

Constraints to Integrated Water Resources Management in Uzbekistan with special reference to Water Users Associations¹

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Abstract:

While the government of Uzbekistan has resolved for adoption of Integrated Water Resources Management following the hydrographic principles, much of the enabling environment has yet to evolve. This paper, drawing on an analysis of laws, regulations, and operative practices of water and agricultural organizations, as well as focused group discussions with the staff, council members of *Akbarabad* WUA in the Kuwa district of Fergana Province, and farmers of the area, identifies the key constraints that the WUAs face in carrying out their business efficiently and effectively.

The paper argues that a) there is a multitude of laws governing water, b) the current status accorded to WUAs obstructs their performance unless new WUA law is introduced, c) there are multiple and high rates of taxes which constrain WUA functioning, d) the current registration procedures are too complicated, e) WUAs are internally weak and the agreements with water supplying organizations are not equal, f) there are serious financial viability issues due to poor profitability of irrigated agriculture. Besides, farmers are facing several problems that constrain their ability to pay, such as state order system, and declining yields due to emergence of salinity and waterlogging.

The paper identifies four key areas of action that can lead to sustainable livelihoods and effective water resources management. These include, a) establishment of an inter-disciplinary advisory group to advise the government on needed changes in the water related laws, b) synchronization of all laws that affect water management, c) institutionalization of WUA development and support system, and d) removal of constraints to farm profitability, such as the state order system.

¹ A paper presented at the Scientific and practical seminar titled “Deepening reforms in and perfecting of legal base of water management in Uzbekistan” in Tashkent on November 25, 2004, organized by the Agriculture and Water Committee of Oliy Majlis (parliament) of Uzbekistan.

1. Introduction

The government of Uzbekistan has resolved to implement the principles of Integrated Water Resources Management (IWRM) following a river-basin approach to water management². The concept of IWRM has emerged in response to the rising problems with water that the world is facing, many of which exist in Central Asia including Uzbekistan. These problems include:

1. Growing demand for food from growing populations;
2. Rising competition between agriculture and other water sub-sectors (such as hydropower);
3. Inadequate access to safe drinking water and sanitation facilities;
4. Inadequate or obsolete water infrastructure;
5. Low income and employment opportunities;
6. Low land and water productivity;
7. Declining water quality and rising environmental degradation (including pollution, soil degradation, waterlogging, salinization).

Such problems are partly the result of demographic and environmental changes but are also the results of the following weaknesses in water resources institutions and management:

1. Sector-specific and territorial based administrative units in water resource sectors;
2. Weak incentives, accountability and coordination within and between administrative units in water resource sectors;
3. Lack of participation, empowerment of and dialogue with water users and other stakeholders in water resources management;
4. Contending territorial interests and diverse or unclear property rights;
5. Weak incentives for water users to increase the productivity of water and minimize unproductive water losses;
6. Chronic under-financing of infrastructure maintenance;
7. Obsolete technologies and inadequate skills and training of water management personnel.

In this paper we consider ***water resources management*** as the organized use of technology and other resources to provide, pay for and regulate water services. We define ***integrated water resources management*** as:

the governance, provision and financing of water services in a coordinated, participatory manner, within a coherent framework of policies, laws, institutions and technologies, that optimizes the social and economic value of water, the efficiency of its use and the equitable distribution of its benefits, while ensuring the sustainability of essential ecosystems (adopted from Global Water Partnership³).

This paper presents the vision for IWRM implementation that had been agreed by the Ministry of Agriculture and Water Resources of Uzbekistan, and examines the factors that constrain the effective implementation of this vision in the field. The information presented in this paper is derived from several sources, including but not limited to a) commentary on the legal framework for WUAs, b) institutional situation analysis of water management in the Fergana Valley, and c) focused group discussions with groups of farmers and WUA staff.

² The principal decision was officially notified through the decree of Cabinet of Ministers

³ Adopted from GWP's definition

2. The Agreed Vision for IWRM

Interpreting the broader definition of IWRM, the governments of Uzbekistan, Tajikistan and Kyrgyzstan have adopted the following shared vision⁴:

