

Water Resources Governance and Management at the Level of Irrigation Systems

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Establishing of water management structures within administrative boundaries, which do not coincide with hydrological boundaries, entails loss of the controllability of some elements of the water cycle affecting sustainability and uniformity of water allocation i.e. of major water management objective. The above is correct for both the whole river basin and some irrigation systems.

Instability and unevenness of water delivery through irrigation canals are caused by both the technical reasons and the organizational ones. Under conditions of administrative-territorial organizational upbuilding of water resources management, it is very difficult to maintain proper water distribution due to the fact that there are many “owners” of the irrigation system: district and provincial water administrations, and local authorities. Owing to such an approach, the well-known problem “head-to-tail” arise when, under a water resources deficit (but sometimes without a deficit), downstream water users have the “impaired rights” in comparing with upstream users. It was typical for the pilot canals at the initial project stage in 2003 (Table 4.4).

Table 4.4.
Uniformity of Irrigation Water Supply from the Pilot Canals Prior To and After the Introduction of IWRM

Pilot Canal	SFC		AAC		KBC	
	2003	2007	2003	2007	2003	2007
Uniformity, %	60	92	45	82	36	77

At present, it becomes more obvious that the problem of improving water resources management is an institutional (organizational) problem rather than a technical one.

One of key directions of institutional improvement of water resources management is the introduction of hydro-geographical principle or, correctly saying, the coming back to the hydro-geographical principle, since earlier, as known, water management organizations were formed based on the hydro-geographical principle.

Subsequently, under pressure of local authorities (District or Provincial Committees of the Communist Party) there took place the reorganization of the Irrigation System Administrations (ISA) into District and Provincial Water Authorities, which established their jurisdiction over a part of the irrigation system or canal within their administrative boundaries. This situation made the process of water distribution more complicated and enabled the local authorities to actively interfere into the process of allocating water resources; and this interference has not always met the requirements of equity, sustainability, uniformity, and efficiency.

At present, the process of transition towards the hydro-geographical principles of water resources management and refuse from the administrative-territorial principle of upbuilding of water management organizations (WMOs) was initiated in Central Asian region.

A historical aspect of reforming water organizations in Uzbekistan:

1. Hydro-geographical approach (up to the 1960s):

- Irrigation System Administrations.

2. Administrative-territorial approach (with some elements of the hydro-geographical approach - Zerdolvodkhoz, UPRADIC, ADUOS) (until 2003):

- Rayvodkhoz (District Irrigation Administrations);

- Oblvodkhoz (Provincial Irrigation Administrations).

3. Hydro-geographical approach (after 2003):

- Irrigation System Administrations (ISAs);

- Basin Irrigation System Administrations (BISAs); and

- Main Irrigation Canal Administration.

Prior to reforming the institutional structure within the framework of the IWRM-Fergana Project, the pilot canals were under jurisdiction of the following organizations:

- The Big Fergana Canal Administration (BFCA), Andijan and Fergana Provincial Irrigation Administrations (Uzbekistan);
- Aravan and Karasu District Irrigation Administrations (Kyrgyzstan); and
- Gafurov and Rasulov District Irrigation Administrations (Tajikistan).

At present, three Irrigation Canal Administrations: SFCA (South Fergana Canal), AACCA (Aravan-Akbura Canal), and KBCA (Khodja-Bakirgan Canal) are active in the project area.

Earlier, prior to the transition towards the hydro-geographical principle, a path of co-ordinations in case of a conflict was the following (the Aravan-Akbura Canal Case Study): the Aravan District Irrigation Administration – Aravan District Authorities – Provincial Authorities – Karasu District Authorities – Karasu District Irrigation Administration. Now, after establishing the AACCA, the decision-making process became more simple and effective. At the same time, this facilitates the operation of local authorities, which earlier was forced to solve continually water issues. According to representatives of the local authorities: “there are not now concerns related to water.”

The decision-making process regarding operation of the KBC was also facilitated. As known, depending on seasonal water availability, a decision on “introduction” or “cancellation” of the inter-district water rotation on the KBC had to be made. Like the practice of the AAC, prior to establishing the AACCA, it was impossible to make a decision regarding the water rotation in a *timely manner*.

Water resources management based on the hydro-geographical principle was completely put in practice on the KBC and AAC.

In Uzbekistan, transition towards water resources management according to the hydro-geographical principle took place in the scale of all the republic (the Resolution of the CM No 320 of July 21, 2003). There is a reason to consider that the IWRM-Fergana Project contributed into issuing this Resolution. However, it is necessary to note that the process of transition towards water resources management based on the hydro-geographical principle in Uzbekistan was not yet completed, since there is an intermediate link between the Main Canal Administration and water users that is represented by the Basin (essentially, Provincial) Irrigation Administration i.e. “a body was united but wings were cut.” Nevertheless, a very important step on the way of improving water governance was done. In the frame of the IWRM-Fergana Project, activity related to completing this process on the SFC is in progress.

In particular, in 2006, on the SFC the following was made: almost 40 km of the Shakhrikansay Canal and two remaining hydro-operational sites of the SFC (“Margilan” and “Fayziobod”), which were under the jurisdiction of the Sokh-Syrdarya Basin Irrigation System Administration (BISA) were transferred under the authority of the SFC Administration. In addition, there is the permission enabling five WUAs in Fergana Province to sign the contracts on irrigation water supply directly with the SFC Administration, by-passing the Irrigation System Administration “Isfayram-Shakhimardan.” Activity related to transition towards water resources management based on the hydro-geographical principle on the SFC will be continued.

In those regions where the necessity of transition towards water resources management based on the hydro-geographical principle cannot be put off, water professionals, water users and other stakeholders should initiate this process, not living to see when this problem will be solved at governmental level.

We would like to stress that the necessity of transition towards water resources management based on the hydro-geographical principle at the level of inter-farm canals and, especially, of main canals is out of doubts. At the same time, the practice of establishing WUAs in Central Asia within former collective farms shouldn't be ignored. An adherence of many practitioners to this approach is evidence of the fact that at the level of WUAs, it is necessary to take into consideration not only the belonging of private farms to single hydro-geographic network but also certain social aspects and economic links established last decades. In particular, a role of the hydro-geographical approach at the level of WUAs is not so obvious when the irrigation system has a “fishbone layout” rather than a “nodal layout” [22].

Bottle-necks and ways for reforming the institutional structure of water resources management

(the SFC: Case Study)

The experience of introducing a new version “IMS-Fergana” (Uzbekistan, 2007) has shown that under establishing the M&E system on the SFC, some problems arise due to the existing boundaries of WUAs, which can be settled by reorganization of the WUA based on the principle of matching to hydro-geographic boundaries.

Problems related to establishing the affiliates of Canal Water Users Council at the so-called hydro-operational sites arise because some WUAs simultaneously cover two hydro-operational sites¹.

In 2007, an operational experience of the SFC Administration has shown that in the tail part of SFC (hydro-operational site “Fayziobod”), also on other big secondary canals, it is necessary to establish

¹ A term “hydro-operational site” is of local origin and means a section of an irrigation canal or irrigation system, which is operated and maintained by a separate group (sub-division) of the Irrigation Canal Administration implementing such activities as monitoring, O&M works, record-keeping, and reporting.

either the big WUA or the Union (Federation) of WUAs.

