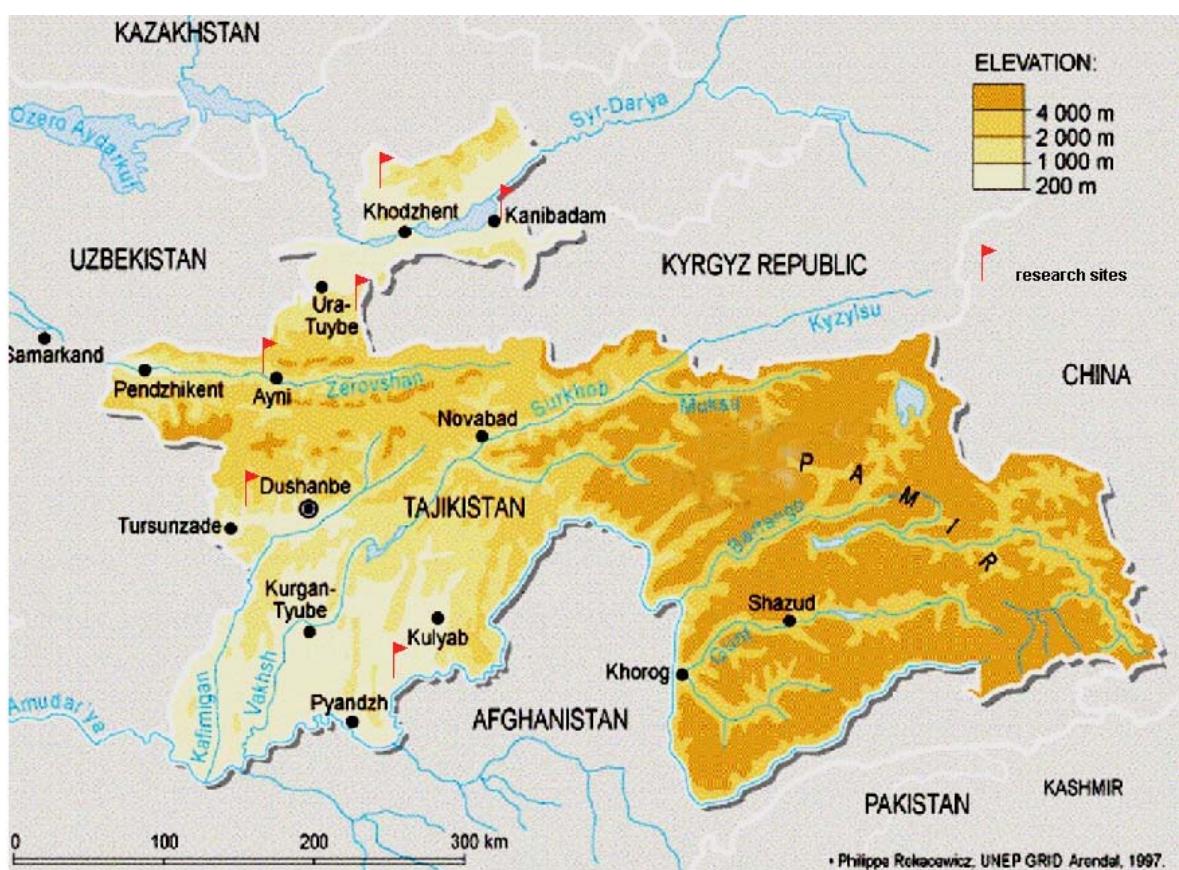
1.2 Methodology

Most of the data for the study was gathered during two field research visits in August/September 2004 and September/October 2005 respectively. The main methods have been semi-structured and open expert interviews with representatives of the different agencies of the state water and land administration as well as of donor agencies. For reasons of confidentiality, all interviewees remain anonymous. Apart from state agencies, interviews and/or field visits were conducted at the following organizations: ACTED, GAA, Mercy Corps, UNDP, World Bank, as well as at the local NGOs ASTI, ADSP NAU, and Nature Protection Team. A list of all interviews and the assigned codes can be found at the end of the paper.²

To complement these interviews, a case study of one Water User Association was also conducted. The main objective of the detailed case study was to get a deeper insight into local institutional arrangements and how they affect water management. The village for the case study was not selected on criteria of representativeness as the objective of the case study is not to confirm or falsify certain hypotheses but rather to heuristically develop an understanding of the institutional dynamics on local level. Aini Rayon was chosen due to the willingness and interest of the regional project office of the German NGO German Agro Action (GAA) to support such a study. The village, Iskodar, was selected together with GAA staff. In 2004, this village was also in a sample of four villages researched for a GAA-study on local decision-making processes (Grundmann 2004). This study not only provided basic data on the village but also allowed for comparison (and confirmation) of the research findings. For this case study, PRA tools such as observations, semi-structured as well as open

interviews, and group discussions were employed. Interviews were conducted with representatives of the WUA and other local organizations as well as with twelve randomly selected villagers. These were endorsed by interviews with representatives of the district water administration, of the district land committee and of the GAA. Group discussions were conducted with four members of the WUA council and a random group of female villagers. The research was conducted over one week together with a local research assistant.

Figure 1: Map of Tajikistan with research areas



Besides Aini, WUAs in Shakhriston, Kanibadam, Mastcha and Ganchi districts were visited and interviewed. Additionally, research was also conducted in the Farkhor district (Khatlon province) to compare the situation in places without reform activities.

² In references (e.g. t01:23), t01 is the code for the interview. The number after the colon indicates the paragraph in the interview transcript.

2. Context of the reform of local irrigation management

2.1 Irrigation agriculture in Tajikistan

Only 6% of Tajikistan's territory is suitable for agriculture. The area of agricultural land – excluding pastures – is indicated as between 739,000 ha and 860,000 ha. 719,000 ha of this (84%) is irrigated land. The overwhelming part of irrigated land (83%) lie in the Sughd and Khatlon oblasts (Bucknall et al 2003: 3; UNECE 2004: 137; UNDP 2003: 20, 23,32). Due to Tajikistan's geographic and topographic features, pumping irrigation plays an important role: According to different sources, between 290,000 and 350,000 ha are served by pump stations alone; considerably more receive partial water supply from pumps; in total over 60% depend at least partly on pumps (USAID n.d:1; Bucknall et al. 2003: 27, UNDP 2003: 36).

Irrigation agriculture was affected by the general economic decline following the dissolution of the Soviet Union and the subsequent civil war. About 20 to 30% of the area is not used due to deteriorated infrastructure, unaffordable inputs for farmers and other reasons. Agricultural production has reduced since independence by 50% (Bucknall et al 2003: 4, UNECE 2004: 137). However, agriculture is still of vital economic importance: Cotton brings 11% of all export gains³. 65% of the workforce is engaged in agriculture (about one third more than in 1991). Subsistence agriculture has became increasingly important, especially for the three quarters of the population of Tajikistan who live in rural areas (UNDP 2003: 33f; UNECE 2004: 137). Cotton, which is especially water-intense, constitutes 43% of all planted crops is (UNDP 2003: 38). Due to this concentration on cotton, there is a deficit in food production of about 20% (UNECE 2004: 138).

2.2 Financial crisis of the water sector

The main reason for denationalizing irrigation management world wide is the state budget crisis. This is also the case in Tajikistan. It inherited a highly centralized state-run irrigation management system from the Soviet Union. The main state agency was and is the Ministry of Irrigation and Water Management (MIWM), with branches at province (*Oblast*) and district (*Rayon*) levels. All off-farm channels and pumping

³ At 11% it is the third most important export commodity besides aluminum (61%) and electricity (12%).

stations are in their responsibility. Only the on-farm channels have been in the responsibility of the former *kolkhozes* and *sovkhозes* (FSK).

Due to the electricity costs for the pumping stations, irrigation here is more expensive than in other Central Asian countries. Funding was initially entirely provided by the state. Water fees were only in 1996 (see chapter 3.1). The allotted financial means, however, declined by more than 90% - from 72 Mio. Dollar in 1991 to 6.5 Mio. Dollar in 2002 (UNDP 2003: 33). As a consequence, there was a dramatic decline of the state of infrastructure, which in turn resulted in almost 20% of the previously irrigated land not being cultivated. Though exact data is unavailable, MIWM estimated that about 50% of the irrigation systems and 65% of the pumping systems are in poor condition or are not functioning at all. Renovation costs are assessed at about 130 Mio. Dollar, of which 22 Mio. Dollar goes to annual maintenance costs (UNDP 2003: 55-57). This budget crisis was one reason why there was and still is a perceived need for reform.

2.3 Land reform and its impact on irrigation management

The second reason for the need for irrigation reform is the ongoing land reform. A detailed analysis and assessment of land reform is beyond the scope of this study. However, a short outline is necessary to understand the resulting implications for irrigation management.

Land reform started in 1992 with the main objective of converting the state and collective farms (*sovkhозes* and *kolkhozes*)⁴ into private farms. The basic principles are laid down in the 1992 law "On Land Reform". This law envisioned the possibility of setting up independent *Dekhan* farms (DF) ⁵ without an exact definition of it though.

All members of a former *sovkhоз* or *kolkhoz* have the right of a share of the land, including former workers who are now pensioners, soldiers or deputies in elected institutions. If the village assembly agrees, teachers and doctors living in the village will also get a share

⁴ While a *sovkhоз* was directly managed by the government, a *kolkhoz* was managed by an elected administration, which however had to be approved by the local party committee and also had to follow state instructions. Both encompassed typically more than 1,000 ha.

In the aftermath of the civil war, the presidential decree No. 522 “On Restructuring Agricultural Enterprises and Organizations” (1996), the law “On Dekhan Farms”, revised in 2003, and other laws and decrees further specified restructuring methods and the new forms of farms. With regards to the equipment (including irrigation sets, processing fabrics, etc.) there are instructions in article 7 of annex 2 to the decree No. 522: The infrastructure of the FSK can be transferred to the respective state agencies: communication infrastructure to Telecom, cultural club to the Ministry of Culture, and power station to the Ministry of Energy. Hence the irrigation system could get assigned to the MIWM. More information on this aspect will be delivered in chapter 5.1.3.

According to the law, the land is still state property but the farmers have inheritable tenure rights and complete legal freedom of independent farm management. They are only obliged to pay taxes and to cultivate their land in an efficient and productive manner. Under certain circumstances, the state has the right to withdraw the tenure rights without compensation. All FSK should have been reorganized in Dekhan farms by December, 31st 2005 – a target that has to be met. Exceptions exist for about 170 state farms for seed production, livestock breeding, and research (AAH 2003:4). The principal government agency responsible for the implementation of the land reform is the State Land Committee. It has branches in all Oblasts and Rayons. The State Land Committee was established in 1996. While it was initially subordinated to the government, it has since 1998 acted as an independent commission (t43:24).

As a result of land reform, there are now three types of agricultural enterprises (t47:2-9; AAH 2003: 6f):

- 1) Individual farm: consists of one family, the land certificate is registered under the head of family;
- 2) Farmer's farm (*fermerskoe khozjajstvo*): consists of several families, the land certificate is registered under the chair of the farm with the names of all members listed in the document.

Both types are also often referred to as independent Dekhan farms. They are usually run by an individual, a family or a group of families. Both are formed by active application of the farmers and not by allotment. The individual(s) either apply to the

⁵ Dekhan is the Tajik word for farmer.

farm administration and the Khukumat to withdraw their shares of a collective DF or they apply for land from the special fund⁶ (Art. 11, law “On Dekhan Farms”). These independent DFs are usually small with plots of less than 50 ha. One precondition to establish such an independent farm is that the farmers become pro-active. They also need to have access to information on their legal rights, besides to the financial means to pay the official and unofficial costs of registration - and often personal relations with the local authorities.

3) Collective Dekhan farm (*obshhestvennoe dekhanskoe khozjajstvo*): land certificate is registered under the farm’s name with names of all members listed in an annex.

With this type, one FSK is reorganized into one (sometimes several) DF in a top-down process. The chief of the FSK is “elected” chief of the DF. The land certificate is issued under the name of the farm with a list of all members in the annex. All members should receive membership certificates.⁷ These collective DF are managed in the same style of the kolkhozes before and the changes can be considered as only cosmetic (new name). In many cases, farmers themselves are unaware of the reorganization.⁸

Meanwhile a fourth type of farm is evolving, namely the association of Dekhan farms. Increasingly, independent DFs unite to become associations with a single management responsible for buying the necessary inputs, providing machinery, etc., and therefore taking percentages of the profit (usually between 2% and 10%). The degree of autonomy of the member farms varies. In some cases, FSK have been transformed directly into associations of DFs, which might only exist on paper and function like the FSK before.

According to the National Land Committee, by 10/01/2005, 26,608 Dekhan farms were registered, of which 8,609 were collective ones and 17,459 independent (family and individual) ones (t32:15).

Besides the state budget crisis, this reorganization of land tenure has been the main stimulus for irrigation reform. As thousands of small farms came into existence, the

⁶ The special fund distributes unused land of sovkhozes and kolkhozes. This land is typically of low quality.

⁷ A survey by AAH of farmers in Khatlon found that only 5.6% of the interviewed collective Dekhanfarm members got a membership certificate. AAH 2003: 6.