1. **Awareness and agreement:** There will be general awareness and agreement among stakeholders and the public at large about the need to optimize the social and economic value of water, the efficiency of its use and the equitable distribution of its benefits, while protecting the environment. The stakeholders will recognize that these objectives can only be achieved through the integrated governance, provision and financing of water services in a coordinated, participatory manner, within a modern and coherent framework of policies, laws, institutions, management systems and technologies.
2. **Hydraulic jurisdiction of water management organizations:** The boundaries and jurisdiction of water management organizations (WMO) will be based on hydraulic service areas that can be managed in an integrated way among different water users within the hydro-management unit, although the WMOs may cross administrative boundaries. The WMOs will have the necessary authority, incentives, management control capacity and coordinating arrangements to ensure that they can function effectively, efficiently and in compliance with government policy and regulations and with service agreements made with their clients, the water users.
3. **Integrated management of water:** Water allocation and use will be planned and managed in an integrated, conjunctive way that takes into account all significant water sources (including groundwater, return flows, etc.) and uses within a single hydro-management service area. Real time hydro-meteorological information on available water supply and uses will be available and used by water managers and, as needed, to water users and other stakeholders. This will be enabled through installation, use and proper maintenance of modern data collection facilities and information technology.
4. **Integrated planning for water allocation, use and conservation:** Plans to allocate water for agriculture, municipal and rural water supply, hydro-power, industry and environmental needs will be based on a clear system of water rights, policies and regulations, reliable data about water supplies and demands and agreements between water users and service providers. The economic and socio-cultural value of water will be optimized, water will be managed and used in efficient and productive ways and vital ecosystems will be conserved, including adequate levels of water quality for different uses.
5. **Governance framework:** A comprehensive and supportive framework of policies, laws, property rights, regulations, incentives, accountability, coordinating arrangements and trans-boundary agreements will exist, from the levels of canals to the river basins, to ensure effective and sustainable implementation of IWRM.

⁴ This common vision was reviewed and approved by the Ministries of Agriculture, Water Resources and Land Reclamation of the three republics, namely Kyrgyzstan, Tajikistan and Uzbekistan under the SDC supported project "Integrated Water Resources Management in the Fergana Valley".

6. **Decentralization:** Water management decision-making and financing will be decentralized to the lowest possible levels, such as Water Users Associations (WUA), WUA Federations (WUAF) and Canal Management Authorities, consistent with the policy and legal frameworks of the three countries that share water resources. The governments will facilitate formation and development of WUAs and their federation and will provide training and support services to them, to the Canal Management Authorities (CMA) and to other WMO.
7. **Role changes for Government:** Governments will shift their roles from direct management of water delivery and drainage to: a) management of river basins and sub-basins and associated major infrastructure; b) establishment of governing policies for water supply planning and allocation between sectors; c) regulation of the water sector and sub-sectors; and d) capacity building and provision of support services to WUA, WUAF and CMA.
8. **Governing Councils:** Each WUA, FWUA, CMA and other WMO up to the level of sub-basins and the Syr Darya basin will be governed by an elected Governing Council, which has fair representation of water users, related government departments and other primary stakeholders. Governing councils of WUA, FWUA, CMA and other WMO will have a clear mandate to set policies, make and enforce rules, recruit and supervise management staff and prepare and supervise implementation of water management procedures, operations and maintenance plans and budgets.
9. **Adequate financing:** Through a combination of changes in agricultural and economic policies, practices and conditions, farm income will increase to enable farmers to pay for the full cost of routine operations and maintenance and minor repairs of canal systems. Financing of irrigation and water services will be based on actual costs, the principle of pay-for-service and cost sharing arrangements between water users and government for infrastructure rehabilitation, upgrading and development. Thereby, adequate resources are mobilized to finance the full cost of water services and infrastructure to ensure the functional sustainability of water delivery and drainage systems.
10. **Dispute resolution:** Clear arrangements will exist for rapid and authoritative resolution of water-related disputes at the level of the WUA, WUAF, CMA, higher-level WMOs, and the river (sub) basins.

3. Constraints to Implementation

3.1 Constraints to Effective WUA Functioning

a. Multitude of Laws

At the moment, a number of laws apply to WUAs and their members. These include Civil Code, Law on Water and Water Use, Land Code of Uzbekistan, Law on Non-Governmental, Non-Commercial Organizations, Taxation Laws, Laws on nature protection, etc. In addition, from time to time, there are a number additions and revisions to these laws. Many of these laws might have contradictory provisions and interpretations thereof (for example water and off-farm water related infrastructure is a state property and on-farm infrastructure is the property of the farm). When these laws were formulated, WUAs did not exist, and most of these do not consider cooperative water

management within WUA boundaries. Even if there are references for social groups cooperating with state, they can only do it for rational water use (from whose perspective?), and not for rational water management. The agreements between WUAs and WMOs need a ratification from district authorities, who might like to favor a few farmers than the WUA. WUAs do not have right to settle dispute themselves, albeit with the involvement of MAWRs, and local authorities.