Principles of reforming the institutional structure of water resources governance (the SFC Case Study) are the following:

- *A hydro-geographical approach is not an end in itself. It should facilitate the process of monitoring and evaluation of water distribution, which, in its turn, has to facilitate decision making and control of implementing the decisions*
- *A hydro-geographical approach is not a dogma. If under specific conditions, any other factors (technical, institutional etc.) facilitate improving the efficiency of water resources management in the larger extent, then a deviation from the hydro-geographical principle is possible.*
- *As a rule, the territorial principle of establishing WUAs in the SFC command area causes some troubles in water resources management.*
- *An issue of improving the water governance structure cannot be considered in isolation from land resources management.*
- *According to its formulation, IWRM requires not only an organizational separation of irrigated areas according to their belonging to irrigation water sources but also their integration if this measure facilitates a holistic settling of problems related to water and land resources management.*
- *Parameters of water management structures depend on sizes of the irrigation system.*

It is desirable to adhere to the following principles under realization of the hydro-geographical approach:

- *Irrigation water supply to a WUA only from one water source;*
- *A WUA has to be located within one hydro-operational site. If it is difficult to change WUA boundaries then the possibility of changing hydro-operational site's boundaries should be considered;*
- *WUAs have to be located within one administrative district (exception can be made only for WUAs located on inter-district canals);*
- *WUAs should cover land plots along both banks of the SFC;*
- *Other rural water consumers (villages, holiday villages; etc) have to enter into WUAs;*
- *WUA's area has to be within 1500 to 2000 ha;*
- *Realization of the hydro-geographical approach should be implemented based on the agreed and approved plan;*
- *A plan of realization of the hydro-geographical approach must be developed with the participation of water users and officials of the SFC Administration;*
- *A plan of realization of the hydro-geographical approach has to be discussed at meetings of the*

WUA Council and Boards of SFC;

- *A plan of realization of the hydro-geographical approach has to be approved at the enlarged session of the Board of SFC WC with the participation of local authorities' representatives.*

The Action Plan on reforming the water governance structure should include the following measures:

- *If a WUA takes water directly from the SFC, a WUA has to sign the Contract on irrigation water supply with the SFC Administration;*
- *If a WUA takes water from different irrigation water sources (not only from the SFC), a WUA should be restructured in such a way in order to take water only from the SFC;*

A number of WUAs divert water from the canals of different ranks in the SFC system.

Recognizing the importance of transition towards water resources management based on the hydro-geographical principle, it is necessary to acknowledge that only the transition towards the hydro-geographical principle does not make the decisions of water professionals more equitable and effective. It creates opportunities (prerequisites) for making more equitable and effective decisions. Whether a water professional will take advantage of the opportunities (or not) to make water governance effective depends on some objective and subjective factors; and the participatory approach is a key factor among others. A problem of improving water governance based on the participatory approach is topical not only for the Central Asian region (CAR). A World Water Forum Declaration (The Hague, 2000) contains the following statement: “The water crisis is often a crisis of governance”; therefore, making water governance effective is one of topical priorities (GWP, 2000). A Ministerial Declaration on Water Security in the 21st Century reaffirms this standpoint and calls on: “Governing water wisely: to ensure good governance, so that the involvement of the public and the interests of all stakeholders are included in the management of water resources.” [39].

Reforming the agricultural and water sectors in the CAR creates opportunities for encouraging equitable and effective water governance on the market base. Established institutional and market conditions, being major prerequisites, are not insufficient for appreciable improvement of water allocation governance. At present, a lack of the public participation in governing water and agricultural sector is one of the constraining factors that impede raising productivity of agricultural production and effectiveness of water governance in the region. Therefore, the democratization of water governance through involving the public in decision making and establishing new-type water organizations (Fig. 4.9) that will take into consideration the interests of common water users becomes topical. A problem is to find a reasonable level of unity of decentralization and governmental regulation. At a “grass roots” level of water distribution (a level of former collective farms), this dilemma can be solved by establishing water users associations (WUAs). At the same time, Canal Water Users Unions (CWUUs) have to be established at the level of main irrigation canals (or irrigation systems). From this point of view, morphology of irrigation network and governance on the Aravan-Akbura Canal, where the CWUUs are formed based on the involvement of WUAs and other water users that are not WUAs members and represent non-agricultural stakeholders can be considered as an ideal solution.

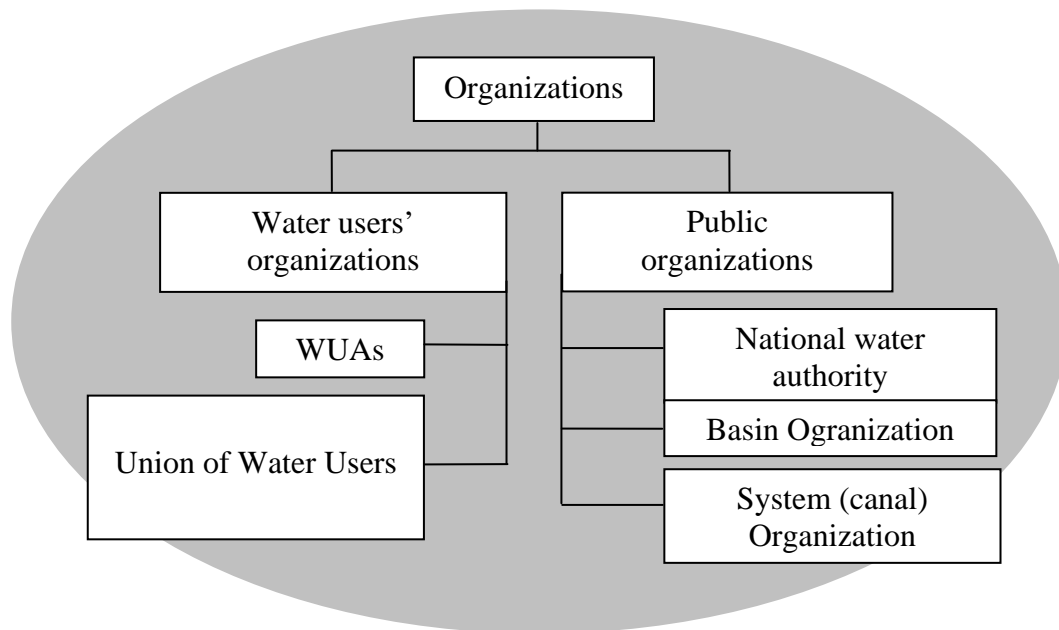


Figure 4.9 Water Organizations in the Frame of National Water Governance

Why the public has to be involved in water governance?

Due to different socio-economic approaches, there are the following methods of water allocation: centralized (governmental), decentralized, and combined.

A Centralized Method: A domestic and foreign experience shows that, at present, a purely centralized (governmental) approach does not already allow ensuring sufficiently equitable, effective, and ecologically sound water governance. Equitable water governance means that all available water resources are used in the manner meeting completely the needs of all social groups. It means that any decisions should meet the interests of all social groups, somehow or other, involved in water use, creating an enabling environment for their direct participation in decision making. Otherwise, a risk of unfair water governance is rather great, resulting in aggravating poverty, natural disasters, and social instability. The centralized method of water governance has prevailed in Central Asia. Governmental officials have to defend the democratic fundamentals of social progress according to their official duties, although their interests can differ from interests of the civil society. Therefore, public participation is necessary in order to create the atmosphere of transparency and openness when the likelihood of decisions making contradicting the public interests is reduced.

The higher level of public participation the less favorable conditions for corruption and ignoring the public interests. At the same time, it is necessary to understand clear that the decentralized method of water governance can be completely introduced only when the public management bodies reached full institutional and financial self-sufficiency to cover running and development costs (by analogy with the French system). Under conditions of prevailing irrigated farming, as a major water consumer, and of a low level of self-payback, putting all water governance and management on “shoulders” of water users and other stakeholders means for them non-sustainable existence.

Therefore, under our conditions it is more correct to move towards combined methods of water allocation. In this case, decentralization, or its combination with centralization depending on capabilities of stakeholders, is implemented through involving the public in the process of water allocating and transfer

interested entities the right to make decisions regarding issues that can be solved more effectively on-site. The more decentralized the decision making the broader the public participation. It is clear that public participation is a very complicated process because the resistance of some officials should be overcome.

Here, it should be mentioned the following aspects related to assessment of a role of water professionals, water users, and local authorities. It does not mean that water professionals are “bad boys” and water users “good boys.” “Bad guys” can be met both among water professionals and among water users. It means that “good boys” among water users should be united into the public associations to help “good boys” among water professionals to allocate water in an equitable and effective manner.