⁸ In the mentioned AAH survey, 64.3% of all interviews household of Dekhan farm workers thought that they would still work at the FSK.

new situation was a challenge for water management in the irrigation sector. While before the kolkhozes and sovkhozes were responsible for water distribution on their huge areas and the maintenance of the on-farm canals, now the newly emerged small farms had to be supplied individually with water. As nobody felt responsible for the operation and maintenance (O&M) of the on-farm channels and due to the lack of financial means, investments in infrastructure maintenance almost stopped, irrigation systems deteriorated and water use was not controlled anymore. The new situation demanded new forms of management.

3. Reforming local irrigation management

3.1 Policies

The first action to overcome the water sector's financial crisis was the introduction of water tariffs for irrigation water delivery by a presidential decree in 1996. This irrigation service fee (ISF) is not for water as a resource but for the water delivery service. Water as a resource is still free of charge. Only those have to pay for irrigation water who receive it from the district water administration (*Rayonnoe upravlenie vodnogo khozyaystvo*, RVKh), i.e. who use water from channels or pumping stations served by them. Those who use water that is directly discharged from mountain springs or by self-owned groundwater pumps do not have to pay.

The ISF was raised gradually and has been 1.2 Dirham⁹ per 1 m³ since August 2004 (t12:19; t26:21). However, these fees are insufficient for full cost-recovery. The intention was rather to start with a symbolic fee to raise awareness that water is not an endless resource. However, water agencies are now expected to cover part of their costs through fee collection.

In 2000, the old water code of 1993 was replaced by a new one. This code emphasizes economic mechanisms of water management and also provides some, albeit vague, instructions for irrigation reform. § 43 codifies the right of the farmers to establish water user associations (WUAs) in order to manage on-farm irrigation systems, to distribute the water among the farmers, and to charge fees for water

delivery. The law does not enforce the establishment of WUAs, but only legalizes the possibility without specifying their status and without concrete mechanisms and by-laws for implementing the article. It was later accomplished by a decree of the Prime Minister, which stated that after 2001, all on-farm irrigation systems should be transferred to WUAs (t12:20).

After the programs to establish WUAs began (see subsequent chapter), it soon became obvious that article 43 of the Water Code was insufficient as a legal base for WUAs and that a separate law on WUAs was necessary. The financial aspects (e.g. tax liability, non-commercial status) especially required clarification. A special law defining the exact status and duties of these associations is not in place yet. A draft for such a law was prepared in the framework of the farm privatization project by the Center for Farm Privatization Support (CFPS) together with the MIWM (t19:40). The first draft was in circulation in 2003 (t12:20). The work is still ongoing, though it was reported that it would have been its final stage.

Although there is a perceived strong need for reform, the policy itself remained rather vague and can be considered more as a framework legislature without concrete mechanisms and instructions for implementation. Despite these vague instructions, WUAs are the main instruments of implementing the financial (collection of water fees) as well as the institutional (new responsibilities for on-farm channels) aspects of irrigation reform. The implementation process will be discussed in the next chapter.

3.2 Implementation

The plans and activities for water user associations started before their existence was foreseen by law. The first projects to establish Water User Associations (WUAs) in Tajikistan were started by the World Bank within the framework of the Farm Privatization Project (1999-2005) and the Rural Infrastructure Rehabilitation Project (2000-2006) (t13:5; t14:3). Their primary objective is the development of the agricultural sector. One component is the rehabilitation of irrigation infrastructure with WUAs as a sub-component. WUAs were established basically to care for the rehabilitated irrigation systems, which is done by grant. The implementation agency

⁹ In 2000, a new currency was introduced: 1 Somoni = 100 Dirham. 1 Somoni is equivalent to € 0.30.

is the especially established Center for Farm Privatization Support (CFPS) at the Ministry of Agriculture.

The CFPS was established in 1999. In the project districts, executive centers (*tsentr ispolnenija*) were set up to support the creation and strengthening of WUAs, give administrative and technical support, and organize and control the rehabilitation works. The CFPS provides not only seminars and trainings, but also technical equipment like computers, motorcycles, office equipment, etc. (t02:02-12, 70; t04:08). The center cooperates with the MIWM and its agencies at Oblast and Rayon level.

The World Bank project initially comprised 10 FSK: four in Khatlon, three in Sughd, three in the direct rule districts (DRD¹⁰). The scope was extended in the course of the project. The first WUA, the WUA "Mirob" (district Sharinov, DRD), was officially registered on December 25th, 2001. In October 2003, there were 28 WUAs working: 10 in Sughd, 7 in DRD and 11 in Khatlon (t04:35-38). All are within the cotton areas (t12:04). WUAs are financially supported during the initial years: In the first year, 75% of the costs for salary are paid by the project, in the second year 50%, and in the third year 25%. By the fourth year, WUAs have to be fully self-financed (t04:08). ADB and USAID started similar projects.

Besides the WUAs established by these top-down projects, there are also bottom-up projects at local level. Here it can be distinguished between two kinds of projects: First, those aimed solely at setting up WUAs. Second, projects that establish WUAs as part of wider focused community development (CD) programs. In those projects, irrigation water management is one mechanism to reach the general aim of community development, besides drinking water supply, health services, micro credits, and other issues. The establishment and legal registration of associations is part of the sustainability component of these projects. These projects are implemented mainly by international NGOs, although the UNDP has such programs as well. In contrast to the CFPS-project, these projects do not provide any credits or grants for salaries. They also provide grants for the rehabilitation of the irrigation system as an incentive, but expect a certain amount of community contribution to the costs (usually between 15-30%).

¹⁰ The DRD are 12 districts (*rayons*) that are not subordinated to province (*oblast*) but directly to the central government.

There are no exact and official data on how many WUAs exist in Tajikistan. The following table summarizes data provided by the CFPS, ACTED, Winrock, MSDSP (Aga Khan Foundation), and GAA on their WUA activities. The data of some donors, e.g. UNDP, are missing. A more detailed list is attached in the annex.

Table 1: Preliminary list of WUAs in Tajikistan

WUAs on the territory of Tajikistan

Province	District	Implementing agency	Funding agency	Number of WUA	ha
DRD	Rudaki	WinRock	USAID	8	1164
Khatlon	Shaartuz	WinRock	USAID	6	2596
DRD	Kabodiyon	WinRock	USAID	2	1379
DRD	Shahrinav	CFPS	World Bank	3	4647
DRD	Rudaki	CFPS	World Bank	1	997
DRD	Gissor	CFPS	World Bank	1	1705
DRD	Rudaki	CFPS	World Bank	3	3786*
DRD	Rasht	MSDSP	GTZ	5	*
DRD				29	16274
Khatlon	Vakhsh	ACTED	EC	1	677
Khatlon	A. Jomi	ACTED	EC	1	3015
Khatlon	Yovon	CFPS	World Bank	4	6276
Khatlon	Kolkhozobad	CFPS	World Bank	2	14760
Khatlon	Khuroson	CFPS	World Bank	2	5512
Khatlon	Baljuvon	GAA Baljuvon	EC TACIS	6	1090*
Khatlon		Mercy Corps		15	*
Khatlon				31	31330
Sughd	Kanibadam	ACTED	EC	2	*
Sughd	Mastcha	CFPS	World Bank	3	7284
Sughd	Zafarobod	CFPS	World Bank	8	68746
Sughd	Penjakent	GAA Ayni	EC	3	84
Sughd	Ayni	GAA Ayni	EC	10	291*
Sughd	Gornaya Matcha	GAA Ayni	EC	14	451*
Sughd				40	76856
total				100	124460

* no data for all WUA available

Sources: ACTED 2005, Annex; Winrock International 2005; MSDSP n.d.

Despite the incomplete data, this list shows some important characteristics of WUAs in Tajikistan: All existing WUAs are somehow connected to international donor activity. All WUAs are still in their first years of existence, and many are not registered yet. The area one WUA covers, varies considerably: from less than 50 ha to several thousand ha (see annex). The total area, managed by WUAs comprises less than a fifth of the total irrigated land.

Only the big projects (World Bank, ADB, USAID) are coordinated by the Ministry of Irrigation and Water Management (MIWM) (t19:57, 59). The coordination among all WUA projects is insufficient. It was only in October 2005, that the first meeting of all the donors involved in WUA establishment was held. It was initiated by the French NGO ACTED. Since then, monthly meetings have been conducted reflecting the need for better coordination.¹¹ Meanwhile each donor had already established its distinctive approach, method, structure and even name for the WUAs, making a coherent reform even more difficult.¹² Hence, there is not only no clearly formulated reform policy, but also no consistent and coordinated implementation.

3.3 Current situation

One can summarize that there are currently three types of organizations in the local irrigation management:

1) *Dekhan-Farm*

In places without donor engagement, there are no efforts to implement irrigation reform. In these places local water management is now often task of the collective DF. A reasonable portion of the FSK has not yet been transformed into individual DFs, but into collective DFs. There the old structures prevail and the DF often has a mirob (water master)¹³ who is in charge of water management. However, due to the legal ambiguities, the DF does not necessarily regard itself in charge of O&M, and lacks the funds to do it due to high debts (see chapter 5.1).

In many cases this in practice means that nobody takes responsibility. Especially when one FSK has been dissolved into several DF or when there are only individual DFs, nobody effectively controls water distribution and cares for the maintenance of the channels (t26:8; t38:24-27). This situation prevails in all places without external donor projects.

¹¹ Participants at the first meetings have been representatives from ACTED, WinRock International, USAID, CFPS, ADB, Luis Berger International, GTZ, GAA, MSDSP, Mercy Corps, UNDP. At the January 2006 meeting, a representative of the MIWM also attended.

¹² Besides WUA those names are water committee, water user group, voluntary water user group, water and health committee. The situation is similar with other CBOs.

¹³ Mirob is the Tajik word for water master. It is today used for the nominated water master of a village who fulfills his office by respect as well as for professional hydro-technicians hired by the DF, WUA or RVKh.

2) Focused WUAs

The second type of organization is represented by the Water User Associations established solely for this objective. The WUAs of the World Bank pilot projects (by CFPS) and some of the bottom-up WUAs like those established by Winrock or ACTED fall in this category. These WUAs can be distinguished in top-down established WUAs and bottom-up developed WUAs.

3) WUAs as part of CBO

Other WUAs are established in the framework of community development (CD) programs. These programs focus on general community mobilization or poverty reduction and use water management as a means to achieve this. This broader focus leads to the fact that WUAs are mostly established to function within a general CBO such as a village development committee (VDC) that existed already before, albeit sometimes informally.

Structure and task of WUA

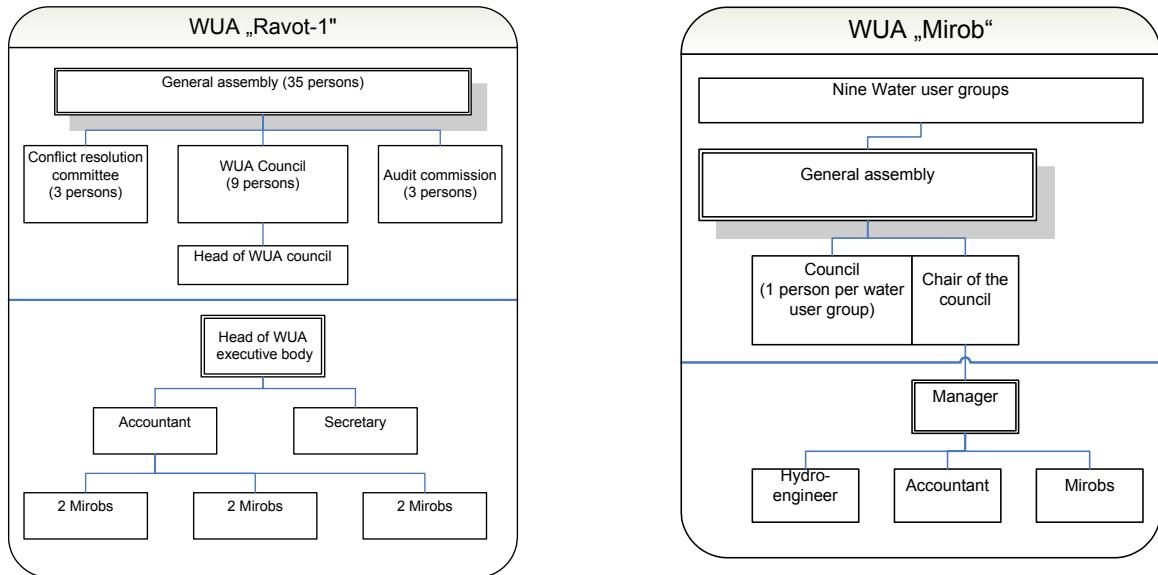
A Water User Association is an independent member organization with a democratically elected board and executive staff. It finances itself with members' payments for the service of water delivery. Its main tasks are:

- (1) Maintenance of the on-farm irrigation system on the territory of member farms;
- (2) Operation of this system, i.e. distribution of the water obtained by the RVKh to member farms in an equitable manner;
- (3) Collection of ISF from its members and payment to the RVKh.

WUAs have no uniform structure. This is because there is no nationally coordinated irrigation reform program, no proper legal definition about the status and tasks of WUAs, and a plurality of actors implementing WUAs. The following two examples are typical structures of WUAs:

**Figure 2: Organizational structure of WUA “Ravot-1”
(Kanibadam, established by ACTED)**

**Figure 3: Organizational structure of WUA “Mirob”
(Shakhrinov, established by CFPS)**



The upper half presents the administrative or legislative section, while the lower half is the executive section. The executive positions are normally paid, although in some of the bottom-up WUAs they are non-paid in the beginning. Often the WUA is divided into territorial sub-groups with every group sending a representative to the council. At the WUA “Mirob”, for example, the 464 member farms are divided into nine groups with every group sending a representative to the council. The council meets every three months, with a general assembly twice a year (t08:19). In other WUAs, the council meets every month. The number of staff depends on the irrigated area that the WUA manages. It usually consists of the director, the accountant and several mirobi with their number depending on the area (usually one mirob for about 500ha irrigated land).

