Sustainable Water Management in Central Asia and the Role of Foreign Donors
- Case Study of “Water Management Improvement Project” -

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Abstract: This report presents a case study on the role of a third party role in improving water management in Uzbekistan by analyzing the “Water Management Improvement Project”. The Water Users’ Associations (WUAs, presently called Water Consumers’ Associations in Uzbekistan, WCAs) in Central Asia was organized accordance with the contract between central governments and the Central Asian Irrigation Research Institute (SANIIRI) in 1996. However, inadequate financial resources and a lack of knowledge on the part of the WUAs hydro-engineers have led to these associations not functioning well. Hydro-scientists have frequently voiced concerned at the Interstate Coordination Water Commission of Central Asia (ICWC), the regional interstate organization for water resources management in Central Asia, on water loss at the WUAs’ level owing to improper water management. The “Water Management Improvement Project” is a technical assistance aid project which conducted by the Japan International Cooperation Agency (JICA). This project aimed to improve water-use efficiency in rural areas in Uzbekistan by training the staffs of the WCAs. In March, August and September 2013, the present author accompanied JICA staff and conducted fieldwork on this project. The present study attempts to contextualize the JICA project with respect to previous studies and discussions among the Central Asian hydro-scientists in the ICWC.

Key Words: International cooperation, Sustainable water management, Water User’s Association.

1. Introduction

1.1. Background

In many countries the central governments has played a main role in the running and maintenance of irrigation systems. This public service, essential to sustaining life, agriculture and industries is dependent on the national budget for the funding of the related construction projects and maintenance. This could imply that nation financial crisis could have an effect on the national water supply system (Johnson et al., 2002). The aforementioned also applies to nation in transition.

Before the start of Russian control of Central Asia, irrigation systems in the region had been managed according to Islamic and local customs (see Bartolyd, 1965). The local water management system in the community level was stable, even during the period of collectivization of agricultural sector by the Soviet government. According to Wegerich, water management at the community level was a “Black Box” and it was difficult to determine its actual functioning and establishment of authority. The Communist Party had distributed resources to the local elites in Central Asia during the Cold war; however, it was not clear how the local elites re-distributed the water.

After the collapse of Soviet Union and the privatization of agriculture, water management in Central Asia was dismantled. During the Soviet era, funding for the construction of infrastructure in the rural areas of Central Asia had come from the USSR government. However, when the Central Asian countries became independent, water management abruptly became the responsibility of the fledgling states.

1.2. Water User’s Groups (WUGs) and Participatory Irrigation Management (PIM)

The water management sector is related strongly to agricultural transformation in many countries (Gert, 2007). The farmers are not only consumers but also distributors of water at the grass-root level. This implies that the improvement of water management at the rural level could reduce water-losses directly. Moreover, curbing water loss at the community level would be much less costly than at the higher national levels in many senses (Johnson et al., 2002).

Water User’s Groups (WUGs) present in several countries. Foreign donors have been instrumental in many instances in the founding of WUGs in developing countries, a trend that reflects a global tendency towards encouraging Participatory Irrigation Management (PIM: Johnson et al., 2002; Japan Institute of Irrigation and Drainage, 2003; Yamada, 2008). International donors have attempted to improve water-use efficiency in the developing countries by promoting PIM. This approach could spare national budgets the substantial related costs.

1.3. WUGs in Central Asia

WUAs in the Central Asian countries were established during the process of reversing the dis-collectivization of agriculture in Uzbekistan (refer to Trevisani, 2011 for information on this process). The establishment of these new organization was intended to reform water management in the rural areas. The aim was for the central government to...
hand over the control to self-financed, independent non-governmental organization (NGO).

However, the WUAs in Central Asia have been stymied by a lack of funds. Farmers could not afford self-financed water management. To compound matters, the national government have inadequate financial resources available to maintain the infrastructure built during the Soviet administration. As a result, loss of water during transportation, such as, leaks from watercourses and the malfunction of agricultural machinery have occurred.

The focus of this paper is on the WCAs in Uzbekistan. Specifically, the objective is to illustrate the interrelationship between the WCAs and donors by analyzing a technical assistance project by a foreign donor.