At the same time, the local authorities belong to stakeholders-water users or, in other words, interested legal entities. However, traditionally, local authorities manage water professionals. It does not mean that local authorities poorly govern – the practice shows that a leading role of local authorities can affect water management both positively and negatively. In particular, a moving towards the participatory approach is aimed at enhancing a positive impact and mitigating a negative impact of some representatives of the local authority by means of democratization of water governance.

The Second Method: Water, depending on its target use, can be a social benefit. In this case, it can be used for ecological, social, recreational, sanitary, and other purposes. Such its value just strengthens the necessity of transition towards joint governance when authorized state bodies (national or local) represent the state interests in new-established management bodies, working together with representatives of water users.

The Third Method: Water users’ water governance includes water resources management and water demand control. In developed countries, an emphasis is shifted to regulating of water demand, but in the CAR, an emphasis is traditionally made on water resources management; and under conditions of a water resources deficit, problems of water use cannot be solved only by engineering tools. A specific character of water demand management consists in focusing on people engaged in water use rather than technical norms and facilities.

There is one more important aspect requiring water users’ participation – a budget deficit along with the need of public control over necessary expenditures for operation and maintenance of water infrastructure. Under budgeting, a necessity of those or other expenditures is specified practically by the same economic players that, hereinafter, spend budgetary financial resources. As a result, there is the possibility for overstatement of planned and actual scope of works. Under conditions of joint water governance, when the sources of financing are combined – partly from a “pocket” of water users and partly from the state budget – the mechanism of public control over specifying a necessary financing and expenditures is active.

Thus, taking into account above statements, the public participation is a significant tool for improving water governance, creating the enabling environment for realization of principles of openness, transparency, and fairness due to better awareness of water users, higher material incentives of operational services’ personnel to meet the needs of those who are serviced by them and on whom they depend.

Whereas, a rising of water users’ awareness is able to put an effective barrier for infringement of the principle of fairness by officials and employees of operational organizations, as well as for an illegal interference of local authorities’ representatives, the concept of public participation is, not always, supported by them. They pay lip service to the public participation, but, de facto, either undervalue its role or resist to it [18, 41].

Canal water users union (CWUU)

A concept of introducing IWRM, in line with which institutional improvement of water governance was planned through establishing Canal Water Users Committees (CWUCs), was developed in the beginning of the IWRM-Fergana Project [41].

In the course of its realization it became obvious that the idea of establishing the CWUC is correct, but our views on how to do this had to be adjusted. This became clearer when questions concerning a legitimacy of participating the CWUC in water governance and its sustainability in the post-project period have arisen under specifying the legal status and mandate of the CWUC.

At present, principal steps for the introduction of participatory approach are undertaken in the following sequence:

1. The Resolution on establishing the Canal Water Users Unions (CWUU) was adopted at the Constituent Assembly of agricultural water users; the following CWUU were established and officially registered: Water Users Union on the SFC (WUU SFC), Water Users Union on the AAC (WUU AAC), and Water Users Union on the KBC (WUU KBC);

2. Official registration of the CWUUs was approved by the Ministry of Justice;

3. The Agreements on the joint management of the canals were signed with water management organizations (WMOs) ranked higher than the Canal Administration (CA);

4. The CWUCs, as the joint water governance bodies, were established;

5. Non-agricultural water users and other stakeholders became the official members of the CWUUs (and members of the CWUCs as representatives of the CWUUs);

Our views on joint water governance also underwent some changes. At the beginning, we thought that joint water governance should be implemented by the CWUU and the CA. Now, we consider that joint water governance has to be implemented by the alliance of the CWUU and WMO rather than the alliance of CWUU and CA. When we speak about the WMO we keep in mind the organization, which directly governs the Canal Administration

The CWUU executes its activity based on the Charter adopted at the Constituent Assembly of water users of the pilot irrigation canal.

It was decided that the water users' organization having a legal status should be firstly established. The Constituent Assemblies, at which water users approved the Charter of the CWUU, were anew held. Agricultural water users were the founders of the CWUUs on all pilot irrigation canals. In the course of consultations, jurists have clarified that other water users can become the members of the CWUU, after its official registration, submitting their applications. The Boards of CWUUs were set up when the CWUUs were officially registered.

Subsequently, a question how and who empowers the participation of CWUU in water governance was arisen. A concept of joint water governance, in compliance with which the CWUU is authorized to participate in water governance through its representatives in the CWUC that was established based on the Agreement on Joint Water Governance, was developed and put in practice.

A joint governance body, in the form of the Board of CWUC including representatives of water organizations and agricultural water users, is established at the initial stage. The Council of CWUC including representatives of other water users and stakeholders, which are not direct water users (for example, representatives of local authorities, NGOs, sanitary services, conservancy agencies, and other organizations), is formed during the next stage.

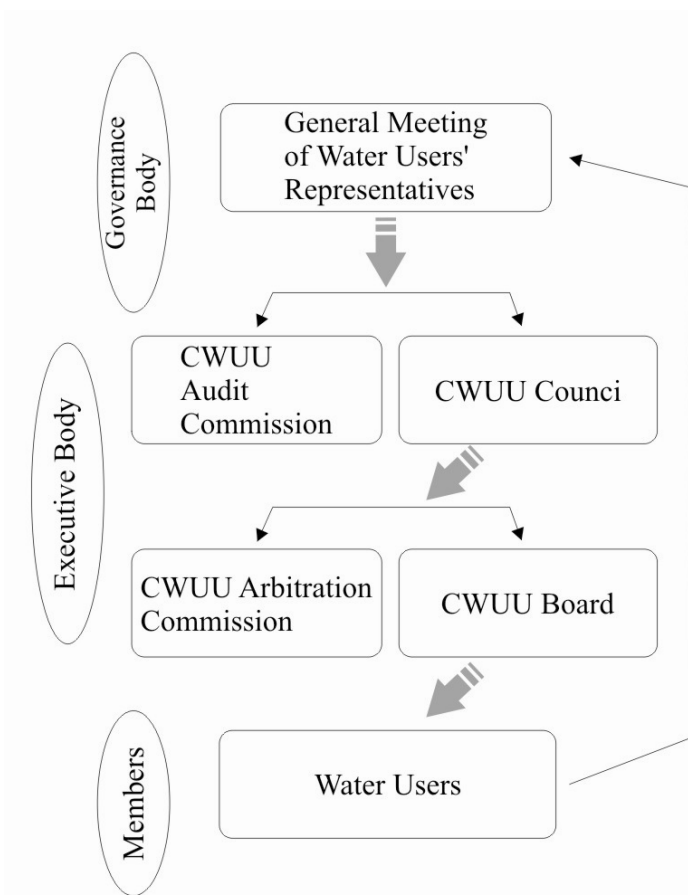
The Canal Water Users Union (CWUU) mandate and functions

The CWUU is a noncommercial public organization, by means of which all individuals or legal entities interested in water services (local authorities, irrigated farms, conservancy agencies, public utilities, power sector, fishery farms etc.) have an opportunity, through their representatives in the Canal Water Users Committee, to participate in water governance on the equitable base. Thus, the CWUU, on behalf of its members, pursues a general technical and economic policy that provides equitable, sustainable, effective, and ecologically sound governance of water allocation over the irrigation canal's command area.

For implementing these tasks, a newly-established CWUU, through its representatives in the CWUC, executes the following functions:

- Participation in elaborating the strategy of developing irrigation and land reclamation services over the irrigation canal's command area;
- Coordinating the water allocation plans;
- Monitoring of the compliance of actual water allocation with the principles of fairness, sustainability, uniformity, and efficiency;
- Coordinating a plan of water infrastructure maintenance and repairing;
- Coordinating the Canal Administration's budget and participation in drafting business plans;
- Mobilization of additional funds for activity of the CWUU and Canal Administration;
- Extension services (in the outlook under the availability of funds) in the field of water management, establishing of WUAs, and co-ordination their activity and other water users. At this stage, the project, through its local specialists, facilitates beginnings of this system by means of activity on so-called "pilot polygons" under leadership of project trainers financed by jointly the BISA and the project; and
- Others.