Funding

The financial situation of the WUAs varies: focused WUAs get financial and material support. Some donors like the World Bank even pay the salaries in the initial phase. WUAs in CD programs often do not even have an office but use village infrastructure

like schools for their meetings. Salaries have to be covered by the users. The rehabilitation of the concerned irrigation system is done by grants provided by the donor. This is the basic incentive for the establishment of WUAs. The difference, however, is that sometimes WUAs are established after rehabilitation to care for the new technique. Sometimes the establishment of the WUA establishment is a precondition before rehabilitation starts. The registration costs are often either covered fully or partly by the donor. Occasionally farmers have to cover the costs fully themselves (ACTED 2005, Winrock International 2005).

Another common trait among all WUAs is that after a defined period of support, they are expected to become self-financing through the collection of irrigation service fees (ISF). The ISF per m^3 varies as it depends on each WUA on how much to collect. Those that are connected to the RVKh have to pay 1.2 Dirham per m^3 to RVKh. Additionally, they collect slightly more to cover own expenses. If a WUA takes e.g. 1.4 Dirham, 0.2 Dirham is used for WUA expenditures (t02:27; t08:15).

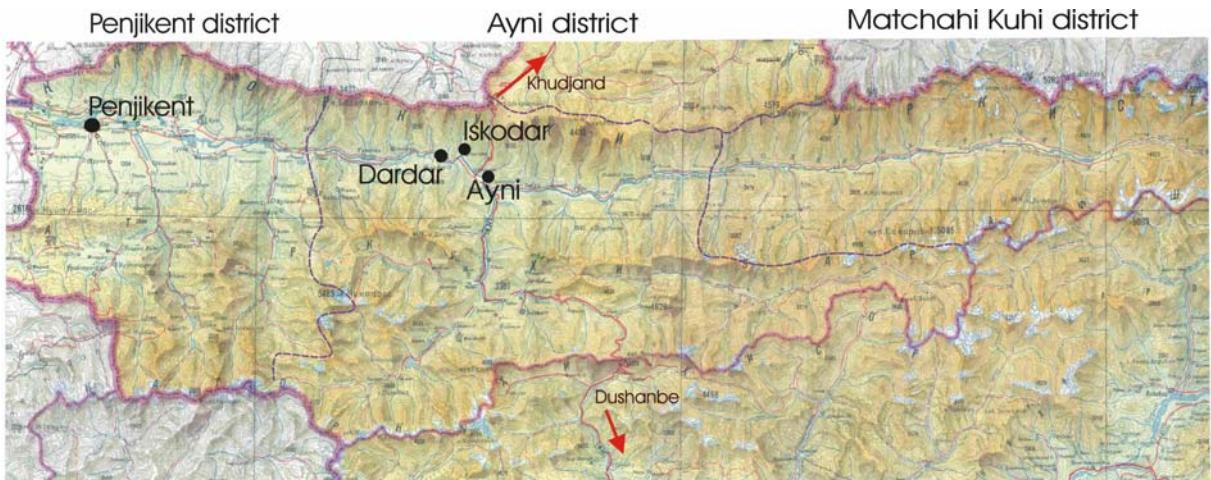
4. Case Study

For a deeper insight into the implementation process, a case study of the WUA “Zargar” in the Iskodar village was conducted. Iskodar belongs to the Dar-Dar Jaomat, in the Aini Rayon (Sughd Oblast). It is not the objective of this study to point out the shortcomings of this special WUA. On the contrary, as the discussion afterwards will show, it is exemplary for certain features that can be observed at other places as well. An overview will first be given on the Rayon, the village and the collective DF in which the WUA is situated.

4.1 General Characteristics of Aini Rayon

Aini is a mountainous Rayon in the Zerafshan valley located in the Zerafshan valley between the Turkestan and Fan mountain ranges. Although it is located only 150 km away from the capital Dushanbe and 175 km from the Northern center Khudjand, it is quite isolated by two passes (Anzob pass, 3,372 m, to the South and Shakhriston pass, 3,378 m, to the North) that are partially closed during winter (October – May). Due to this bad transportation situation, the valley faces difficulties in market access.

Figure 4: Map of the Zerafshan valley



Map: GAA Khudjand, own amendments.

Virtually all inhabitants (about 72,000) are involved in agriculture and livestock breeding. The main agricultural product is tobacco. Besides this, families grow wheat, potatoes and vegetables for subsistence. Apricot trees used to provide a part of the income (dried apricots), but in the last years, spring frosts destroyed the harvest. Land resources are scarce and the soil is of low quality. There are 2,984 ha pastures (of which 1,500 ha are in neighboring districts) and only 2,500 ha of arable farmland. The area of irrigated land per person is twice as low as on the national average (Grundmann 2005:8; t43:7). Many young men migrate to Russia to earn a living and support their families from there.

There are 27 collective DFs and about 70 individual DFs. According to the Rayon representative of the state land committee, every farmer is free to choose what to grow on 70% of his land. A state monopoly exists on the remaining 30% of the land, on which tobacco is grown(t43:16). Different reports indicate that farmers have to give between 30-60% of their harvest to the collective DF. The land tax in Aini Rayon is 17,25 somoni per ha per year¹⁴. This basic fee quadruples when the land is used for agriculture, making it 69 somoni in practice.¹⁵ (t43:15, 20-22)

¹⁴ The land tax varies for every Rayon according to the soil quality. The average land tax for Sughd Oblast is 31 somoni, i.e. twice the amount of Aini, which indicates the low quality of the stony soil in the Zerafshan valley.

4.2 Water Management in Aini Rayon

960 ha of the arable farmland are irrigated by pumping irrigation, using water from the Zherafgan river. They are served by nine pumping stations and 70 km of channels. These pumping stations are in the responsibility of the district water management department (RVKh). In the beginning of every year the OVKh submits a plan to the RVKh on how much water they are allowed to use. 1540 ha land is served by canal irrigation from mountain sources. Many villages have self-managed canals that divert water directly from a source or small mountain river into the village and onto the fields. The RVKh is not involved in the water management here and the users therefore also do not have to pay ISF (t27:08, 16-17).

The RVKh is located in the Rayon center, Aini. It employs 132 workers, most of whom are involved in the operation of the pumping stations. The RVKh is also responsible for the water facilities in the neighboring district of Gornaya Matcha. The RVKh gets 60% of its funding from the state budget and 40% from water fees. The collection of water fees from the DFs poses a problem. According to the director of the RVKh, farmers do not pay because of poverty and bad yields. The payment is done partially in kind (t27:15). This causes budget deficits. Especially the costs for electricity to run the pumping stations form a huge part of the expenditure. The salaries are low like everywhere in the state administration: the director earns 60 somoni per month¹⁵. The main problem mentioned by the director of the RVKh was the outdated technique: the pumps are generally more than 30 years old and there are no investments. He ascribes this to the fact that Aini is not a cotton producing Rayon and therefore would see no investments or credit. There are no WUAs for the irrigation systems delivered by the RVKh and the RVKh is not engaged in establishing any.

4.3 Iskodar, Dar-Dar Jaomat

Iskodar, a village with about 300 households, is located half an hour away from the Rayon center Aini. It forms part of the Dar-Dar Jaomat. Iskodar consists of three

¹⁵ 69 somoni is equivalent to 21 Euro. With cotton cultivation the fee is only duplicated.

¹⁶ Equivalent to 18 Euro.

mahallas¹⁷: Bekaron, Sodem, and Nisp. In Soviet times, Iskodar was part of a kolkhoz covering six villages. After initially being transformed into one collective *Dekhan* farm, it was dissolved in March 2005 into six separate collective DFs. Now the whole village of Iskodar forms one separate collective DF, named "Hasan Karamov". The DF staff consists of the director (*Rais*), the brigadier, an accountant and a tractor operator. The DF in practice works like the kolkhoz before and is still the basic organization in the village. The brigadier collects 30% of the market price of the harvest as the members' contribution to taxes, staff, and administration. The land tax is due to the inherited debts of the FSK 48 somoni per ha (t49:22). Farmers themselves have given various indications if and how much they pay. Neither the brigadier nor the *Rais* were able (or willing) to say how many people exactly pay their land tax (t28:37).

The main agricultural product is tobacco. Tobacco is cultivated by state prescription and sold by the DF, not by the people themselves (t28:40; t21:5). The DF gets its directive of how much and of what to grow from the Rayon and is controlled by the Jaomat (t42:22). Some farmers stated that they, given the choice, would prefer to grow other crops. Additionally, households grow wheat and vegetables on their garden plots mainly for subsistence. There are 105 ha of irrigated fields that are served by a canal that brings water from a nearby mountain spring and provides the village with drinking and irrigation water. The canal has not been in the responsibility of the DF but is ascribed to the village population in general.

The difficult environmental conditions reinforce the problems of economic transition. While the FSK paid its members a regular salary, the DF does not and the farmers earn a living only with their harvest. The majority of the village population can be considered very poor. In 2004, the UN distributed flour and oil to the most vulnerable families. Due to land scarcity and the lack of alternatives for income generation, many young men migrated to Russia. In almost every extended family one member works abroad or in Dushanbe (t42:08,15-16).

As far as reported, nobody has exercised his right to separate from the DF and begin as an independent farmer. People report that costs would be too high for the small piece of land received: To buy the certificate would cost about 150 somoni (45 Euro)

¹⁷ *Mahalla*, most often translated into "neighborhood" or "local community", is a residential network in villages as well as cities that can be traced back to the 13th century.

(t47:10). “It would not be worth paying that money for only three or four *sotka*¹⁸“(farmer, t45:86).

4.4 The WUA “Zargar”

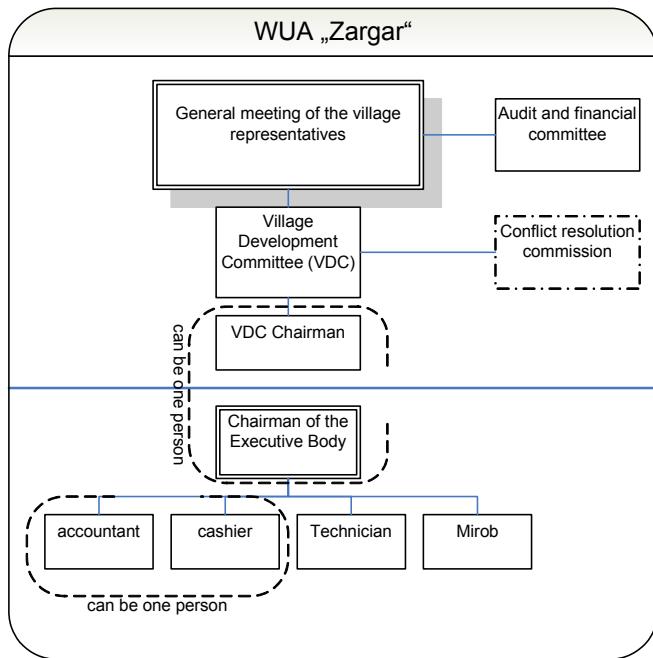
The WUA “Zargar” was established in 2005 in Iskodar for all farmers of the collective DF. It is part of a community development project by the German Agro Action, hence it presents the third type of WUA as described above. The main reason for its establishment was a project for the rehabilitation of the canal by GAA. The WUA should guarantee maintenance of the canal and distribution of irrigation and drinking water. With this establishment irrigation management switched from the DF to the WUA. Before the establishment of the WUA, there was a mirob who distributed the water but nobody was responsible for the maintenance of the system as a whole (t48:13-14). Also, since the mirob did not receive a salary from the kolkhoz after its dissolution, he ceased to fulfill his work as required (t49:4). The WUA was formally established on 08/07/2005 but it is not yet officially registered. It started working about two months before field research. The WUA has about 300 members, i.e. all the households in the village.

WUA and VDC

The WUA is closely connected to the Village Development Committee (VDC). The VDC was established in April 2004 when GAA started to work in the village as a counterpart for its projects. The VDC has nine members (including two women). According to the council members, the initiative to establish the VDC came from its chair, the *Rais* of the DF. The VDC initially held its meetings in the school, but later got a room in a building belonging to the DF. The VDC and the WUA are difficult to separate. The members of the VDC are the members of the WUA council. There are three members from every *mahalla* in the WUA council/VDC. As a GAA representative explained, it would make no sense to elect a new committee for the WUA as the most respected people of the village are in the VDC and people would nominate them again.

¹⁸ Sotka is the traditional Russian measurement of land. One sotka is 100m² (0.01 ha).

Figure 5: Organizational Structure of the WUA “Zargar”



Concerning internal structure, there is no clear separation of the legislative and executive as intended in the structure because the paid position of a director is not filled but performed by the VDC chairman. The paid positions are of the sanitary technician and the mirob, who each earn 30 somoni per month¹⁹. There is also one accountant who does not get a salary yet. The mirob, who is appointed by the VDC, can be regarded as a technical executor of the chairman's decisions. It is the chairman who gives the mirob precise instructions about water distribution. Statements about council meetings differed. According to the *Rais*, the council would meet every morning. General meetings were held on the 25th of each month. However, during research it was not possible to witness this. Another council member said that the whole council would meet only twice a year.