The WUA members are often not legal specialists or do not have up to date knowledge on the laws and updates. In many countries, where such situations existed, the WUA law had been regarded to superior to other laws where contravention occurs.

b. Status of WUAs

The WUAs in Uzbekistan are considered as Non-Governmental, Non-Commercial Organizations. This status is assumed to enable them to perform their functions independently. However, it should be realized that WUAs manage a public collective resource on behalf of and for the benefit of not only members, but also for the state. Since provision of water to users has been traditionally a responsibility of the state, WUAs in effect are organizations that remove state's financial burden by taking over some of its responsibilities. Besides, they are not intended to earn profits in the strict business sense. Any WUA revenue in excess of the costs is meant for investments in improvement of the O&M and services to the members of WUAs, and not for re-distribution to members. Thus, even if they engage into commercial activities, like collective sale and purchase of inputs, profitable disposal of assets, providing other than water services to non-members, etc., the revenue from such kind of activities can not be considered as a "profit". In many countries, India, Pakistan, Turkey, to quote a few examples, they are allowed to engage in all legal activities to increase their revenue and invest it in irrigation and drainage services.

c. Taxation

Heavy taxation is a major constraint to WUAs. They are obliged to pay the Social Security and Pension Tax on salaries (at a rate of around 40%), the ecological tax (1% of expenses) if they are engaged in "manufacturing of goods, performance of works, and rendering of services", and a 20% of tax on revenues derived from entrepreneurial activities, such as interest, dividends, royalties, and rent payments. The entrepreneurial activities are vaguely defined in the taxation law itself. The members of WUAs in their private or legal capacity are obliged to pay a number of other taxes as well. While the objectives of the taxation system are noble, this multitude causes a number of complications for the simple farmers, and increases their transaction costs. In several countries, there has been a tendency to unify the taxes into one, or assessment and collection systems have been reformed to "one window" operation.

d. Registration

The WUAs are to be legally registered with the Ministry of justice's local branch. Since the WUAs are formed and managed along hydraulic boundaries, it is not clear where these will be registered in the event when their territory falls under two administrative units. Ministry of Justice is responsible for monitoring the activity of WUA, while it does not possess the knowledge of irrigation and drainage, nor funds to engage consultants to do that. For registration, WUAs require to produce documents and data, which WUA might not be able to collect before they start operation (like names and other details of all village residents to whose kitchen garden it provides water). The WUA has to wait for two months for registration decision, which can be refused due to several reasons that are

subjective, and therefore, might encourage corrupt practices. The difficulty in registration is reflected in the fact that out of thousands of WUAs formed in Uzbekistan, only one (Akbarabad) is registered with Ministry of justice. Many WUAs have been registered with local governments, but only a few are practically working.

e) To-Down Establishment

Most WUAs that have been established in the Republic of Uzbekistan, have been established using top-down approach, based on orders by the local governments, influential farmers, etc. Most of the potential members have not been involved or consulted during the formation stages. As a result, the users see these associations as “state organizations” or NGOs run by the few powerful people, and thus, lack ownership of and interest in such organizations.

f) Lack of adequate hydraulic representation within WUAs

Many WUAs in Uzbekistan are formed along former farm or brigade boundaries, which might not be hydraulic. The interests of water users are best represented, and water distribution and self-help maintenance are best carried out if the WUAs’ representation structures are internally hydraulic too.

g) Condition of the Irrigation and Drainage Infrastructure

Most of the irrigation and drainage infrastructure is in a dilapidated condition due to lack of availability of funds. Because canals are in poor condition within WUA boundaries, water delivery to members remains inequitable, insufficient, and untimely. In many parts, for example in WUA Akbarabad, drainages canals have not been maintained for a time and consequently lands are getting increasingly waterlogged and salinized.. The main problem remains the availability of funds. These could have come from the members of WUAs, but agriculture for farmers is unprofitable (see sections ??)

h) Skills of WUA staff and institutionalized arrangements for skill development

WUAs are new in Uzbekistan. The water management system within a WUA has to correspond to its members needs, and aspirations, which mean more costs. For example, if farmers have to pay the variable costs on a volumetric basis, they would like to receive water on a volumetric basis, but water measurement structures might not be enough or not installed on the right places. Since water distribution with tertiary canals remains opaque, and members’ capacity to pay is limited, they do not pay sufficient fees and on time. Due to financial constraints, WUAs in turn tend to engage less skilled specialists who are available at lower rates, whose skills need to be upgraded and developed, but there are no institutionalized mechanisms for training and capacity building. The low salary levels do not provide enough incentives for WUA staff to work professionally and efficiently. There is also a relatively high turnover, because the WUA management wants its staff to be more accountable than the state management.