Due to restructuring of shirkat (cooperative) farms and establishing of WUAs, the general meetings of representatives from hydro-operational sites (HSs) were again held on ten SFC HSs to renew the membership of the Councils of these units (HSs).



Subsequently, the general meeting of representatives from the SFC water users was held to renew the membership of the Water Users Union of SFC (SFC WUU). All these measures were aimed at promoting activity related to involving water users into water governance at the level of hydro-operational sites enabling to make activity of the SFC WUU more effective.

The SFC WUU consists of a head office and 10 its affiliates (according to the number of hydro-operational sites on the SFC), representing the Water Users Unions of Hydro-Operational Sites on the SFC (WUU HS SFC), see Figure 4.11. It is necessary to note that the organizational framework of WUU HS SFC is similar to the organizational framework of SFC WUU and consists of governing and executive bodies responsible for water governance and management within a hydro-operational site.

Figure 4. 10. Sample Organizational Framework of the CWUU

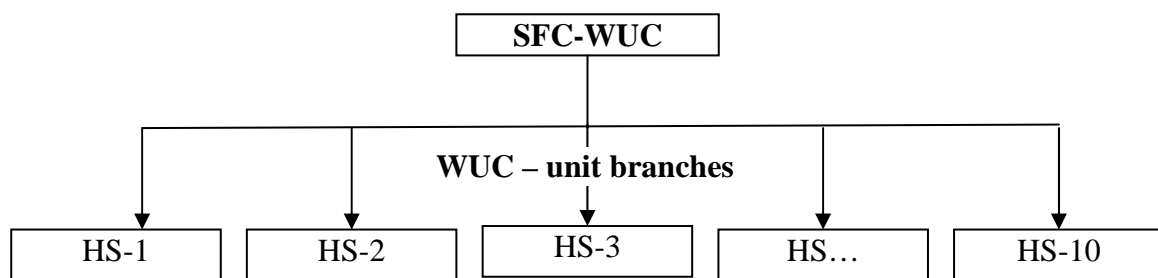


Figure 4.11. Organizational Framework of the SFC Water Users Council



Financial Aspects of CWUU Activity

Stakeholders (water users and others) and international donors finance activity of the CWUU. The CWUU budget is drawn up by the Board of CWUU and approved by the general meeting of water users (or by the

CWUU council, if the general meeting authorized it).

Within the project framework it was planned that financing of the CWUU activity will be implemented at the expense of special funds allocated in the CA budget, but the experience of CWUU activity has shown that it is impossible to rely on their financing.

It became obvious that for providing the financial sustainability, the CWUU Council should be financed directly by stakeholders and donors. Water users of all WUAs on the AAC, at their meetings and at the general meeting of water users, which was held in December 2004, made decision on financing the CWUU Council. All WUAs have agreed to contribute into the annual budget of the CWUU Council in the amount of Tajik Som 10 per ha (about USD 2500 annually). This amount was sufficient mainly for covering expenditures related to conducting the meetings of CWUU Council, hiring of auto-transport, wages of three members of the Board of CWUU etc.

Funds for financing the CWUU Council of the AAC are provided for in budgets of WUAs but not paid in full. Therefore, the CWUU Council of the AAC faces a lack of funds. In 2006, part of these funds was used to prepare the project proposals to potential donors to equip two newly-established WUAs with minimum office equipment.

Taking into consideration the grave financial situation in the CWUU at the initial stages of its activity due to overall financial difficulties at most of water users, it is reasonable: i) to brisk up the work with donors and water users (collection of membership fees); and ii) to seek medium-term credits, with a low interest rate. For this purpose, at the meetings of CWUU Council and the general meetings of representatives of water users, it is necessary to obtain the support of water users, and then, together with specialist, to initiate preparing and discussion of the business plans for the CWUU and to follow the formal procedure.

In comparing with other CWUUs, the CWUU SFC is in the best conditions, since more than Uzbek Sum 100,000 was transferred to its bank account, and the SDC has granted USD 8,300 (this grant covers the annual budget of the CWUU SFC that equals to Uzbek Sum 10 million), as well as it won the US Embassy Grant in the amount of USD 4,000 for conducting workshops in the SFC command area in 2007 and 2008.

Cost items of the CWUU are given in the table below. Either only the governmental budget funds or, under conditions of water charging, combined funds of governmental budget and water users' fee are used for financing CA operation.

No	Cost Items	Sources of Financing
	Wages of some members of the CWUU Board	1. Fees of WUA members 2. Donors' grants 3. Income from commercial activity of the CWUU
	Expenditures that covers conducting the meetings of the CWUU Board and Council, and the general meeting of representatives of water users	
	Payment for renting the office	
	Payment (in the prospect) for consulting services (jurists, scientists, engineers etc.)	
	Travel expenses	
	Entertainment expenses	
	Other operating expenses	

Legal aspects of establishing and activity of the CWUU

The CWUU is a nongovernmental noncommercial organization having the status of legal entity with own the bank account.

In Kyrgyzstan, the CWUU was registered under a name: “the Union of Water Users Associations of the AAC”, and in Tajikistan under a name: “the Union of Agricultural Producers-Water Users “Khodjabakirgansay”.” Founders of the latter are agricultural co-operatives. Representatives of the Provincial Department of Justice consider that other stakeholders (including WUAs) can become a member of the CWUU KBC after its registration based on submission of an appropriate application.

The CWUU SFC was officially registered in the Ministry of Justice of the Republic of Uzbekistan.

Constituent Assembly

A final phase of social mobilization at the level of main canal is the preparation and conducting of the meeting of representatives of water users (MRWU). The two-level system of conducting the MRWU (at the beginning at hydro-operational sites, and then for the whole canal) is recommended for big canals, like the SFC. Since only founders are attending the first meeting rather than all water users, it is called “the constituent assembly of representatives of water users.”

Agenda of the Constituent Assembly of representatives of water users:

1. Discussion, improvement, and adoption of the CWUU Charter;
2. Elections and approval of the CWUU Council members;
3. Elections of the CWUU chairperson (he/she is also a chairperson of the CWUU Board).

The first (constituent) MRWUs on the pilot canals were held in December 2003. Subsequently, MRWUs are held annually. Their agendas include discussing of activity outcomes of the CWUU and CA during a reporting year and working plan for next year, as well as some organizational issues.

Since over 90% of water is consumed for irrigation, it is important in principle in order that agricultural water users can make up a majority in the CWUU and its Board, and it is also important in order that a representative of agricultural water users from the tail part of irrigation canal would be elected as the Chairperson of CWUU (CWUU Board). As a rule, chairpersons of the CWUU SFC and CWUU KBC represent agricultural water users of pilot canal downstream areas. As a result, irrigation water supply in downstream sites of pilot canals has improved.

The CWUU Council

After the constituent assembly of water users, the meeting of CWUU Council is held to solve the following issues:

1. Elections of CWUU Board members;
2. Forming an arbitration board and auditing committee;
3. Preparing the annual plan and schedule of CWUU activity (an assignment for members of the CWUU Board).

At present, a WUA organizational structure, in which a governing body is represented by the CWUU Council headed by a Chairman, and an executive body is represented by a WUA Directorate headed by a Director, was adopted in Central Asian region. Since the position of WUA Council's Chairman is voluntary and a WUA Director manages all finances, the Director is a key personality and a role of the WUA Council and its Chairman, as a rule, is negligible.