ISF payment

In order to cover the costs of maintenance and the salaries of the WUA staff, it is entitled to collect ISF from the villagers. The WUA chair said that they collected 1 somoni from every WUA member as a starting fee. Then farmers will have to pay 5 somoni per year per 10 *sotka* for irrigation water and 20 Dirham per person per month for drinking water (t49:6). Even though this decision was reportedly made at a

village meeting, most of the people interviewed have not been asked for payment yet and did not know that they are expected to pay for water in future. Some people heard rumors about future fees. The attitude towards fees differed: some considered it justified as the canal was repaired now, others were reluctant. This contradicts statements of the WUA chair who claimed that after some initial difficulties, 80% of the farmers would now pay (t49:9-10).

It also has to be mentioned that there are no water meters to control exactly how much water each farmer uses. The mirob calculates the water volume by the flow velocity. The ISF is calculated according to land size and not actual water use. As all farmers grow more or less the same products (due to state prescriptions), they also use more or less the same amount of water.

Community awareness

Community awareness is seen as a key component to reach sustainability of the WUA and changes of behavior patterns in water management. Like all CD programs GAA conducted several awareness raising campaigns in Iskodar.

Before the VDC was established, GAA staff visited the village about 12 times during three months and organized meetings and seminars (t44:8). GAA met in the beginning with a group of eight people, including the *Rais* of the DF, representatives of the *Mahalla* committee²⁰, the school director and the mullah. They were asked to spread information and invite more people to future meetings. At these meetings people have said that they prefer to set up a new committee instead of using the existing *Mahalla* committee for cooperation with GAA (t44:11).

The members of the VDC were elected by a general village assembly. This meeting was attended by 70 to 80 mainly male participants of all three mahallas. (t44:2). Due to the fact that the so-called general village assemblies are seldom really assemblies of the whole village, the new WUA organizational chart of GAA names it “meeting of village representatives”. This name mirrors reality more unambiguously.

The villagers are requested to contribute 25% of the costs of the rehabilitation project as another means to ensure ownership and sustainability. Since they can “pay” these

¹⁹ Equivalent to approximately 9 Euro.

²⁰ See chapter 4.5

with working time, several *hashari*²¹ have been organized to do the necessary work. This was organized by the chair of the VDC.

However when speaking with the villagers, hardly anybody knew the VDC nor the WUA. If people knew the VDC it was because of the presentation of GAA. Even then it was not entirely clear to them what exactly the VDC and the WUA are doing as its members would not inform the public about the meetings. The usual reaction from people who heard about WUA was: "Yes, they were here, they rehabilitated the canal" or "They brought the drinking water to the mahalla". People referred to it in the third person. Virtually nobody was aware that he himself was a member of this organization. Also those villagers who participated in the *hashari* were not really aware of the meaning of WUA. People connect all these events to the *Rais* and not to VDC or WUA.

Even one member of the VDC did not know about the WUA (t42:27). This man was not even sure if he is a member at VDC, as he is a member of almost all important groups at the village-, Jaomat-, and obviously also Rayon-levels: "There is now this VDC in the village. Probably I am a member there as well. Well, I am a member everywhere. Wherever they establish a group, they elect me to it." (t42:30).

WUA is part of a CD project with assumably more community mobilization activities then top-down established WUAs. Still a broad community awareness is virtually non-existent. How can this be explained? The next chapter will take a closer look at the local institutions and the role they play in the village and for the WUA.

4.5 The role of local institutions

There seems to be a general lack of information and differing perceptions about the roles played by the different formal and informal institutions in village life. There are some institutions at local level that are concerned with the WUA. These are the Jaomat, the mahalla committee, the general village assembly and the Dekhan Farm.

²¹ *Hashar* may be defined as communal labor or cooperative work for which people work free of charge while the materials are provided by richer inhabitants or in Soviet times by the kolkhoz. *Hashari* have been traditionally organized by the Mahalla committee, but today they are also organized by the director of the FSK/DF.

State organizations

There is no relation of the WUA to the RVKh as the village is not connected to state-run water systems and therefore does not have to pay water fees to the state. The extent of RVKh involvement (as well as of the Jaomat) is to be invited to all GAA-organized pre-establishment activities. It is also a party to the contract on the establishment of WUA between VDC, GAA, Jaomat and RVKh, which forms the basis for GAA activities (t48:24).

Jaomat is the local organization of self-governance in towns and villages. Iskodar is part of the Jaomat Dar-Dar. The Jaomat is not only a party of the above mentioned contract, but is also in other ways formally involved in WUA activities. The chair of the mahalla committee (and member of WUA council) is also a representative to the Jaomat.²² Furthermore, the director of the Jaomat himself is from Iskodar. In practice however, the Jaomat is astonishingly absent and the above described connections were never mentioned by WUA council members when asked about their relationship with the Jaomat. The interviewed member of the Jaomat council stated the Jaomat itself could not act due to the lack of resources²³ but that representatives would participate in meetings (t42:17-21). State structures do not appear directly in the daily village life and in WUA performance. If they play a role, then it is performed through the Rais or the brigadier who are perceived as representatives of the Jaomat/Khukumat decisions.

Mahalla committee

The most important local (informal) organization is the mahalla committee. The mahalla committee, consisting of local elders and other respected members of the community, is the lowest level of local self-organization. It is an institution that organizes collective religious and social events (like births, weddings and funerals), solves conflicts and provides social services. It defines and perpetuates local values and norms of behavior. The mahalla committee also has the authority to organize *hashari*. After the Soviet authorities' attempts to supersede it failed, it was tolerated but never got a formal legal base. During Soviet times, village life was organized by

²² The Jaomat has a council of five people from every village. They are not elected but appointed at the village assembly. They meet once in three months.

²³ Although Jaomats get some finances that are allocated by the Rayon councils, they do not have a budget in a true sense (Illolov, Khodoiyev 2001: 614).

the village council (*soviet kishlaka*) and the brigades. Now there are attempts to formalize the mahalla committee and transform it into an official state structure for local governance. However, the nature and performance of mahalla vary considerably in the different regions and from village to village (see Ilolov, Khudoiyev 2001; Grundmann 2004:8f).

The seven members of the mahalla committee work unsalaried. They were elected several years ago (in 1995 or 1996) without re-elections since then. The committee is responsible for the whole village (t42:6-10). Some state that the mahalla committee represents the Jaomat in the village and that its function is mainly to implement Jaomat decisions (t28:31; Grundmann 2004: 18). The director of the mahalla committee is also in the VDC and a deputy to the Jaomat council.

The *mahalla* committee was approached by GAA initially in the process of VDC development. It is interlinked with the WUA council: the director of the mahalla committee is a member of the WUA council and the director of the WUA is a member in the mahalla committee. As the VDC/WUA has access to resources, it gains more importance than the mahalla committee, which is reduced to its social and religious functions.

General village assembly

The WUA receives its legitimization through the general village assembly. Village meetings are said to be held every Tuesday. Many locals, however, do not know about them or do not attend because they don't have time; because real problems would not be discussed; or because "only old men go there" (t46:12-13,30-32). Generally, about 15-20 people from every mahalla actually participate in such meetings (t48:6). A general village meeting therefore hardly includes the whole village population.

Most of the local population did not know exactly about the mahalla committee or the village meetings and did not really appreciate its work.

"I haven't participated in village meetings for seven years as I am too sick. Nobody from the mahalla committee comes to us and gives us information, they are not interested in us. I do not even know who is in the committee."(t46:46-47).

Therefore little knowledge and awareness of WUA/VDC is not a special feature of this organization. In general a majority of the village population is marginalized in

local decision making processes; formal as well as the informal structures are dysfunctional in this respect.

The Dekhan Farm

Despite all the institutions that are formally or informally legitimized to organize village life, the main local organization remains the DF as a subsequent organization of the kolkhoz. The Director of the DF, the *Rais*, is often referred to as *Rais* of the village. People expect the DF to be in charge of the village's well-being. This perception is a result and heritage of the kolkhoz (and the Soviet state in general), which provided them with all they needed for living; an attitude often referred to as 'Soviet mentality'. The powerful position of the Dekhan Farm will be visible in the next chapter which discusses the role of the *Rais* and the brigadier of the DF.

4.6 Power relations in the village

In theory, the VDC – and therewith also the WUA - is meant to be "established independently from the official administrative village structure" and to "[involve] the entire village community"²⁴. In practice however, it mirrors the existing power structures in the village. The chair of the VDC/WUA is the *Rais* of the DF. This *Rais* was in Soviet times the leading economist of the kolkhoz, then brigadier of the collective DF, and after the dissolution of the previous big DF he became the director of the new DF "Hasan Karamov". It is important to note that the brigadier in Soviet times was one of the most important and respected persons in the FSK. According to Grundmann, the Brigadier is often perceived as the de facto leader of the village as he controls the most scarce resource – land (and he is the one responsible for implementing the prescriptions) (Grundmann 2004: 19, 26).

Most people obviously do not know who to approach after the dissolution of the kolkhoz. People often mention that there are no village structures that care for village life and that everybody is responsible for himself. If they mention someone at all, then it is the *Rais* personally since hardly anybody knows about the WUA or the VDC (t46:8-10;t45:12). Even when asked about the responsible organizations in the

village, people simply mentioned the name of the *Rais* (t46:19). Only one person said that the mahalla committee, namely the chair of the committee, is responsible. (t46:63). The *Rais* is the unchallenged leader of the village. Like an old woman said: "Whatever the *Rais* says, we have to do." (t45:82). At the time when the VDC was established, the current *Rais* was still the brigadier and through this function became chair of the VDC. The *Rais* earned his position of power from his time as brigadier. His position now might be even reinforced. As WUA director he not only controls land resources but also water resources. Though there is still a Mirob responsible for the day-to-day water distribution, he functions merely as a technical assistant for implementing the *Rais*' decisions. Though there is a new brigadier now, he is a young, reserved man who obviously does not have the expected attributes of a brigadier but functions as an assistant to the *Rais*. The *Rais* could thus prevent a challenge to his patronage network.

On the other hand, most people seem to expect the *Rais* to care for everything and to mobilize resources. As the *Rais* himself said: "People need somebody to guide them [rukovodit]" (t49:27). This is at least what they are used to and what in the village self came hardly into question. A consequence of this mentality is a lack of proactiveness. When asked, who should be responsible, people mentioned the *Rais*, not the mahalla committee or the Jaomat.

Those who are not part of his network feel excluded and face difficulties in getting access to information about village activities: "The *Rais* has his own group and I am not part of it." (t45:78). Grundmann (2004: 20) comes to the conclusion:

"It therefore can be said that VDCs have not been established 'independently' but along the official administrative village structure (...). The current structure of the VDC is a collection of the main acting key figures and falls some way short of a body 'which involves the entire village community' (...')."

As GAA used the village leaders as intermediaries for their CD activities and did not approach the population directly, their position was reinforced. They are after all the ones who have access to resources and information that the rest of the population lacks.

²⁴ GAA-Application form to ECHO; Food Security Programme NGO 2002; Annex A, cited in Grundmann 2004:20.

5. Discussion

The case study exemplarily showed, how closely the apparently technical issue of managing an irrigation channel is connected to questions of power and local politics, and how it is framed by economic conditions. This could however be a single case without wider relevance. Therefore certain aspects that turned out to be critical in the case study are discussed in order to show how they are apparent in the reform process in general.

I would like to distinguish three political factors crucial to the understanding of irrigation management and reform processes: Firstly, the practice of land reform differs from the policy outlines, which has constraining impacts on the agricultural sector and on irrigation reform. Secondly, the institutions at local level that present the environment in which the irrigation reform has to be implemented.²⁵ The third factor is the role allocation between national and international actors in the policy process that affects ownership and scope for action.

5.1 The practice of land reform

Land reform was not just one of the main reasons why local irrigation management had to be reformed. It is also a main influencing factor for implementation as it shapes conditions. Chapter 2.3 provided a short outline of the land reform conducted so far. It mainly referred to the theory of land reform and how it is exposed in the policy documents. This chapter now will take a look at the practice of land reform that is considerably different. Even though official data suggests a successful and rapid reorganization, land reform is conducted very slowly and rather cosmetically.

The land managed by independent *Dekhan* farms is still very small compared to the collective DF. And those are mostly the old FSK with new names. By February 2005, only 9% of the agricultural land in Tajikistan was managed by independent farms (ICG 2005: 8). “Almost everything stayed as it was. They only gave the land for rent and named it *Dekhan Farm*”, said the Vice-Minister of the MIWM (t05:81).

An important point is that land is not redistributed “automatically” – like e.g. in Kyrgyzstan – but farmers have to apply for it, i.e. they have to become proactive

²⁵ Environment in this respect refers to the institutional environment, i.e. the underlying fundamental norms and rules of a society while the concrete institutional arrangements (e.g. governance structure) are an outcome of these.

themselves. Most of the farmers do not know about the reform and their rights. In the earlier mentioned AAH survey, 92.2% of the respondents did not know how to apply for a land certificate. Many did even not know what a *Dekhan* farm is. There is widespread 'legal illiteracy' among farmers. If farmers know about application procedures, the next hindrance is the high cost of the certificate. The official costs are 6 US-Dollar plus service charges (Presidential decree No. 600, Annex 3, 12/30/2001). The actual costs are considerably higher, like 55 US-Dollar in Iskodar. According to different sources, they are indicated with up to 300 US-Dollar with an average of about 50 US-Dollar (AAH 2003: 19f; t34:06). There are also cases where applications are refused, applicants are discouraged by local officials or whole sovkhozes or kolkhozes are declared as seed production or livestock breeding farms to prevent the establishment of independent DFs (AAH 2003: 21).