### 2. Materials and Methods

To accomplish the above-mentioned purpose, this report will first attempt to elucidate how the subject of water management was discussed by the concerned parties referring to the bulletins of the ICWC. Second, the study will attempt to research the efficient international cooperative approach towards water management in rural areas by comparing it with the case study, namely, the “Water management improvement project”. Previous researches has been conducted on foreign donor projects for improving water management at the community level in Central Asia (Bichsel, 2009; Iskandar et al., 2010). However, the present study aims to demonstrate a practical case study by adopting a problem-solving approach. This will be done by comparing the high-level discussions on water concerns in rural areas with the international donor project aimed at grass-root level water allocation.

### 3. WCAs - Foundation, Role and Problems

The WCAs in Uzbekistan receive water from the local water management administration and transport it to farmers via canals. The water transported by the WCAs from rivers is controlled by subordinate agencies of the Ministry of Water Resource and Agriculture of Uzbekistan (MWRA). These agencies not only supply water to the WCAs, but also provide training to the WCAs to improve water management and the planning of water distribution to farmers.

Although a new framework or de-collectivization of water management in the rural areas in Uzbekistan has been implemented, the role players in water management have not changed. The WCAs in Uzbekistan were formulated by a government order, and not voluntarily by the farmers. Moreover, the leaders of these organizations were because of their status relevant to the Soviet government, or the social position in the rural communities, and not for their skills or knowledge of water management (Wegerich, 2005). Additionally, the lack of knowledge or skills of the engineers and managers of the WUAs was an obstacle to the improvement of water management. Information in the bulletins of the ICWC alludes to high-level discussions, such as between politicians, bureaucrats, and scientists on the problems related to human resource development.

Entities such as the Central Asia World Bank (WB), Asian Development Bank (ADB), and the European Technical Assistance to the Commonwealth of Independent States (TACIS) have conducted assistance projects to organize the WUAs (Kitamura, 2007). TACIS, in particular, has participated in the establishment of WUAs in Uzbekistan (Wegerich, 2000, 2005; Abdullaev et al., 2010). However, the assistance has led to the local farmers or WCAs becoming reliant on the aid from these donors.

As a result, the WCAs have been trapped in a vicious spiral. Water users, mainly farmers, are hesitant to pay fees to the WCAs because of the unreliability of water supplies and the inefficiency of the organizations. Consequently, the service of the WCAs has deteriorated further and the relationship between the WCAs and the water users has worsened.

### 4. High-level Discussion on WUAs

The ICWC publishes the bulletins four times a year. Through these bulletins, the ICWC disseminates information on water management to the hydro-engineering specialists and the government officials of the five Central Asian states. The topics are not limited to high-level and inter-governmental matters, such as interstate discussions, but include the sharing of information at local and community levels, applicable to the WUAs.

ICWC bulletin No.1 (36), published in February 2004, contains a report on the workshop “Integrated water resources management - Inter-sector and interstate approaches”, which was held on November 3-7, 2003 at the ICWC Training Center. This bulletin reported: “Participants noted that there was a trend of moving to IWRM (Integrated Water Resource Management) and the basin principle in the Central Asian Region. But economic difficulties do not allow to provide water sector development”.

The ICWC bulletins often refer to financial difficulties. During a scientific-technical conference, entitled “Issues of WUA establishment and the transition to hydrographic principles of water management under agricultural and water sector reforming” held in Tashkent, participants asserted that a legal basis was required for the irrigation and reclamation system at the governmental and ministry level, to function
normally. The legal basis for the functioning of the WUAs should include:

1) Foresee shirkats’ (shirkat the smallest unit of agriculture in Central Asia) budget and farms’ business-plans along with agricultural outputs (seeds, fuel, fertilizers, etc.) water provision and drainage system maintaining,

2) Free WUA from taxes to create favorable condition for water delivery services payment,

3) Define WUA statute as commercial organization,

4) Privilege credits for WUA,

5) Develop guidelines for water fees payment and their size (tariffs).