In Turkey, for example, another organizational structure was adopted, and a key personality is a WUA Chairman. It is necessary to note that the legislation of Kyrgyzstan envisages two options of WUA organizational structure, including the option adopted in Turkey. In addition, at the beginning, WUAs in Kyrgyzstan were established according to the Turkish organizational structure of WUAs. This structure can be considered as a WUA organizational structure for the transition period.

The CWUU Board

The CWUU Board, at its meetings, reviews a draft annual working plan and schedule of CWUU activity and submits them to the CWUU Council for its approval. After discussion and approval of annual working plan and schedule of CWUU activity at the CWUU Council meeting, all works are implemented in compliance with these documents.

In addition, the CWUU Board delegates its representatives to the CWUC for joint governance of the Canal Administration. The members of CWUU working in the CWUC Board participate in assessing water allocation over the last ten-day period and in decision making for a next ten-day period (based on indicators of water allocation that are calculated with help of the MIS), as well as in conflicts resolution. An example of water users' constructively participation in decision making is their participation in settling the conflict with Kyrgyz water users and also the conflict between the BISA "Naryn-Karadaya" and the Main Canal System Administration (Fergana Valley) in August-September 2007. The CWUU Board pays special attention to the tail hydro-operational site "Fayziobod" on the SFC; and therefore, indicators of water allocation at this HS have considerably improved in spite of dry year.

A CWUU Chairman

A CWUU Chairman (he/she is also a chairperson of the CWUU Board of the Council) is elected at the general meeting of water users with the 3-year run of office. During the elections procedure, a preference

should be given to a representative of agricultural water users located along a downstream stretch of the irrigation canal. A CWUU Chairman can be removed from his position based on the decision of CWUU Council, if the CWUU Council considers that a CWUU Chairman is not able or unworthy to execute his assigned functions, or based on his written request about resign. The CWUU Council has a right by secret ballot to elect another person as an acting chairman instead of a former one.

CWUU Chairmen were elected by open vote at the constituent assemblies of water users. In 2004, chairmen of CWUUs of SFC and AAC were reelected at the meetings of the CWUU Councils. A reason was the following: CWUU chairmen have changed their places of basic employment and could not represent the interests of water users in the CWUU Council.

Chairmen of CWUU SFC and CWUU KBC represent the interests of water users located along tail parts of the pilot canals.

An Arbitrage Commission

The most important function of CWUU is to consider matters of argument and to settle conflicts between water users, as well as between water users and the Canal Administration. An arbitrage board (commission) is subordinated to the CWUU Council.

Since 2004, conflicts related to water allocation between the Canal Administration and water users have practically ceased at the level of pilot canals. Specialists consider that this is mainly related to reforms conducted in the frame of the project. The reforms have provided good results in dry years, but now other types of conflicts are topical mainly due to external causes: in Kyrgyzstan –“tulip revolution”; in Uzbekistan – sudden stop of water releases from the Andijan Reservoir; and in Tajikistan – peculiar price and tax policy regarding water services of the KBC Administration.

At the same time, in Tajikistan the conflict between the KBC Administration and “non-payers” intensifies. The KBC Administration, by approbation of the KBC CWUU Committee, has attempted to use extreme, but legal pressure: temporary cessation of irrigation water delivery to water users, which do not pay for water services, and has directed this matter to economic court. Nevertheless, in Tajik water users’ opinion, without reforms it would impossible to deliver water to the farm “Samadov” in 2006 and 2007.

In 2007, there was the conflict on the SFC between the SFC Administration and Kyrgyz water professional and water users, which was provoked by sudden stop of water releases from the Andijan Reservoir. This conflict was discussed with representatives of Kyrgyzstan (of the Aravan District Irrigation Administration and frontier WUAs) in the course of seminar on planning of water allocation (Fergana, August 2007) and at the joint meeting of SFC Water Committee and the Water Committee of hydro-operational site “Karkidon Feeding Canal” (KFC).The following attendees were at the joint meeting: Chairman of the SFC WC, Chairman SFC CWUU, representatives of BISAs “Sokh-Darya” and “Naryn-Karadarya”, and Director of SFC Administration. It was decided to strengthen and brisk up the work of SFC WC and to authorize it to settle conflict situations efficiently and promptly.

An Audit Committee

To provide the transparency and openness of CWUU activity, an audit committee consisting of three members is elected at the general meeting of water users. The audit committee does not audit financial

management of the CA, but has access to auditors' reports related to auditing its financial management. The audit committee audits only funds allocated for the CWUU Council operation.

Audit Committees of the CWUU on the pilot irrigation canals was not yet formed due to absence of such a necessity, since there are not funds.

In the course of preparing and conducting the meetings of CWUU Board and Council, an awareness of water professionals and common water users is rising. In addition, issues, about which it was preferred to be silent (interference of local authorities in water allocation) or which were ignored (uncoordinated activity of power supply managers resulting in sudden shutdowns of pumping stations and unsustainable irrigation water delivery to secondary canals) are now tackled. In Tajikistan, undue gravel excavation from the Khodjibakirgansay channel causing riverbanks' erosion, washing out trees and reducing the safety of waterworks became the subject for consideration at the meeting of CWUU Council.

The SIC ICWC has streamlined the study of cross-sectoral interests and links in the pilot canal's command area. Analyzing collected data has shown that the following problems are the most topical for all three pilot canals:

- *Water protection zones (WPZs). Political, legal, and financial issues impede a clear definition of WPZ boundaries and owners along the pilot canals (PC). Effects of this situation are the following:*
- *Contamination of the WPZs (garbage; washing cars; lavatories; pumps, garages,...);*
- *Unauthorized acquisition of WPZ lands;*
- *Water pollution (garbage, wastewater, spoils, disease carriers and pathogenic bacteria).*
- *Water supply to the population (also for watering livestock) both during the growing season and, especially, in the dormant season. This problem is extremely topical due to severe deficit of potable water in the pilot canals' command areas;*
- *Land reclamation: rise of groundwater table on the downstream plots due to irrational water use on upstream plots; and*
- *Population safety. Sometimes people drown in the pilot canals (it is especially typical for the SFC); As a result, breakdowns of irrigation canal operation and decrease in the stability of water intake into the pilot canal and water diversions from the pilot canal take place.*

Information collected by project consultants over the period of 2005 to 2006 under studying the cross-sectoral interests and links in pilot canal command areas was synthesized; and the book: "The Research Record on Issues of the Environment, Potable Water Supply, Land Reclamation, Power Supply, Pumped Irrigation, and Sustainability of Water Availability" was written based on collected information. The first chapter of this book is devoted to the SFC, second chapter to the AAC, and third chapter to the KBC. The book was distributed among local water professionals. An electronic version of this book will be as the basis for the Knowledge Base, which is, in its turn, the integral part of pilot canal database (www.cawater-info.net/iwrm).

Studying water management problems in co-ordination with problems of other sectors is not an end in itself. The goal is to develop appropriate action plans and streamline their implementation based on the

studies of these problems. The WCUUs of pilot canals (SFC, AAC, and KBC) and the canal administrations are responsible for implementing these plans in the frame of the project.

Action Plan No1 that is covering the environmental issues, potable water supply, and land reclamation under water management on the pilot canals was developed based on findings of studying the cross-sectoral relations and now is being implemented including the following actions:

- Measures for cleaning and planting of greenery in the WPZs with involving stakeholders in the form of “khoshars” (a voluntary participation in works of public importance);
- Formal notifications to the administrations of districts and cities located in the pilot canals command areas with the request to improve the situation related to pollution of the WPZs;
- Joint field inspections of CWUU members and representatives of conservancy agencies to inspect ecological and sanitary conditions in the WPZs and settlements adjoining the SFC;
- Meetings for improving an sanitary awareness of settlements’ inhabitants to prevent pollution of irrigation canals and WPZs;
- Operational schedules of the PCs for the dormant periods to mitigate potable water deficit in the pilot canal command areas;
- The formal letters to potential donors with the request to assist in solving PC problems through initiating the water supply and sanitation projects in the PC command areas;
- Accounting return and ground water under planning water allocation and adjusting the plans of water allocations on the pilot canals;
- Other actions.