i) WUA’s financial viability

The availability of appropriate and timely finances is the key issue for WUAs. Private and cooperative farms do not pay water service at the time and WUA is not able to pay salary for its staff. Because of financial crisis within WUAs maintenance of irrigation and drainage systems remains compromised. Most of the repairs undertaken are only of cosmetic nature.

j) Availability of Equipment and transportation for O&M

Another key constraint within WUAs is the unavailability of heavy machines and transportation. WUAs are unable to carry out maintenance work, because needed heavy machines are not available to WUAs. Hydrotechnicians have to walk several kilometers to undertake canal surveys. Besides, Engineering levels, gauging rods, flow meters etc. are not available with WUAs. Water distribution can not be properly monitored without adequate transportation arrangements. In order achieve to equitable and fair distribution in canal firsthand canals have to be equipped with water measurement devices. Because of limited funds WUA can not equip it is canals with water measurement devices.

k) Observance of Agreements by Water Supplying Organizations

The WUAs do not always receive water regularly from main canals as per limit or agreement, because of poor performance of the upstream WMOs. WUA staff felt that the WMOs are not serious on agreements which they make.

3.2 Constraints to Farm Profitability

a) Poverty situation in the Fergana Valley

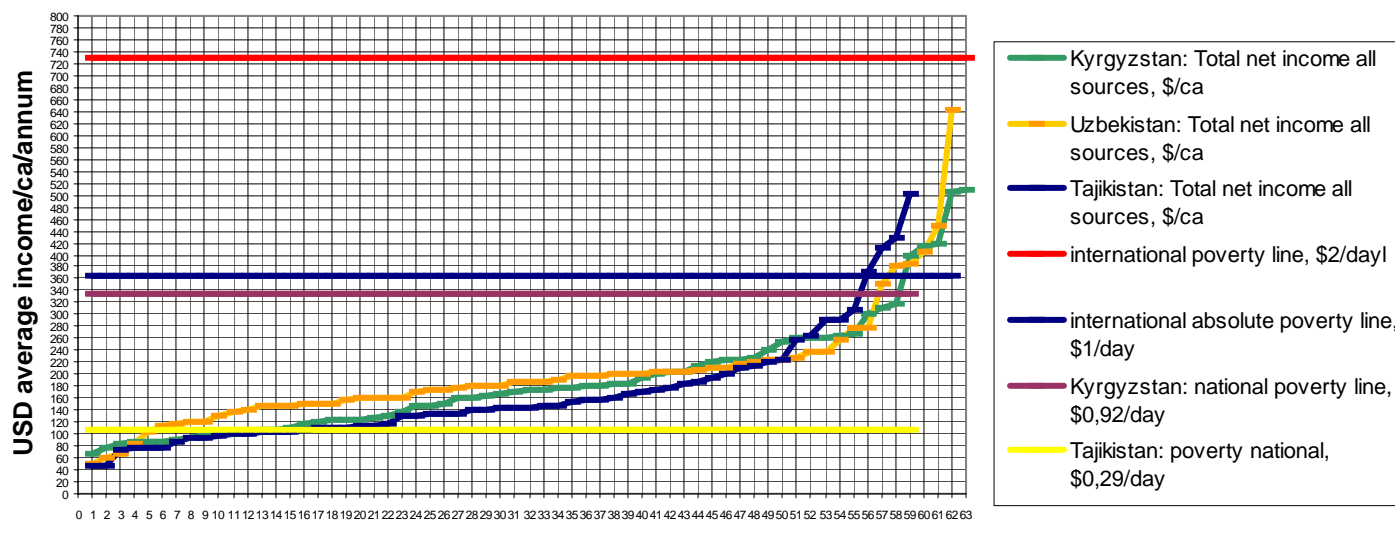
The IWRM-Fergana project carried out a livelihood analysis of 60 sample households in the command area of WUA Akbarabad, and other pilot WUAs in Kyrgyzstan and Uzbekistan. It has been found that around 95% (57 of 60) of the households are below absolute poverty line of US\$ 1/head/day defined by UNO (see figure 1 below). This situation is even worse than many parts of South Asia. In addition, they receive more than half of their incomes in kind, in the form of natural products. This not only reflects on extremely poor economic condition of the population, but also indicates that farmers' capacity to pay for agricultural inputs in general and O&M in particular is seriously constrained. Like farmers of Kyrgyzstan, there is a tendency to pay for O&M in kind. For example in 2004 vegetation season, some members of WUA Akbarabad paid for their WUA contributions in potatoes and other natural products, because the lacked cash.