At first sight it might seem unnecessary to create WUAs where there is a collective DF. WUAs are an additional burden on the farmers and they are servicing the exact area and all members of the DF. A better strategy could perhaps be to support DFs to become real agricultural cooperatives that care for water, technique, etc. Upon closer inspection however, this approach is shortsighted. More and more collective DFs are disintegrating and it seems to be only a matter of time until they are dissolved entirely. Additionally, a WUA would make farmers less dependent on the DF that would not control access to all resources anymore. With less dependence, farmers could easier separate and set up individual farms. Irrigation reform therefore could contribute to land reform.

The major obstacles to effective land reform, however, are the persisting features of the cotton sector, which is the most important and most water-intensive agricultural crop. They will be described now in detail.

5.1.1 Production prescriptions

The prevalence of collective DFs is not the only hindrance to effective land reform. Another major point is that the guaranteed non-interference of government (Art. 5, Law "On Dekhan Farms") is not realized. As already seen with the tobacco quotas in Iskodar, state prescriptions for production have not been abolished yet. This affects cotton especially. As cotton is of huge economic importance it was widely excluded from land reform and privatization to secure benefits for the state. A yearly production plan is distributed to the Oblasts and Rayons. The Rayon administration (*Khukumat*)

distributes this to all the farms - be it state farms, collective DFs or individual DFs. Each farmer has to produce the specified amount of cotton. In cotton regions 70-80% of the land on average has to be used for cotton cultivation. The farmer is only free to decide what to grow on the remaining area (AAH 2003: 9-11).

As a further incentive, the land tax is reduced by 50% for cotton-cultivated fields (t43:17). Such an incentive is not enough for farmers to grow cotton voluntarily, as cotton generally brings less gains for the farmers than other crops (UNDP 2003: 39f). The reason why farmers do not gain from cultivating cotton is due to the structure of the cotton business, which is described in the next point.

Besides those instructions, there are a number of informal pressures for cotton-growing: Access to key resources like water, seeds, fertilizers or credit are often dependent on cotton cultivation. One NGO representative ironically describes the situation:

“If I am a really smart farmer and have studied in Cambridge, then I would know my rights and could get access to land. But when I then will not grow cotton, I will not get any water.” (NGO representative, t15:14).

Such constraints limit the variety of choices for a farmer to e.g. redirect production to less water-intensive crops. For farmers it is actually already more lucrative to grow other crops like fruits, which would give them more profit and that do not require as much water as cotton. But they simply do not have the chance to change the cultivation patterns.

5.1.2 Debt crisis

Closely connected to the state cotton quotas is the high debts of many farms resulting in financial dependency. As in Iskodar, new DFs inherited the debts of their preceding FSKs, most of which owed the state payments for water, electricity etc. According to IMF estimations, the FSKs altogether owed about US-Dollar 125 Mio to the Tajik government at the time of reorganization. These debts have been distributed to the new farms according to size. As such most farms have debts ranging from several hundred to more than 1,000 US-Dollar per ha (AAH 2003: 12). Those indebted farms have to cultivate cotton on state demand but have to buy all the necessary inputs themselves. In this situation most farmers are dependent on local investors, so-called “futures companies” (“fjucherskie”), that provide pre-finance for cotton production. At the beginning of the agricultural year they provide seeds,

fertilizer, fuel, salaries and other inputs as credit that has to be paid back with the cotton harvest. As the value of the harvest is often less than the value of the input (due to bad harvests and overpriced inputs), farmers are indebted to the investors and are obliged to continue to work with them the next year and a vicious circle starts. The local investors on their part are contractors of the Swiss company Paul Reinhart AG, which controls 95% of all Tajik cotton exports. The practice of the local investors, which each have a monopoly on a certain region, is the object of frequent complaints by farmers. Complaints concern overpriced inputs, bad seed and fertilizer quality, late payments and deliveries. On the other hand, some *fjucherskie* meanwhile took over state tasks like funding hospitals, rehabilitating irrigation infrastructure or providing schools with computers. They are the ones who have made the most profit from cotton production and who have benefited the most from land reform (AAH 2003: 12-15; UNDP 2003: 37-42; ICG 2005: 8-10).

Additionally one has to consider that many workers on collective DFs only get a very small (less than US-Dollar 10 per year) or no salary. Besides the lack of alternatives the main reason why people still work on the farms is because the *Dekhan* farms provide (like the FSKs before) families with garden plots.²⁶ Hence the local economy mainly survives on barter trade and revenues from migrant workers in Russia and other CIS countries.

These three factors – prevalence of old farm structures, product prescriptions and debt crisis - do not only impede land reform but also hinder farmers from using the full economic potential of their land. The *de facto* possibilities vary considerably from the *de jure* possibilities. Lack of knowledge and experience, no access to markets, corruption and limited choices on what to grow are the main obstacles to effective land reform (Bucknall et al 2003:4).

These factors also influence irrigation reform. Even if irrigation systems are rehabilitated, their impact is restricted: the land might now be served with water but the farmer has no access to the land. Or the farmer has land but he cannot use it to maximize the profit. Instead he has to grow state prescriptions and therefore cannot pay his water bill so that inadequate funding of the water infrastructure remains. As

²⁶ In cotton growing areas, farm workers get the cotton sticks they use as fuel material in winter. The significance of these cotton sticks in areas with no gas and electricity should not be underestimated: In the AAH survey many households said they would stop working for the *Dekhan* farm if they were not dependent on cotton sticks. Sometimes these sticks are the only 'salary' people get (AAH 2003: 15f.; ICG 2005: 10).

described in chapter 3.2 most of the irrigation reform projects are part of wider-focused agricultural programs. The effect of those programs is hindered by these conditions. “Donors always want to support democracy and societal development, but it stops at the corruption in the cotton market.” (deputy regional director of an international donor agency, t50:31)

5.1.3 Coordination of land reform and water reform

Besides the above described impact of land reform on irrigation management, the deep dependency of agriculture on irrigation makes coordination between land and water reform pertinent. This is widely acknowledged by the experts in the respective state agencies:

“In Tajikistan, land reform without water is not possible (...). That is why we conduct a land-water reform.”²⁷ (Vice Minister of Irrigation and Water Management, t05:72)²⁸.

This involves the establishment of Water User Associations:

“It is a mandatory process: if there are private *Dekhan* farms, they have to have associations of water users.”²⁹ (senior official, MIWM, t07:64).

Despite the affirmation of the close interrelation of both issues by policy actors, it is not so in practice.

A real coordination would have been started initiated at the beginning of the land reform with the redistribution of plots along hydrological principles. Now some Dekhan farms own fields at different channels that makes WUA establishment along hydrological boundaries difficult, as this would mean that one DF has to be a member in different WUAs. As the new farms are still oriented along the FSKs, WUAs also have to be oriented along those boundaries for practical reasons. This reinforces the dominance of the former FSK power holders and the institutional factors (discussed later in chapter 5.2) instead of turning towards a hydrological organization.

A juridical directive for the irrigation systems formerly in owned by the FSK is given in exhibit No. 2 to the Law 522. Paragraph 7 contains regulations for the transfer of the on-farm and off-farm irrigation facilities to the respective ministry. The regulation is non-compulsory, however, and without any clear guidelines. As the water

²⁷ (В Таджикистане реформа земельная без воды никак не возможна (...). Поэтому мы проводим земельно-водную реформу)

²⁸ Similar: t07:64, t14:23; t15:19, t19:39; t25:32.

administration was not interested in getting the deteriorated irrigation facilities into its responsibility, it mostly stayed the responsibility of the collective DF. In places with primarily individual DFs, the secondary channels are perceived as nobody's responsibility. In many cases the consequence is that farmers at the upper end of a channel use as much water as they want. They sometimes regard the part of the channel crossing their territory as their property, giving them the right of full usage (t25:38).

Despite different instructions, no implementation mechanism have been developed as yet for the mentioned directive. This is ascribed to the reluctance of the MIWM to take over the former FSK channels, as this would mean an extra burden and the need for additional finances that have not been allocated. On local level, according to the land committee, there is not the input of RVKh in land reform issues as would be required to make it sound (t32:7-10).

This unclear status of the water management facilities and the resulting uncertainty regarding access to water contributed to the reluctance towards the dissolution of the FSK. As mentioned, the DF still controls access to the main resources, esp. land and water. The fear of lacking access to water is obviously a further hindrance to farmers becoming independent. They remain in the collective DF as they then have a perceived secure access to irrigation water. Imperfect land reform impedes irrigation reform and vice versa: Deficiencies in irrigation reform create insecurities for farmers, thereby hindering their empowerment against vested interests. Once again ambiguities in legislature, the lack of political will to implement policy decisions and the farmers' lack of information and knowledge are obstacles for reform.

5.2 Institutional factors in implementation

After the discussion of the implications of the agricultural sector as a whole process, this chapter is devoted to the local level. This is the level where the reform finally has to be effective. The institutions at local level present the environment in which local water management is embedded and in which irrigation reform has to be implemented.

²⁹ (Это обязательная процедура: если есть частное дехканское хозяйство, у них должна быть ассоциация водопользователей)

5.2.1 Role of local institutions

WUAs are established as new organizations in an existing pattern of local institutions directly or indirectly dealing with water issues. Bottom-up projects often actively involve local organizations and institutions by including the village assembly and/or the Mahalla committee in the process and by using rules of *hashari*. The CD projects refer to a certain 'community' as a partner and try to incorporate its traditional organizations into the programs. Such an inclusion can ease the acceptance of the new organization by the farmers. Some local organizations have democratic potential: mahalla committees and their directors are in theory elected on consensus and people can complain to them. How far this is true in practice depends highly on the specific community, as each village is characterized by other power structures. The local level can be rather democratic or highly unequal (t30:29-30).

The most popular local institution used in irrigation management is the *hashari*. As mentioned in the case study, *hashari* are organized voluntary work by community members, and they are traditionally organized by the mahalla committee. In many places without WUAs *hashari* are the only mode in which channels have been maintained since independence and are therefore an inherent part of water management. In many WUAs *hashari* are used for the community contribution to the project or for food-for-work programs. They are often organized by the director of the DF and not by the director of the Mahalla committee. The *hashar* has its limitations though. It may be suitable for small canals but not for big channels that need professional supervision and equipment (excavator etc.). One also has to consider that one of the basic principles of *hashar* is voluntarism. This is lost when it becomes a compulsory part of donor projects.

The role of the local institutions is limited by the decision to establish new structures instead of to incorporate water management into existing ones, e.g. by broadening the responsibility of the mahalla committee. This example was recommended by a local NGO, as this would be suitable for the complex character of local water management and ease acceptance by the population. As the mahalla already is responsible for a lot of tasks in local community life, water could be integrated easily (t15:22). The task of irrigation reform then would be to strengthen their capacities and democratic features and to make them transparent and participatory community organizations. Most CD projects however work rather *with* local institutions than *for*

them. While those projects want to be locally adaptable, they still want to set up their “own” organizations and only use those existing institutions in an instrumental way.

One of the donors’ arguments is that official local organizations like the Jaomat council (*sovet Jaomata*), the mahalla committee or the DF director are not democratically elected bodies but nominated by the Jaomat. If they establish new bodies, the process would be transparent right from the beginning. In practice however, it is questionable, if the process of setting up a VDC or WUA can differ considerably from other local bodies, as the same institutional conditions apply to both (see subsequent chapter).

One means to ensure an open and transparent process and democratic legitimacy of the WUA is the inclusion of the village assembly in its establishment process. Many donors follow a rather unreflected, idealized notion of the ‘village community’ and seem to perceive a village assembly as a public sphere free of domination and where competing interests and opinions are articulated freely. This ideal is unsurprisingly not met in reality. The general assembly is in many cases not an assembly of all adults, but a meeting of invited representatives of the different village mahallas. If and how far those representatives spread the information differs. Many village meetings are *Maraka* - men only. However most agricultural work is done by women. Due to nonexistent or marginal salaries, many men migrate to Russia or other CIS countries.³⁰ Since independence Tajikistan therefore faces a growing “feminization of agricultural labor force” (AAH 2003: 17). As such they should be the main target group for projects aimed at the agricultural sector. However, women are only marginally represented in local decision making processes. The public participation of women is often limited and sometimes they are completely excluded. A fundamental question is whether those ‘traditional’ decision making mechanisms are still applicable to post-Soviet realities and can legitimize WUAs. Unsatisfactory mechanisms have resulted in farmers being unaware that they are members of a WUA. But voluntary membership of empowered farmers is a basic feature of WUA. If this is not achieved, irrigation reform would in essence have the same effect as land reform: presenting options on papers to farmers that are not free to choose in reality. Often it is the same people who are nominated for all local organizations. According to a UNDP representative, about half of the VDC members in its projects are also

members in the Jaomat council (t50:25). At WUAs the leaders of the DF often play an important role. This confirms again the prevailing importance of the FSK that already has been visible in land reform. The FSK was not only an economic entity and work place, but “the principal unit of social organization” (AHH 2003: 1) in rural areas. Inside the FSK, members were organized into brigades that were responsible for certain parts of the land. Families of FSK members got a house and a garden plot for their own consumption production. FSK were responsible for health care, education and social welfare. This strong role prevails within the collective DF. The brigades – the sub-unit of the FSK – are also often still (informally) existent. The sub-groups of the WUA are sometimes organized according to the former brigades.