Joint governance and management

From the hierarchical point of view, governance is implemented at the national level external regarding the overall system of governing the water sector and based on the national constitution and other regulative mechanisms executing international conventions and treaties, national laws concerning property rights, market relations, water charging, water rights, water rights market, investments, subsidies, and other national mechanisms. Its subordinated form is *internal governance* at the sectoral level, which, acting in the framework of directory regulations and financial restrictions, can establish its own sectoral regulations and rules including allocating funds, quotas, institutional structures, staff, norms, rules of information exchange, a reporting system, and many other procedures, which serve as guidelines in the management process.

From an institutional viewpoint, IWRM is characterized by transition from exclusively state governance towards the so-called joint governance when part of governmental powers are transferred to bodies formed together with public organizations.

Under these circumstances, governance bodies are the following:

1. State governance
2. External governance, which, in compliance with the Constitution, means activity of the President, Parliament, Government and local authorities;
3. Internal governance, which, on behalf of the Government, is executed by National Ministries and Committees responsible for water resources (Ministry of Public Utilities, Ministry of Agriculture and Water Resources, State Committee on Environment Protection, Ministry of Energy, Ministry of Geology) an their offices in provinces and administrative districts; and
4. Public governance represented by above CWUUs.

The WMOs that directly execute internal governance of the Canal Administrations are the following: for the AAC – Osh BWMO; for the SFC – the Fergana Valley System Administration of Main Canals with United Dispatcher Center (FV MCSA & UDC); and for KBC – the Ministry of Land Reclamation and Water Resources of the Republic of Tajikistan.

In respect of operational management that means the process of planning and implementation of technical, technological, financial, and organizational measures related to water allocation and O&M of water infrastructure, in this case we consider “management” as a synonym of “operation and maintenance.”

Functions of governance bodies are the following:

1. Annual planning:
 - Specifying and balancing water demands and available water resources;
 - Water allocation within established water use limits;
 - Managing of drainage systems and protection of water quality;
2. Implementing the plans of water use:
 - Water distribution in due time;
 - Drafting the regimes of water releases and filling reservoirs;
 - Drafting the schedules of water delivery;
 - Control of organizational water losses.

3. Monitoring of Implementation:
 - Establishing a water gauging and record keeping system;
 - Analyzing and adjustment of an operational mode;
 - Evaluation of water saving.
4. O&M of water infrastructure:
 - Reservoirs and headworks;
 - The main and secondary irrigation networks and hydraulic structures;
 - Drainage network;
 - Gauging stations;
5. Establishing and maintaining the database.

A theory and practice of transferring powers for water governance

In the world practice of restructuring the water and agricultural sectors, the transferring of powers for water governance means the full or partial transferring of responsibilities and powers related to water governance from the national government towards groups of water users themselves organized in the form of various consumers' or production co-operatives, partnerships, associations, unions, federations etc.

A world practice shows that due to local conditions and economic and technical capabilities of both those who hands over the powers and those who takes over governance functions, such a transfer may have different forms and scales. A key cause for transferring governance over operational organizations, as a rule, is the lowering of a water resources controllability level and deteriorating water infrastructure and services due to the following factors:

1. Jump in the number of water users and complexity of water supply and distribution under using former methods;
2. A lack of budgetary funds for further financing of water management organizations;
3. A low level of fee collection for irrigation water delivery and other water services; and
4. A low level of professional knowledge of officials and personnel of water management organizations and a lack of incentives for proper work under conditions that were changed in the process of reforms.

Therefore, the involvement of water users in direct governance of water management organizations is a call of the times and also one of the world widespread methods to tackle the crisis in the water sector.

After independence, tens of and even hundreds of small farms were created and continue being created instead of large collective farms in the agricultural sector in Central Asian countries. O&M services that earlier operated in collective farms and state farms went out of business. Instead of them in countries of the region, water users associations (WUAs) that are operating according to principles of forgotten bygone traditions of “*Adat*”² and “*Shariah*”³, the cornerstone of which is the public participation, are being established. Foreign and local experience of WUAs shows that a direct participation of water users in water governance, as a rule, provides sustainable, equitable and effective water resources management.

At present, an experience of public participation in Central Asia is mainly limited by the WUA level, i.e. within the former on-farm irrigation and drainage network. At the same time, the world experience shows that a direct participation of water users in water governance at higher level, for example on the main irrigation canal, also can be effective solution:

1. To improve the controllability of irrigation systems and, based on this improvement, to raise a level of uniformity, effectiveness, and sustainability of irrigation water supply;
2. To create incentives to water users and personnel of operational services for reducing water consumption and O&M costs. At the same time, performance capabilities are considerably raising due to greater responsibility of water users and allows:
 - To improve financial and technical conditions of irrigation systems;
 - To reduce the number of disputes due to unsustainable irrigation water supply;
 - To increase a collection of fees for irrigation services;
 - To raise crop yields and revenues owing to effective water distribution;
 - To defend own interests (as a more consolidated group) in the process of developing governmental and legislative decisions;

Active participation of water users in governance of operational organizations due to the transfer of powers from governmental organizations to associations of water users allows achieving more qualitative water management, rise of productivity of water and land use, improvement of land reclamation conditions, and consolidation of separated groups of water users over the whole irrigation system.

In contrast to foreign developing countries that reforms their water sector where private farms initially existed as separate water users, and inter-farm irrigation network belonged to the state, the farms in Central Asia were, as a rule, collective units and, de jure, already had powers for water governance.

In the period of reforms after restructuring collective farms, the former on-farm irrigation network became ownerless, and the controllability of water distribution has lowered up to the level when negative effects for agricultural productivity were unavoidable. At that time, the governments were forced to initiate the process of establishing WUAs, to which the governments, naturally, started to hand over powers for governance and management of the former on-farm irrigation and drainage network. Thus, without considering the short period of ownerless on-farm systems, as a result of reforms the transfer of water governance powers from restructured or completely disintegrated former large water users towards water users associations of a new type took place.

² A word “*adat*” literally means a habit, custom, or tradition. Rules and provisions of the *Adat* in the legal sense are regulations of the customary law

³ The *Shariah* is the Muslim Legislation

In case of big main canals, here, in contrast to the WUA level, it is planned to transfer only part of governance powers, namely, to provide the transition towards joint governance of the state and public stakeholders. At the same time, part of powers should be transferred from the state to water users. It is necessary to keep in mind that often the state, represented by state officials, does not see the exigency of this transfer, although the exigency exists. Due to some reasons, such as lack of the experience of participatory governance at the level of main canals, reluctance to hand over powers etc. the process of transition towards joint governance of large irrigation schemes cannot be smooth, rapid and extensive like what happen at the WUA level. Therefore, a period of transition is needed here – the period of joint water governance.

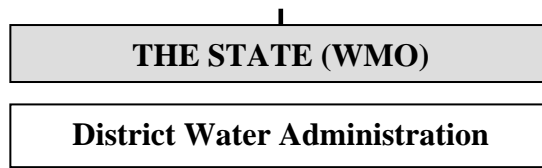
The key stages of institutional improving of water governance on the pilot canals

Figures 4.12 and 4.13 below show the stages of improving water governance, which were partly already passed through in the frame of the IWRM-Fergana Project and which should be passed through in the process of transition from exclusively state water governance towards joint water governance with involving stakeholders.