b) State Order System

In Uzbekistan, the prevailing state order system itself is the major constraint to farm profitability. State decides the cropping patterns, and forces farmers to grow crops such as cotton, which even do not cover the expenses incurred by farmers. For example, in large parts of the WUA Akbarabad, the top soils are sandy and have a high gravel content, but the farmers are required to grow cotton, which yields low on such soils. In addition, the procurement prices are generally low and the payment system is weak. The farmers do not get money on time, when they need it. All the money that farmers receive against their production is automatically transferred from the bank to the input supplying companies. Many farmers reported that they might earn debts (negative income) and do not receive cash from their major farming activity as it is unprofitable, and earn only from their backyards for their day-to-day cash needs. Besides, farmers are required to deliver, for example cotton, to ginners, who are located far from the lands. The transportation of the crops to processing units needs another expense on top of production costs. For non quota crops, such as potatoes and tomatoes, which farmers grow on their kitchen gardens, the markets are in urban centers, far from

the field and farmers have to incur not only transportation costs, but pay for the person who sits in

Poverty Situation in the Ferghana Valley



the market to sell, and other taxes and fees.

c) Declining Land productivity due to salinity and rising groundwater

Most farmers reported that land productivity is very low in their fields. Land has been subject to waterlogging and salinization because of poor irrigation practices and dilapidated infrastructure. Absence of regulation devices further complicates the situation. Vertical drainage pumps are usually out of order and surface drains have silted up and can not drain excess irrigation water within expected period. In addition, there is a general tendency to let water over run the fields into drains during irrigation. This adds to the burden of drainage system as well as raises the groundwater. Crop yields in fields have decreased because of waterlogging and soil salinity. Farmers do not have money in order to maintain drainage system.

According to farmers opinion, government should support farmers financially in maintaining canals and drainage systems (which is state infrastructure) or should provide access to long term soft loans to maintain irrigation systems so that farmers will be able to maximize crop yield in the farm. Some farmers reported that quality of seeds, which farmers sow is not good and it also affects the crop yield. Moreover farmers are supposed to undertake farm accounting according to the national standards, for which they never received training. Many Shirkat members and small farmers do not know their rights. Farmers of Akbarabad considered that all above-mentioned constraints are really affecting farmers and minimizing incomes and profits in irrigated agriculture, and their capacity to pay for O&M.

4 Recommendations

In order to pursue government's policy objectives of efficient water management for improving food security, livelihoods and sustaining the environment, government needs to further deepen the agricultural reforms. Following specific recommendations are made to improve the effective management of water within WUAs.

- a) **Establish an inter-disciplinary advisory group to advise the government on needed changes in the water related laws.** An advisory group comprising the honorable members of the parliament, local water law experts, key stakeholders, and international organizations active in the field should be formed to advise the government on the needed changes and amendments should be formed.
- b) **Synchronize all laws that affect water management:** Based on the advice of the above-mentioned group, amending the current water code and declaring it as a superior law to others, wherever other laws are in contravention to water code, can be the best approach to do this. In addition, one complete chapter on WUAs should be added to the water code or a separate WUA law should be introduced. Several model WUA laws do exist, including the one drafted jointly by ADAS consultants and IWMI, which can provide guidance on the best practices followed elsewhere. This law should remove all anomalies and problems facing WUAs, such as status, taxation, registration, procedures for establishment, organizational structures, internal representation and accountability, that WUA are currently facing.
- c) **Institutionalize WUA development and support system:** Instead of using top-down approach to developing paper WUAs, the orientation should be to carry out extensive problem analysis and social mobilization in the field with the water users. This is not an easy task. Government should establish WUA development and support units, initially in pilot areas, and equip these units with all necessary technical knowledge and logistical facilities. These units should not only establish WUAs, but also train these WUAs in various skills needed to run WUAs and operate and maintain their systems, and also provide feedback to the policy level. These units can also be responsible for renting the equipment to WUAs for maintenance needs. The lessons from this exercise should be learnt to upscale the system to the entire country.
- d) **Remove Constraints to Farm Profitability:** Unless the farmers earn enough profits from irrigated agriculture, and able to pay for water services provided by WUAs and upstream agencies (at least major part), water resources management can not improve. Several studies have shown that the current state order system is one of the key constraints to profitable agriculture and environmental sustainability of Uzbekistan. It is therefore recommended that government should, on a pilot scale, completely abolish the state order system and assist producers in building marketing systems based on cash trade. This can be easily Provision of soft loans and micro-credit through small cooperative systems could be helpful in making the farming commercial and profitable. The pilot project, IWRM-Fergana offers the potential for testing such initiatives and advising the government about the outcomes.