The dilemma is that donors can establish democratic mechanisms (like elections) but these can only serve as a frame for democracy. Democracy itself is a societal process. Therefore WUAs or similar organizations can provide the framework, but this can also be undermined by patronage as the central mode of politics. This will be described in the following chapter.

³⁰ According to IOM, since 2000 about 632,000 men from Tajikistan worked as migrant laborers abroad (that is almost 10% of the whole population). 84% work in Russia. (AAH 2003: 17).

5.2.2 Patronage politics

Political culture describes the attitude of the individual towards the political system. While political culture is not an institution, it is an effect of institutions. It is shaped by societal and cultural institutions that create a system of shared beliefs, norms, morals, traditions and orientations of a society. Analyzing the political culture of a state allows inferences on the influence of institutional factors. One of the reasons why newly established organizations work the same way as previous village institutions can be found in the political culture. The political culture is characterized by a lack of proactiveness and an orientation towards the village leaders along with a personalization of organizations. Patronage is the central mode of politics. Historically, networks have been mainly built along kinship ties. Despite often being considered as pre-Soviet institutions, those values and loyalties still play a role. The sovkhozes and kolkhozes replaced the former kinship-based organization only superficially.

Other so-called pre-Soviet social institutions have also not been replaced by Soviet ones, as the official historiography and also the majority of Western scholars suggest. Instead in many cases they have been only superficially superposed, transformed or even strengthened by Soviet ones: Hashari have been transformed into “*Subotniki*”, the Soviet form of collective voluntary work; brigades were organized parallel to Mahalla structures (Roy 2000: 85-100; Grundmann 2004: 10).

The Soviet Union did also not present a fundamental change of the logic of patronage politics. Independence and privatization did not change it either. Again names have been changed but personal affiliation, networks and patronage as the fundamental mode of distribution of resources remained. The case study showed clearly how the role of the patron is fulfilled by the chief of the Dekhan Farm, who was the brigadier of the kolkhoz. The center for resource distribution is no longer the party committee in Dushanbe but the government, private structures (like the cotton investors), and international donor organizations. The agency for distributing these resources is no longer the FSK but newly established organizations like VDCs or WUAs, who on their part are staffed with the old patrons of the Soviet system. People were accustomed to the Soviet system that cared for everything, and then they witnessed international humanitarian aid take on this role. Now they expect international donors to continue doing this. The involvement of intermediaries, which is necessary to fulfill the tight timeframes and target orientation of development

projects, strengthens existing leaders. They not only have access to resources, but also receive further training and knowledge which can even intensify inequality. This new role of the patron could be defined as “local development broker”, a category recently introduced in development sociology to describe the role of intermediaries between the local population (the target group) and development agencies (Bierschenk et al. 2002).

The people’s lack of awareness about WUAs and other structural changes (like the transformation of the FSK into DFs) is due to the lack of access to information and the fact that those transformations do not affect power relations in their daily life. For local people, the structures remained more or less the same. This is especially since roles are normally affiliated to persons and not organizations.³¹ The *Rais* is the patron of the village. Whether he is the *Rais* of the Kolkhoz, the DF or the WUA and whether his networks lead to Moscow, Dushanbe or an international donor, is secondary and often unknown.

As donor agencies make contact with village authorities at the start, they reinforce those power relations. Some donors start by asking the Jaomat to select the participants of the villages for the first meeting. This is not always voluntarily, though: There have been reported cases, where donors have been obliged to take a representative of the Khukumat with them to all meetings. The non-democratic environment and low degree of decentralization present a difficult environment for implementing and fostering projects aimed at strengthening local self-governance.

Yet different methods are used to avoid the exclusion of certain groups and the dominance of particular interests: inclusion of people like the school director or doctors in the initial group; community mobilization; discussions with the village assembly; women’s meetings. It is still difficult to overcome those power structures since in most cases WUAs are established without the necessary timeframe to really empower people. Time frames are tight once villages are selected to participate in a project. In general, the reported time between project approval and the establishment of the committee varies from one meeting to three months or even six

³¹ The strong affiliation to persons instead of organizations is not a phenomena restricted to only the local level. The WUA program of the World Bank, e.g. is very often simply named “*projekt Ostanaeva*” or “*tsentr Ostanaeva*” (Ostanaev’s project, Ostanaev’s center) by other officials according to the director of the CFPS that implements the project. And it is also a main characteristic of the political regimes of Central Asia in general, where especially the position of the president is extremely personalized.

months. The average seems to be about three months. However if one would like to achieve real participation, organizing some (or only one) village meetings is not sufficient. One must start with much more basic activities. E.g. part of the population cannot read and understand the materials and documents provided. It is striking that the time required to raise public awareness is not considered in most projects, although there seems to be a consensus that a change of mentality concerning water use is crucial.

At this point it should be mentioned that my findings here derive mainly from bottom-up developed WUAs that put more emphasis on raising awareness than top-down established ones. Compared with top-down WUAs in a similar context (Sehring 2005), there is no substantial difference in that respect to observe. The question is whether these different approaches actually do make a difference or if the local institutional setting is dominant. Further research would be necessary here.³²

5.3 Actors in policy formulation and implementation

After the first two chapters of the discussion were mainly focused on the implementation, it is also necessary to broaden the perspective on the policy process as a whole. The next section will discuss especially the role different actors play and its consequences for the reform.

5.3.1 The role of government agencies

As mentioned in chapter 3.1 the government issued a new Water Code in 2000, which underwent some minor changes in 2003. However, there are obviously no government efforts to create awareness about this law, which would be a prerequisite for its proper implementation. The law is widely unknown as no information about it and no copies of it are available. Even the concerned state agencies often only possess a single copy or none at all:

"We could convince ourselves that today many people do not know the legal basis of water usage. Even experts. First, virtually nobody has the water code. (...) There was a amendment in 2003. This is the new version of the water code. Unfortunately virtually nobody knows it. When we went to the regions we asked: Do you have the water code? They said: No." (NGO representative, t01a:05)

³² See for discussion Platteau 2004; Chhotray 2004.

People do not know their rights and if they do, they do not know whom to approach when their rights are violated. However, it is not only the population, but even the concerned agencies who do not have sufficient information about the law. They therefore do not know how to apply it. The consequences are vividly reported by a director of a RVKh: After a case of water theft³³ he first wrote a letter to the director of the concerned *dekhan-farm* that he should prosecute the perpetrator. But the director did not react. He then turned to the court, but that was ineffective, as the court did not know how to apply the law (t16:30-32). Until now no one has been prosecuted in Tajikistan for the violation of the water law.

The main efforts to implement irrigation reform in Tajikistan are done by donor agencies and not by government agencies. Although there is no official record of all the WUAs set up as yet, there is without much doubt no WUA in Tajikistan that was established without donor involvement. The water administration itself is only in a limited scope engaged in WUA development. They give advice to donors on where to establish WUAs or they propose projects to donors. In interviews with various state officials, it was obvious that they do not consider reform implementation their predominant responsibility, but rely instead on donors to do it. The MIWM is not even the coordinating organization for all on-going and planned water management projects. There exists a department for foreign investments at the central MIWM. It serves as the project implementation unit for some projects. While it coordinates some of the bigger projects, information about all ongoing projects was unavailable at the central level in the Ministry nor at the Oblast branches. In the whole water administration, nobody seems to have an overview of where and how many WUAs exist. The state water administration is rather marginalized in the whole process.

The limited role of government agencies may firstly be attributed to the lack of financial and human capacities to implement reforms. As mentioned earlier, the water sector is only financed by 10% at the moment. With the introduction of fees the RVKh are expected to cover part of their expenses via fee collection. As the fee collection rate is rather low, it can cover salaries, channel cleaning, and part of the electricity costs, but not substantial renovation (t31:29). The situation is especially difficult in those RVKh that have to operate and maintain pumping stations. This is because of

³³ Water robbery of villages or individuals at upper reaches of a river or a canal is something very

the maintenance costs, electricity costs and salaries. One RVKh director reported that they can pay only about one third of their electricity costs due to the lack of funds. Those constraints also make also a salary increase, which is necessary to attract qualified experts, impossible.

Furthermore, the personnel capacities are limited. Tajikistan in principle has the opportunities for the education of specialized water experts, especially at the Agrarian University in Dushanbe and the TajikNIIGiM³⁴, an applied research institute subordinated to the MIWM. However, the prevailing Soviet-style education is too specialized to meet the current needs of broadly trained experts who are able to include ecological or social aspects into hydro-engineering. Many qualified specialists have also left the state agencies. In the 1990s, many emigrated because of the civil war. Today, the low salary and alternative, better paid job opportunities with international agencies are the main reasons. The remaining personnel lack adequate training opportunities. Even if they have training, the above mentioned constraints hinder the application of new approaches: “I participate in seminars [of CFPS], but then I come back, and what can I do here?” (t31:6). This situations weakens professional culture as well as technical performance.

There is still another reason for the lack of state involvement: With donors and international NGOs taking over tasks like the provision of water from the state, there is a tendency to rely on donor and NGO engagement and so to “outsource” certain state activities and responsibilities.

Although state officials do not hesitate to criticize aspects of the donors’ approaches and WUA performance, they do not take the initiative to make their own proposals on how to improve the program or even take action to set up WUAs themselves. This lacking sense of responsibility can be witnessed not only at local level but also at the oblast and national levels. For example, several representatives of the MIWM confirmed the need for a special department at all levels of the MIWM to coordinate and support the activities to set up WUAs. The representatives of MIWM mentioned that they need specialists for mobilization, as this is not what the *vodniki* are trained for and that the donors have to be coordinated as every organization is working alone (t31:20-21). However, all those stated that donors should set up and finance such a

common.

department, be it at central or at oblast level. (t39:7). There is obviously no perception of the option of becoming proactive and no sense of ownership of the process. According to reports a new ADB project started at the end of 2005 within which a Support Center at the OVKh in Sughd and Support Departments in two RVKh should be established (t31:7).

Here one has to mention that due to the strictly hierarchical Soviet system the MIWM, like the other ministries, lacks experience in policy formulation and coordination. Vertical coordination was virtually non-existent in Soviet times (Gov. of the Republic of Tajikistan, UNDP 2005: 5f). Yet such a coordination is crucial for a sound approach to such a complex issue like water. The difficulties of coordinated action in land and water reform can be ascribed to this lack of experience accompanied by an inadequate institutional and legal framework.

This limited state activity, however, is – even if indirectly - supported by the activities of donors. They have been eager to fill the gap left after Moscow's withdrawal. Many international experts who were interviewed have been rather aware of this dilemma. To assess this point better, the following chapter will take a closer look at the role of donor agencies in the policy process.

5.3.2 The role of donor agencies

Donors play a considerable role in the policy process. They are involved in policy formulation as well as in implementation. They intervene at the top as well as at the bottom level.

At the top level they are involved in the drafting of proposals and law discussions. The Law on WUA as well as article 43 of the Water Code have been mainly written by the CFPS, the project implementation unit of the World Bank program. It involved also suggestions from Winrock International, ADB, USAID and other donors. Inputs from professionals of the state water agency have not been mentioned (t12:30; ACTED 2005: 4). This activity is a result of the fact that the existing framework proved to be inadequate for the projects planned by donors. At the bottom level, they are implementing irrigation reform by setting up WUAs.

³⁴ Tajik Institute of Hydraulic Engineering and Land Reclamation.

In the CD projects, many of the present WUAs have been initially only set up as informal groups to distribute humanitarian aid. One has to bear in mind that until some years ago, most development agencies in Tajikistan were mainly involved with humanitarian aid. It was only recently that the change towards long-term development aid began, involving questions of sustainability and legal structures. As most FSK still existed as large Dekhan Farms or were not transformed yet, an informal group as a counterpart for project implementation seemed adequate. Now there is a reorientation towards the establishment of long-term organizations. That is why many donors now want to formally register their committees, which is especially necessary when they collect fees or work with credit.

There is a general lack of coordination among all donor agencies working in irrigation reform despite some recent activities to improve this (like round table meetings). This lack of donor coordination is a common complaint of the state water agencies, local NGOs and the donors themselves, at least of the smaller non-governmental donor organizations. One can argue that it is to a certain degree also the failure of the state agencies. As most donors have close contact with the Khukumat and/or Jaomat (district and village administration) in the regions where they work, it should be their responsibility to distribute this information further, e.g. to the RVKh or other respective agencies and to the superordinated authority.

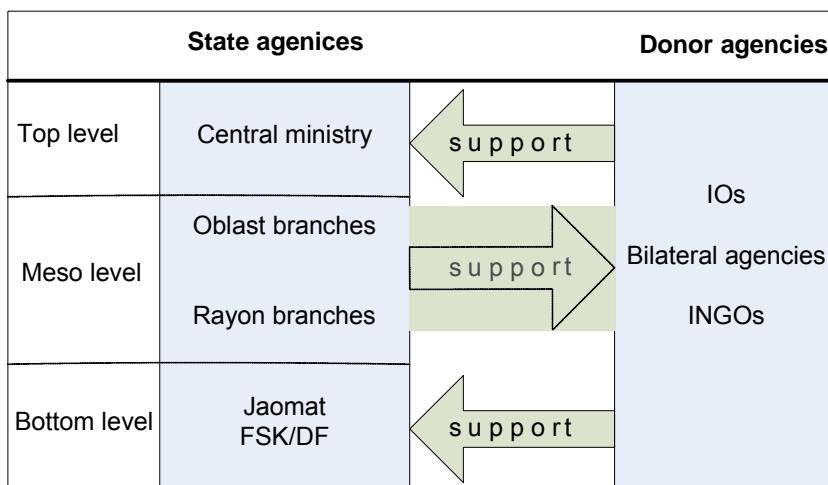
Some organizations contact the CFPS and get information there. However, as it follows a top-down approach in contrast to many local projects, it obviously does not serve as a model for many other agencies. As a practical guideline, some organizations use the booklet "How to establish a Water User Association?" prepared by IWMI-CA with the support of the SDC. However, the question is not only about practical the coordination of activities but more importantly, about conceptual coordination.