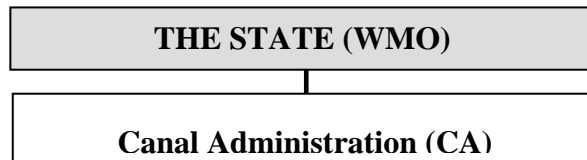
Rational of transition towards the joint governance

At present, the CWUUs, under support of the project, participate together with governmental water management organizations in executing the following functions of water governance:

1. Approval and collection of water users' financial contribution and its redistribution among water users;
2. Specifying the procedures for water delivery, distribution, and use (water rotations, adjusting the irrigation schedule, monitoring, and reporting);
3. Arbitrage and settling disputes between water users and the CA;
4. Approval of the business plan based on the balance of allocated state budget, collected fees, funds accumulated due to different activities, as well as procedures for creating the emergency fund and its use etc.; and
5. Decision making regarding receiving the credit that will be repaid by water users;

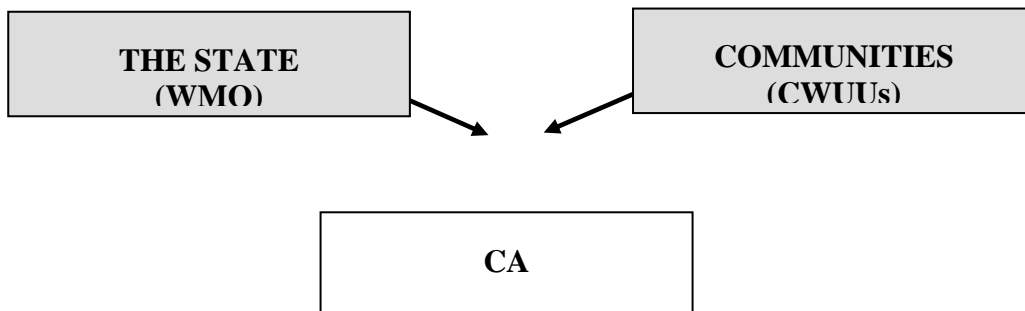


a) Prior to transition towards the hydro-geographical principles;

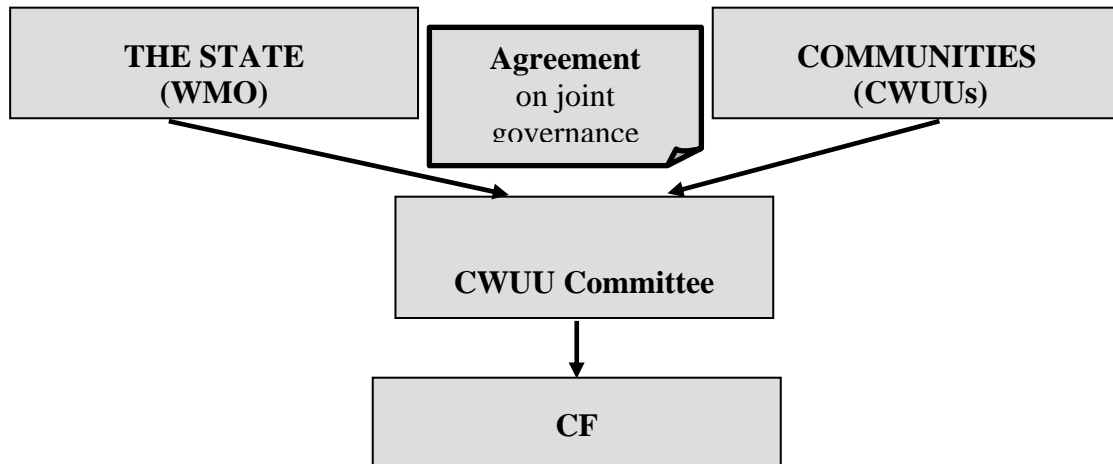


b) After transition towards the hydro-geographical principles.

Figure 4.12. Diagram of State Water Governance



a) Powers were separated (semi-formally)



б) Powers were separated (formally)

Figure 4.13 Diagram of Joint Water Governance

It is necessary to note that powers of the CWUU still are not *legitimate* and, therefore cannot be sufficiently effective and sustainable. Undoubtedly, ideally, governmental water governance should be replaced by public water governance in the canal (system) command area, namely by the CWUU, in which sectoral bodies and local authorities should participate as stakeholders – members of the CWUU, at least, making their contribution. At the same time, the CA and CWUU should merge into a united organization, in which the General Meeting and CWUU will be its board (governing body), and the CA will be transformed in its executive body.

However it will be possible only in the future. At present, it is early to speak about this for a number of reasons. Firstly, an economic situation of water users is difficult, and they won't be able to cope with it without substantial state assistance; secondly, the time is needed to make significant progress in democratization of the national systems, as planned, in the Central Asian countries.

Today, artificial promoting the progress of events and attempts of jumping from state water governance to public water governance are wrongful. Under present conditions in Central Asia, such a revolutionary activity cannot facilitate putting the participatory approach into practice; and, moreover, the idea can be discredited. A transition period – the stage of joint water governance by two legal entities: the CWUU and WMO – is needed. In fact, duration of transition period will depend on the rate of democratization in Central Asian countries. It is necessary to continue institutional, preparedness and training activity in order to provide, on the one hand, a *real voluntary consent* of water users to undertake governance of pilot canals and, on the other hand, a consent of sectoral ministries to transfer powers to water users for governing the pilot canals. Transferring powers for governing the pilot canals has to be formalized in the form of the legal document: the agreement on transferring powers between the Ministry and CWUU.

At present, only step-by-step transition from state water governance towards joint governance, when the government participates in water governance on a par with water users is possible. Transition towards joint governance should be based on the agreement on joint water governance signed by the WMO, as a

representative of the state, and the CWUU, as a representative of the community. It is suggested to make the CWUU that will be formed by representatives of state and public organizations as the governing body for the transition period of joint water governance. One of options of CWUU composition is the representation according to financial input into supporting operational activity of the CA.

The CWUC consists of 5-7 members. In the future, after transition to completely public water governance, the general meeting of water users, CWUU Council and Board will play a role of a governing body, and the canal operational administration (present CA) will execute a role of an executive body.

Water users’ fees for water services of the CA are considered as water users’ contribution into financing operational activity of the CA.

At the initial stage of transition period, only agricultural co-operatives within the command areas of pilot canals will be members-founders (the Union of Agricultural Producers-Water Users “Khodjabakirgansay”, the Union of Water Users Associations of the AAC) i.e. other stakeholders (WUAs, conservancy agencies, public utilities etc.) are still not members of the CWUU. Therefore, at the beginning, the CWUU will consist of 5-7 members representing two Parties that sign the agreement. During the next stage of transition period, in the process of including representatives of other stakeholders into the CWUU, the composition of CWUC can be extended. A mechanism of transforming the CWUC from a “narrow” into “extended” structure of representation is envisaged in the status of CWUC. An extended structure of the CWUC is given in Figure 4.14 below.

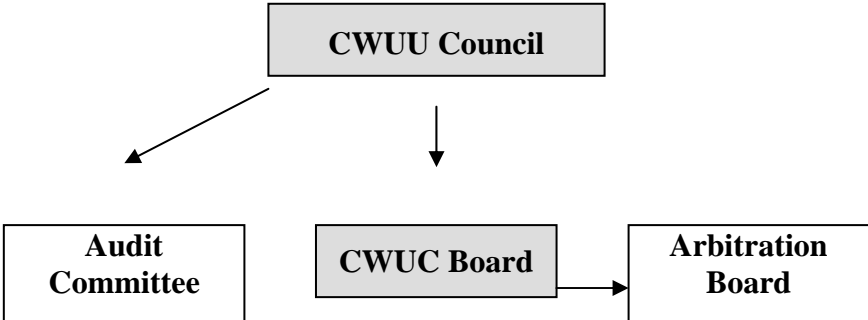


Figure 4.14 Organizational Structure of the CWUC for the Transition Period (Joint Water Governance)

Due to the fact that the CWUC is established based on the agreement on joint water governance signed by the WMO and CWUU, each party is budgeting funds necessary for participation of their representatives in activity of the new joint structure, if needed.