To sum up, the intervention of donors in the policy process occurs through their involvement in the law making process and by establishment of WUAs. This is because the need for legislation for projects, and the need for counterparts to implement projects and to achieve sustainability. Both these activities reflect the donors' interest rather than problem perception of national policy actors. They result in a lacking sense of ownership of the irrigation reform.

5.3.3 Interaction of donor and state agencies

While state agencies play a certain role at policy formulation (together with donor support), their input is rarely visible in the implementation phase. Donors on their part intervene at top as well as bottom levels, but they neglect the meso level. Donors cooperate with state agencies concerning decision making processes, but with non-state actors when it comes to implementation. The meso-level is neglected as most donor agencies perceive the bureaucracy as intransparent and non-democratic. Donor-initiated reform processes hence miss a crucial point: they are aimed at the national decision-making level or at the local level of the target group. This may result in a new law or a new WUA. However, they omit the middle level that is the link between the two: the level of provincial and district bureaucrats who have to implement reforms or circulate information. This “messy middle” (Mehta et al. 1999: 16) is the place where formal and informal structures meet, where the weaknesses of the administration are more visible and more effective than on the higher levels. It is the provincial prosecutor who does not know how to apply a law. It is the employee of a local water department who accepts bribes. It is the director of the local administration who does not accept the WUA as an independent organization. This level is critical for every policy reform. Yet it is neglected in the reform process.

Figure 3: Interaction between donor and state agencies



The mode of donor-state interaction does not support the meso-level, and even tends to weaken it. It was already mentioned that many qualified experts leave the water administration and accept alternative job opportunities in donor agencies. Hence,

there exists a kind of 'brain drain' from the state to the donor agencies. This brain drain is certainly more complex than on an international level and has its positive effects as well: those experts still work for their country and guarantee that international projects include national expertise. Yet national professionals are seldom consigned with the development of the project but rather with its implementation. Additionally those projects are perceived as foreign projects and therefore are characterized by a lack of ownership and low feedback and learning effects for the state agencies. Qualified professionals working at donor agencies are missing at the MIWM, its branches on *Oblast* and *Rayon* level (OVKh and RVKh) and at WUAs. The result is not only that the state agencies that should implement reform lack the ownership for real commitment to the reform processes, but also lack the capacities. That may result in a sense of exclusion from the political processes and resource flows.

6. Will WUAs Work?

The previous chapters demonstrated the challenge of reforming irrigation management. The difficulties and obstacles Tajikistan faces are partly rooted in the specific institutional environment of this country and partly in the characteristics of the political process with an extent of donor involvement typical for many developing countries.

Are the described problems for irrigation reform initial and can they be surmounted? Or are they such an inherent part of the culture and politics in Tajikistan that they severely affect the possibilities for its success? This chapter will discuss the prospects for WUAs as the basic feature of the irrigation reform under these circumstances. To assess whether WUAs provide long term a promising possibility for local water management, I would like to focus on three critical points: WUA performance in water management, the financial and organizational sustainability of WUA and the interrelation of WUA and state structures.

6.1 Water Management Tasks

The main tasks of WUAs are the operation and maintenance of the on-farm irrigation system and the collection of ISF from its members. Can these tasks be fulfilled?

The technical problems of WUAs will not be discussed here. Definitely WUAs lack the technical basis like tractors or aggregates. Basic equipment like water gauges to determine the exact water flow are also often missing. This chapter will however discuss if the institutional factors will impede its performance.

The fact that patrons and elders are heading local WUAs is questionable from a democratic viewpoint. However that does not have to be counterproductive for water management. First, people tend to accept the advice of elders instead of outside experts. Secondly, the leading persons in a village are the former leaders of the FSK, be it the director, the brigadier or the leading agronomist. They know the fields and the irrigation system very well. Therefore it might be wise to include those who have the status to educate people and convince them.

A precondition would be awareness and understanding of the purpose and meaning of WUA by the local leaders. All programs therefore have intensive trainings for WUA staff before and after the establishment. This training also includes Jaomat,

Khukumat and RVKh representatives. (t51:5-6). These trainings address issues like the setting up of a water use plan, water law, conflict resolution, etc. The impact of those activities is limited though. As seen in the case study, some council members are unaware of even their membership. At other WUAs council members or even the director were unsure, how much ISF the members have to pay. In one case, a member of a local water and health committee did not even know the exact name of this committee. As the same people are elected to all committees, they cannot provide full commitment to the special task of each committee.

Another significant problem of WUAs is fee collection. The payment of the ISF was mentioned by several interviewed experts as the main problem. There is no exact data on the quota of actual ISF payment and oral reports vary. WUA representatives tend to state high payment quotas. While the MIWM estimated the general payment rate to be only about 30% (t07:26f), the CFPS claims a payment rate of on average about 60%. According to one RVKh director, there is until now no difference in the payment rate between WUAs and DFs without WUAs (t31:16). A considerable part of the fees are paid in kind (t04:25; t08:24, 35).

Many farmers are reluctant to pay. According to the MIWM, less than 10% of the money is collected (6 Mio of 85 Mio somoni) (t05:75-79). Water theft is also common. Even when sluices are secured with locks, they are broken to let water flow to certain fields (t05:97). There are several reasons for this: Farmers still consider canal maintenance as the responsibility of the FSK (t05:75-79) In this case, reluctance to pay is a consequence of the lack of knowledge about land reform in general. A second reason is the lack of awareness about the sense and need for ISF. People do not understand why they have to pay now for something that was always free. The main reason however is general poverty: Without an agricultural sector that provides the means for living, payment of cost-recovering ISF and financial self-reliance of water user associations remain unrealistic.

6.2 Sustainability

It is difficult to give an assessment of WUAs' sustainability in Tajikistan at such an early stage of implementation. As mentioned earlier, the first WUA was registered at the end of 2001 and therefore there is no long-term experience. Furthermore sustainability aspects are new for many donors, especially in CD projects. As already

explained, in the aftermath of the civil war most activities have focused on humanitarian aid with short-term results. It is only recently that a change towards long-term oriented development cooperation took place (t50:9). There is until now no experience what happens when a donor organization withdraws and the WUA is expected to work financially and institutionally without (at least constant) support. Many donors lack a clear strategy for the future of the committees (t41:6). According to a survey on CBOs in Sughd oblast, 80% of all *Jaomat* directors said that CBOs stopped functioning after donors left (t41:9). Will WUAs meet with the same fate?

The sustainability of the WUAs can be questioned due to some already obvious factors, like the financial aspects discussed in the previous chapter. Another important point is ownership and community awareness. Most projects meanwhile include some community mobilization activities. Though many donors acknowledge the importance of raising awareness and a change of mentality as a basic prerequisite for sustainability, these components do not in general receive the attention they need (t41:16-17).

Although the community-oriented programs especially strive to integrate local institutions and adapt to local society and culture, this happens only partially and instrumentally. Some Tajik feel that their country is an experimental ground for donor ideas, while own expertise and local knowledge is not valued (t41:19). The CD approach could guarantee a better embeddedness and ownership by local population. However, those projects are also curtailed by the tight timeframes and output requirements. The structure of the CBO - be it a VDC on *Jaomat* or *Kishlak* level, a WUA, or an initiative group - is created rather quickly. The donor organization is in need for a partner in the village to implement their project. So they usually set up the CBO (mostly informal in the beginning) during the first few weeks after they start working. Real community awareness raising activities start only after that and through this CBO.

Representatives of local NGOs therefore criticize that the local population is overloaded with the number of committees of which they are expected to be members:

"If the school is renovated, a school committee is established, if medicaments are to be distributed, a medicament committee, if grapes are planted, a grape committee. For every 50 people there is some kind of committee." (t41:14, similar: t15:22).

This criticism may be exaggerated. Many donors actually stress that they are not establishing new committees in a village, if some kind of committee already exists due to other (former) donor activities (t30:35). On the other hand, villagers may conceal the existence of this committee because they fear that they would not get another project.

The mentioned donor-demand for some kind of community contribution is the typical means to ensure identification of the local population with the project and in this way to ensure its sustainability. The CFPS strives to have a gradual transition to self-financing by its annual reduction of co-financing (75%-50%-25%-0%). Most CD projects demand between 15 and 30%. Mostly, the villagers deliver their share in working time. Sometimes villagers receive food supplies (wheat or oil) in exchange (food for work programs). This approach reflects a learning process after the general failing of donors' 'gifts' to communities that do not achieve ownership and therefore deteriorate quickly due to a lacking sense of responsibility. But one has to ask if voluntary work can ensure this. Furthermore those who participated in *hashari* are not always aware of the rationale of a WUA as they only participate because the Rais or another patron or elder demands it. A community contribution does not reflect the commitment of the community to the project and can be considered insufficient to ensure ownership.³⁵

Another factor is accountability. A basic feature of democratic processes in general as well as in WUA organization in particular is the accountability of the elected bodies to the people they represent. WUAs (as well as CBOs) however, feel more accountable to the donor organization that promoted it than to local population, i.e. its members. This certainly is also connected with the fact that many WUAs are established with the principal reason of getting access to credits and grants. After the disbursement stops, the motivation to work further wanes (t01a:33). One RVKh director describes it as follows:

"The WUAs do only exist superficially. They have been developed top-down and do not function. They would have to arise due to the wish from the farmers, they themselves have to see the necessity. Now they only wait for the Center [CFPS] to give them support" (t16:09).

³⁵ For a critical discussion of this approach in general see Bliss 2005.

If most farmers are unaware of the role and task of WUA, they will also not demand for accountability. Once again, the crucial importance of community awareness becomes obvious.

Many experts therefore doubt the long term success and do not expect the WUAs to function long after the financial support ends (t11:10, t15:23; t50:10).

6.3 Relation to state agencies

Another fundamental question of WUA performance is how it positions itself towards state agencies. A basic idea is that WUA is not subordinated to the RVKh but acts as an independent organization. This requires acknowledgement of WUA by state agencies (RVKh, Jaomat, Khukumat) as well as transfer of resources, knowledge and competencies to WUA staff.

While the relation of WUA to the DF is generally very close, it is not the case with local state agencies. The latter are reported to intervene in WUA affairs in a way that does not acknowledge its independence, thus prolonging the old system in which the state agencies dominated (t26:10-11). Within the water administration, WUAs are commonly seen as technical agencies and a means for better fee collection but not as empowered, self-governing farmer organizations. Such an attitude is visible in statements like: "WUAs are the assistants of the RVKh"³⁶ (senior official of oblast water administration; t31:8). The main incentive for state agencies to set up independent Water User Associations is because they lack the money to invest in the deteriorated infrastructure themselves (t23:24).

As already mentioned, there is no specialized WUA law and also no clear legislation on the relationship between CBOs in general and governmental agencies. The unclear legal situation creates difficulties for the locals involved in such associations as they are not aware about their relation with state authorities and which rights they have exactly. The state agencies often also do not know about this, due to lack of information clear rules (t41:3-4, t30:42). Even when the WUA law is issued, it will not provide clear rules for all WUAs. This is already obvious now as not all WUAs as

³⁶ ("AVP pomoshniki Rajvodkhoza")

established by donors fit into the prescriptions of the law (Winrock International 2005: 7).

The registration process for the WUA is often done by the donor agency which facilitates the process initially. However it hinders the local representatives to gain the knowledge and experience on how to deal with the authorities and what exactly their rights are. The primary contact for the WUAs with problems is not the RVKh but the donor agency that established them. Most donor representatives interviewed are aware of these problems. One foreign NGO representative concluded:

“The greatest failing of the NGO community is not to help CBOs to understand their status opposite state structures.” (t30:44)

When the primary partner for WUAs is the donor agency and not the state agencies (Jaomat, RVKh) with whom they should cooperate, the logic of patronage is further deepened with the donors playing the role of the patron.

But is not only WUAs that have to be supported towards state structures. There is also the need to simultaneously strengthen state structures (in this case local self governance structures), so that they are capable of dealing with WUAs. This again points to the necessity to address the middle level excluded from many donor projects. It is only when both sides know and accept their respective roles, rights and responsibilities, that they can fulfill their assigned tasks in irrigation management.

7. Conclusion

The aim of this study was to analyze the politics of irrigation reform in Tajikistan. It was shown that the very incentive for reform was rooted in political and economical transformation, especially in the reform of land tenure and agricultural production systems, as well as in the state budget crisis.

Though there are laws and new regulations concerning water management, there is no nationally coordinated irrigation reform program, no exact legal definition about the status and tasks of WUAs and a plurality of actors implementing WUAs. Implementation in general is only realized when it is connected to donor projects. This can be attributed to different factors: in contrast to state agencies, donors dispose of (financial and material) incentives to foster implementation: New forms of irrigation management, namely WUAs, are only established where they are conditions for the access to rehabilitation grants provided by donors. Though donors

emphasize the need for ownership and community awareness, their activities to achieve these objectives are half-hearted, instrumental and ineffective.