State financing

A role of the state financial mechanism is very important under transition towards joint water governance. Most of governments do not have the appropriate legal base for allocating budget funds to non-state structures including local public organizations, NGOs or private companies. In this case, two options are possible:

1. Firstly, water users pay for irrigation water delivery to the state organization (CA) making an addition to the funds allocated by the state for covering O&M activity, running costs and development of this organization. In this case, the state bears chief responsibility for financial sustainability of the CA.
2. Secondly, joint proportional financing by water users and the state bodies provides the financial sustainability and self-financing of the CA based on a business plan. However, this business plan has to include measures ensuring frugal expense of funds allocated for O&M, strict control of water quality, seeking of cheaper water sources, holistic use of available funds and resources (including land resources that can be underused due to poor soil conditions), and saving measures based on optimization of pumped irrigation water supply.

It is clear that during the transition period, the state should keep financing the O&M organizations in an amount sufficient for supporting the due level of water management. Further state financing is exclusively a subject for negotiations between the state and a public organization, which in the future take over the water governance based on its share (equal or less than a shareholding) under keeping opportunities for state control. In this case, the following options are possible:

1. As before, the state continues to finance the CA in spite of changes in its status;
2. The state is gradually reducing financing in the period of joint water governance;
3. The state pays a certain amount into a lump sum, as an initial capital, and then is gradually reducing annual financing; and
4. Other possible options.

In any case, the project will facilitate the negotiations between parties participating in governance of the CA related to financial matters and use of other resources handed over to a new organization. Nevertheless, even if the state financing and other resources are available, it can be insufficient for achieving the full efficiency and profitability of the production process.

Therefore, for the purpose of seeking and mobilizing own funds and resources for covering running costs and development, such an organization has to be able draw up own business plans in a manner that allows to involve all possible reserves in the form of using the water protection zones, fishery etc. and simultaneously to make possible covering of credits.

The need of state participation in financing water management organizations naturally follows from impacts of irrigation and land reclamation activity on the environment and society; and social and environmental welfare depends mainly from the level of state support including financial aid. In addition, the world experience shows that, as a rule, the state finances rehabilitation of large-scale water infrastructure of irrigation and drainage systems.

The process of transition towards joint water governance

First of all, it is envisaged to provide a necessary awareness of all stakeholders on planned reforms. In this case, we deal with three groups of stakeholders:

1. A group that participates in water governance on behalf of the community (CWUU);
2. A group that participates in water governance on behalf of the state (WMO); and
3. A group that will be governed by joint efforts of the state and community (the CA).

Water users groups should be informed: why and how reforms will be implemented and what swings and roundabouts of these reforms. These measures will be of an information-explanatory nature rather than a mobilization nature, since the decision related to transferring water governance was made earlier, and water users were informed in the course of previous campaign.

At the same time, the WMOs should be informed on objectives of reforms, procedures of implementing reforms, who and how will be involved, who and what will lose or acquire. It is also necessary to help them to make aware of possible problems, and what assistance and support they can provide to overcome them. These measures will also be of mobilization nature to prepare this group of people to some loss of their powers!

A group of people that will be governed by joint efforts of the state and community (the CA) has to be informed about their prospects, how joint governance affects their powers, rights and duties. They need also to be informed on difficulties and problems that can be faced, and how to provide the preparedness for their overcoming. Measures related to this group of people will be of an information-explanatory nature.

In the course of meeting and consultations with above groups of stakeholders, the project experts, as supervisors of this process, should collect and record all their concerns, doubts, requirements, and fears, as well as specify legal obstacles and the need in training. At the same time, it is necessary to make efforts for mitigating or neutralization of all problematic effects and, as far as possible, to include these matters into the Protocol of Intent for Transferring Governance Powers in order to attach due legal force to this process and to ensure the execution of appropriate commitments by Parties.

The following project activity was carried out for transition towards joint governance [18]:

For each pilot irrigation canal the following documents were prepared:

- *«The Concept of Joint Governance of Pilot Canal Administration's Activity»;*
- *«The Agreement on Joint Governance of Pilot Canal Administration's Activity».*
 - *The Concept and Agreement for each pilot irrigation canal were discussed at "round tables" in Bishkek, Khojent.*
 - *As a result of discussions at "round tables", the Protocols of Intent were signed by all*

members of the working group consisting of the representatives of Parties participating in the process of transition towards joint water governance.

- *The Protocols of Intent include the agreed plans and forms of transition towards joint water governance.*
- *The CWUU (AAC, KBC, and SFC) are Party of the Agreement on behalf of the communities;*
- *A Party of the Agreement on behalf of the state are the following organizations:*
- *In Kyrgyzstan – the BWMO,*
- *In Tajikistan - the MLR&WR of the Republic of Tajikistan,*
- *In Uzbekistan – FV MCSA.*

- «Agreements...» were signed by Parties for all three pilot irrigation canals.

- The Boards of Pilot Canal Water Committees were established based on Agreements: WC AAC, WC KBC and WC SFC.

- The Board of AA Pilot Canal Water Committee consists of 7 members – 3 the BWMO, Director of AAC Administration and 3 representatives of the CWUU AAC.

- The Board of KB Pilot Canal Water Committee consists of 7 members – 1 representative of the MLR&WR, 2 representatives of SogWMO, Director of KBC Administration 3 representatives of the CWUU KBC.

- The Board of SF Pilot Canal Water Committee consists of 7 members – 1 representative of the FV MCSA, Director of SFC Administration, 1 representative of the BISA «Sokh-Syrdarya», representative of the BISA «Naryn-Karadarya» and 3 representatives of the CWUU SFC.

Challenges and Opportunities for Institutional improvements

The experience of putting the IWRM principles into practice in the frame of the IWRM-Fergana Project shows that the introduction of hydro-geographical principles and participatory approach is the very complicated process that faces many problems, but there is not another alternative if we want raising water productivity and ecological safety in the region.

Transition towards hydro-geographical principles in the frame of the IWRM-Fergana Project did not cause any objections even in Uzbekistan since this was profitable for water professionals. However, there is another situation with introducing the participatory approach. At the “grass roots” level, the public participation, as a rule, is profitable for water professionals in contrast to water officials, who are paying lip service to a leading role of water users represented by the CWUU and even making some modifications in the Charter of Canal Administration, de facto, are trying to turn the CWUU into a “pocket” obedient body. Denial in legal registration of the CWUU, as nongovernmental, self-sufficient and noncommercial body of water users with own official stamp and bank account, promotes transforming the CWUU into a body depending from the Canal Administration, but not vice-versa. In this case, denial in legal registration of the CWUU is advantageous for water officials but not for water users.

Key challenges are following:

Psychological problems:

1. Water users traditionally play a role of suppliant for water officials rather than a Client that creates agricultural output and, therefore, has the right to demand the qualitative services from water agencies. Therefore, along with strengthening a leading role of the CWUU Council and its chairperson, simultaneously the WUA representation functions in the CWUU should be also promoted;
2. According to the same causes, the WUA in the CWUU Council should be mainly represented by its chairperson; and
3. Since the Soviet period, a distrust of public organizations that took care of the needs of communities too little is kept.

Legal problems:

1. Here and there, an illegal practice of interference of local authorities in water allocation is being continued;
2. The law on WUAs (Uzbekistan) and the CWUU was not adopted; and
3. Procedures of formal registration of the CWUU are too complicated.

Human resources problems

1. Less and less of skilled water professionals are available in water management organizations, at the same time, many persons who before were never busy in irrigated farming arise among water users.

At present, the IWRM-Fergana Project's achievements have to be disseminated "geographically" and "institutionally". When we speak about disseminating the IWRM-Fergana Project's achievements "geographically", we keep in mind implementing of similar reforms on additional main irrigation canals (the North Fergana Canal and Right-Bank Canal). When we speak about disseminating the IWRM-Fergana Project's achievements "institutionally", we keep in mind introducing the IWRM principles at higher level – at the level of river basins (Akburasay, Khojabakirgansay and others), and now a new project component has started to study opportunities for introduction of IWRM in basins of small transboundary rivers.