Besides the lack of capacities, there is also a lack of willingness on the part of the state agencies. This is mainly the reluctance to reform the agricultural sector and challenge vested interests in the cotton sector. As water reform is closely connected to the latter, it cannot really work. An implemented land reform is a necessary prerequisite to reform water management and vice versa.

Concerning implementation, the crucial influence of societal institutions is obvious: WUAs cannot act independently from the hegemonic power structures. They become part of the system of patronage. While technical and financial aspects of WUA reform are adopted, others are neglected. The actual outcome of irrigation reform therefore differs from the intended one: it is the result of a process of bricolage in which different elements derived from pre-Soviet, Soviet and post-Soviet institutions are put together. Such a process can lead to organizational forms adapted to local conditions. Yet the prospects of WUA as they exist now are not that rosy. Under the current conditions, success or failure of a WUA depends heavily on subjective factors and the situation in the respective villages. That is why continued trainings for WUAs and for the local population on project planning, conflict resolution and similar topics are important even after the financial and material input of donors stops.

The study also showed very clearly that for effective WUA performance donors should strengthen not only WUAs but also their counterparts, the local and middle levels of state agencies. A coordination of both is substantial and has to be based upon clear rules and mutual recognition. When international projects exclude the state meso level, they do not only indirectly weaken irrigation reform but also make themselves part of the patronage system.

Institutional reform of irrigation management, like all institutional change, is an inherent political issue as institutions define distribution of resources and allocate power positions to certain actors. The challenge is to alter these power structures and not to allow irrigation reform to be a tool for power enhancement of established positions. WUAs can only fulfill their tasks if the institutional conditions – in the economic as well as political sphere – provide them with the scope for action they need.

Annex

Table 2: Details of WUAs established on the territory of Tajikistan, as far as data available

Province (oblast)	District (rayon)	Name of WUA	Implementing agency	Funding agency	Date of registration	Irrigated land, ha	Number of DFs	Number of members
DRD	Faizabad		MSDSP	GTZ				858
DRD	Hissor	"Guliston"	CFSP	World Bank		1705	16	
DRD	Jirgatal		MSDSP	GTZ				64
DRD	Kabodiyon	"Habib Fozilov"	WinRock	USAID	22-Jul-05	454	13	6.363
DRD	Kabodiyon	"Shokh"	WinRock	USAID	26-Jul-05	925	18	10.710
DRD	Rasht		MSDSP	GTZ				72
DRD	Rasht		MSDSP	GTZ				454
DRD	Rudaki	"Shainaki Gado"	WinRock	USAID	23-Feb-05	73	11	8.973
DRD	Rudaki	"Majro"	WinRock	USAID	16-Feb-05	120	19	8.992
DRD	Rudaki	"Abdullojoni Sarkor"	WinRock	USAID	11-Feb-05	107	23	768
DRD	Rudaki	"Saidgalandanshoh"	WinRock	USAID	10-Okt-05	237	69	6.367
DRD	Rudaki	"Mirab"	WinRock	USAID	6-Okt-05	142	53	2.369
DRD	Rudaki	"Okchakman"	WinRock	USAID	7-Okt-05	177	27	1.723
DRD	Rudaki	"Mehtari"	WinRock	USAID	23-Sep-05	107	30	4.004
DRD	Rudaki	"Samarkandi"	WinRock	USAID	7-Okt-05	201	37	2.305
DRD	Rudaki	"Varzob"	CFSP	World Bank	22.06.2000	997		410
DRD	Rudaki	"Kuktosh"	CFSP	World Bank		2124	340	
DRD	Rudaki	"Obodoni"	CFSP	World Bank		1662	194	
DRD	Rudaki	"Zaynab"	CFSP	World Bank				
DRD	Shahrinav	"Mirob"	CFSP	World Bank	25.12.2001	1167		157
DRD	Shahrinav	"Navruz"	CFSP	World Bank		1750	9	
DRD	Shahrinav	"Obi toza 2003"	CFSP	World Bank		1730	57	
DRD	Tajikobod		MSDSP	GTZ				318
Khatlon	A. Jomi	"Sitora"	ACTED	EC	Jan 05	3015	75	
Khatlon	Baljuvon	Turko	GAA Baljuvon	EC TACIS	2006			887
Khatlon	Baljuvon	Oqbuloqi Markaz	GAA Baljuvon	EC TACIS	2006			832
Khatlon	Baljuvon	Oqbuloqi Kalon	GAA Baljuvon	EC TACIS	2006			716
Khatlon	Baljuvon	Shaydon	GAA Baljuvon	EC TACIS	2006	80	3	1.432
Khatlon	Baljuvon	Boghi Zoghon	GAA Baljuvon	EC TACIS	2006	50	2	969
Khatlon	Baljuvon		GAA Baljuvon	EC TACIS		960		
Khatlon	Khuroson	"Mehnat"	CFSP	World Bank		2854	110	
Khatlon	Khuroson	"Farkhod"	CFSP	World Bank		2658	64	
Khatlon	Kolkhozobad	"J.Rahimov"	CFSP	World Bank	30.08.2002	5000		300
Khatlon	Kolkhozobad	"Ittifoq"	CFSP	World Bank	18.10.2002	900		250
Khatlon	Kolkhozobad	"Vakhsh"	CFSP	World Bank		5260	40	
Khatlon	Kolkhozobad	"Toshrobod"	CFSP	World Bank		3600	50	
Khatlon	Shaartuz	"Khoshodi"	WinRock	USAID	5-Okt-05	433	21	6.124
Khatlon	Shaartuz	"Dusti"	WinRock	USAID	5-Sep-05	286	18	3.662
Khatlon	Shaartuz	"Orzu"	WinRock	USAID	26-Aug-05	560	14	3.942
Khatlon	Shaartuz	"Aivaj"	WinRock	USAID	15-Sep-05	1.010	12	6.040
Khatlon	Shaartuz	"Tartki"	WinRock	USAID	4-Jul-05	274	23	12.930

Khatlon	Shaartuz		Mercy Corps					
Khatlon	Vakhsh	"Ibroim Karimov"	ACTED	EC	March 05	677	19	
Khatlon	Yovon	"Firdawsi"	CFSP	World Bank	10.06.2000	416		193
Khatlon	Yovon	"10 solagii Tojikiston"	CFSP	World Bank	15.02.2002	1072		108
Khatlon	Yovon	"Norin"	CFSP	World Bank		2010	42	
Khatlon	Yovon	"Chorgul"	CFSP	World Bank		1503	53	
Khatlon	Yovon	"Navkoram"	CFSP	World Bank		1275	43	
Sugd	Ayni	"Revad"	GAA Ayni	EC	23.11.2005		270	1850
Sugd	Ayni	"Vota"	GAA Ayni	EC	10.11.2005		270	411
Sughd	Ayni	"Yovon"	GAA Ayni	EC	23.11.2005		270	892
Sughd	Ayni	"Veshab"	GAA Ayni	EC	10.11.2005	45	270	1760
Sughd	Ayni	"Veshkand"	GAA Ayni	EC	10.11.2005	33	270	1950
Sughd	Ayni	"Iskodar"	GAA Ayni	EC	10.11.2005	105	270	1400
Sughd	Ayni	"Fatmev"	GAA Ayni	EC	16.12.2005	48	270	1252
Sughd	Ayni	"Zoosun"	GAA Ayni	EC	16.12.2005	56	270	2655
Sughd	Ayni	"Shavadki poyon"	GAA Ayni	EC	-----		270	342
Sughd	Ayni	"Pinyon"	GAA Ayni	EC	23.11.2005	4	270	502
Sughd	Gornaya Matcha	"Dehisor"	GAA Ayni	EC	-----	38	66	307
Sughd	Gornaya Matcha	"Turo"	GAA Ayni	EC	-----	26	12	62
Sughd	Gornaya Matcha	"Vodif"	GAA Ayni	EC	23.11.2005	40	22	95
Sughd	Gornaya Matcha	"Langlif"	GAA Ayni	EC	-----	30	36	158
Sughd	Gornaya Matcha	"Paldorak"	GAA Ayni	EC	-----		106	732
Sughd	Gornaya Matcha	"Padask"	GAA Ayni	EC	23.11.2005	24	92	525
Sughd	Gornaya Matcha	"Dehmanora"	GAA Ayni	EC	10.11.2005		82	478
Sughd	Gornaya Matcha	"Langar"	GAA Ayni	EC	23.11.2005	42	53	275
Sughd	Gornaya Matcha	"Hadishahr"	GAA Ayni	EC	23.11.2005	180	140	792
Sughd	Gornaya Matcha	"Pastigav"	GAA Ayni	EC	23.11.2005		270	1505
Sughd	Gornaya Matcha	"Tagob"	GAA Ayni	EC	-----		48	252
Sughd	Gornaya Matcha	"Khayrobod"	GAA Ayni	EC	23.11.2005	41	36	200
Sughd	Gornaya Matcha	"Mujhdif"	GAA Ayni	EC	23.11.2005	60	62	305
Sughd	Gornaya Matcha	"Vardochit"	GAA Ayni	EC	-----		13	51
Sughd	Kanibadam	"Ravot-1"	ACTED	EC	Jan 05			
Sughd	Kanibadam	"Ravot-2"	ACTED	EC	Jan 05			
Sughd	Mastcha	"Yokubjon Ashrapov"	CFSP	World Bank	01.08.2002	4177		600
Sughd	Mastcha	"Mirzo Azizov"	CFSP	World Bank	05.10.2001	1724		1678
Sughd	Mastcha	"J.Odinaev"	CFSP	World Bank		1383	23	
Sughd	Panjakent	"Zargar"	GAA Ayni	EC	13.10.2005	14	270	1400
Sughd	Panjakent	"Obi Rahmat"	GAA Ayni	EC	13.10.2005	55	270	2500
Sughd	Panjakent	"Minor"	GAA Ayni	EC	13.10.2005	15	270	1185
Sughd	Zafarobod	"Kanz"	CFSP	World Bank	15.08.2001	1699		511
Sughd	Zafarobod	"Sarob"	CFSP	World Bank		3000	105	
Sughd	Zafarobod	"Mehrgon"	CFSP	World		2200	115	

				Bank			
Sughd	Zafarobod	"Obron"	CFSP	World Bank	52947	40	
Sughd	Zafarobod	"S.Kenjaev"	CFSP	World Bank			
Sughd	Zafarobod	"Obshor"	CFSP	World Bank	2800	85	
Sughd	Zafarobod	"Sughd"	CFSP	World Bank	2500	73	
Sughd	Zafarobod	"Obi Hayot"	CFSP	World Bank	3700	235	

Sources: ACTED 2005, Annex; Winrock International 2005; MSDSP n.d.

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T04 Two representatives of the Center for Farm Privatization Support, Dushanbe, 10/09/2003

T05 Vice-Minister of Irrigation and Water Management, Dushanbe, 10/09/2003

T07 Senior official at the Ministry of Irrigation and Water Management, Dushanbe, 10/10/2003

T08 WUA director, Shakhriston Rayon, 10/16/2003

T11 Representative of international donor agency, Dushanbe, 10/14/2003

T12 Senior official of Center for Farm Privatization Support, Dushanbe, 10/13/2003

T13 Representative of international donor agency, Dushanbe, 10/21/2003

T14 Senior official at the Ministry of Irrigation and Water Management, Dushanbe, 08/20/2004

T15 Director of local NGO, Khudjand, 09/03/2004

T16 Senior official at RVKh, Rayon Mastcha, 09/01/2004

T19 Senior official at the Ministry of Irrigation and Water Management, Dushanbe, 08/20/2004

T25 Director of the Tajik Institute of Hydraulic Engineering and Land Reclamation, Dushanbe, 09/07/2004

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T27 Director, RVKh, Rayon Aini, 03/30/2004

T28 Four members of WUA council, Iskodar, 09/29/2005

T30 Representative of international NGO, Khudjand, 10/03/2005

T31 Senior official of Oblast water administration, Khudjand, 10/11/2005

T32 Senior official of the National Land Committee, Dushanbe, 11/01/2005

T34 Representative of international NGO, Dushanbe, 10/31/2005

T35 Senior official of international NGO, Khudjand, 10/06/2005

T36 Community development specialist, international NGO, Khudjand, 10/06/2005

T38 Two representatives, local CBO, Farkhor Rayon, 10/19/2005

T39 Senior official at the Ministry of Irrigation and Water Management, Dushanbe, 10/28/2005

T41 Representative of local NGO, Kudjand, 10/07/2005

T42 Director of Mahalla committee, Iskodar, 09/30/2005

T43 Representative of National Land Committee, Aini, 10/01/2005

T44 Community development specialist, GAA, Aini, 09/29/2005

T45 Farmers, Iskodar, 09/29/2005

T46 Farmers, Iskodar, 09/28/2005

T47 Agricultural specialist, GAA, Aini, 09/29/2005

T48 WUA development specialist, GAA, Aini, 09/27/2005

T48a WUA development specialist, GAA, Aini, 09/28/2005 (follow-up interview)

T49 WUA director, Iskodar, 09/27/2005

T50 Deputy regional director, international donor agency, 10/04/2005

T51 WUA development specialist, international NGO, Khudjand, 10/03/2005

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