In ICWC bulletin No.2 (37), published in May 2004, the legal concerns relevant to the WUAs were mentioned, and a report on a conference was provided. The conference, entitled “Strategy of irrigated farming sustainable development with feasible investments in drainage” was held during March 10-13, 2004, in the ICWC Training Center. The objectives of this conference was to analyze the status quo pertaining to drainage in the Central Asian countries, prepare proposals on a strategy for sustainable development of irrigated farming, and improve agricultural production in the region. This conference discussed the role of WUAs in drainage management and the state of the WUAs of each Central Asian country. As regards the role of WUAs in drainage in Uzbekistan, the opinion was: “The operation of inter-farm drainage systems operation should be responsibility of state organizations and on-farm systems should be WUA responsibility. During 5-10 years farmers can’t settle this problem themselves”. Although the WUGs play a major role in water security, many of organizations have to contend with financial difficulties. As mentioned above, one of the most frequently discussed concerns among the hydro technical specialists was a method to improve the financial situation of the WUAs. However, the WUAs in Central Asia were established as self-financed organizations, dependent on the fees collected from farmers.

The ICWC has suggested the necessity of establishing a legal framework to collect fees from farmers (Japan Institute of Irrigation and Drainage, 2003) to improve the financial situation of the WUAs. However, because of the inefficiency of the WUAs, many farmers reluctant to pay the required fees to the WUAs. Bulletin No.3 (38) of the ICWC, published in August 2004, reported on the statement of a WUA leader during a workshop on water resources management at the local level. The leader stated that the WUA had not received fees from water users for the previous two years. One of the purposes of mentioning the JICA project in this paper is to encourage farmers to pay fees by improving the reliability of the WUAs.

5. JICA “Water Management Improvement Project” - Outline and Results

The JICA “Water Management Improvement Project” was conducted from 2009 to 2013 with the cooperation of MAWR (see also Saito, 2014, for information of this project). In 2007, the government of Uzbekistan requested Japan to conduct a project to improve water management by training staff of the Irrigation Systems Departments (ISDs) and the WUAs. The JICA project office was situated inside the MARW and the project was carried out under the auspices of the MARW.

The project team consisted of staff members of the Ministry of Agriculture, Forestry, and Fisheries of Japan, and development consulting companies. The purpose of the project was to improve the water management skills of farmers by empowering the WCAs and ISDs. ISDs is the MARW agency supervises the services of the WCAs.

This Japanese technical assistance project to the WCAs in Uzbekistan comprised two stages. First, the project team organized a seminar on irrigation technology, aimed at improving the ability of the WCAs by enhancing the skills of the ISDs. By indirectly developing the abilities of the WCAs, with that indirect development of ability of WCAs, JICA aimed to improve the collection of fee and, consequently, the financial situation of the WCAs. JICA attempted to improve the reliability of water provision by developing the hydro-management skills of WCAs member, with the ultimate aim of improving fee collection from the farmers.

The pilot WCAs of this projects are in Jizzah, Tashkent, and Syrdaryo province where considerable crops of cotton and wheat are produced. However, the farms in these provinces have been damaged severely by salinization. The project team provided training relevant to the technical improvement and maintenance of the irrigation infrastructure, to the hydro-engineers of WCAs. IN addition, farmers and administrative staff received training from the JICA project team.

Furthermore, the project team conducted workshops (WSs) at the model WCAs in Tashkent province in March 2013, and in Jizzah and Syrdaryo provinces from July to August. During the WSs, JICA obtained the opinions of the farmers on the performance and technical shortcoming of the WCAs.

According to information supplied by JICA, the fee collection of the pilot WCAs generally improved after the completion of the project. For example, for the “Qarasha” WCA, the fee collection rate was only 26% in 2009. However, in 2010, it had improved to 52%, rising to 51% in 2011 and 78% in 2012. For WCA “Dustlik” the result were 13% (2009), 9% (2010), 12% (2011), 15% (2012). The results obtained for the other model WCAs for the same years were:
WCA “Paski Buloq”, 17%, 0%, 26%, 46%, WCA “Jambul Ota”: 14%, 21%, 57%, 35%, WCA “Gulistan”: 5%, 6%, 11%, 31%, WCA “Samakand Quduq”: 34%, 0%, 16%, 23%. The average fee collection of the pilot WCAs was 13.4% in 2009, which improved to 31.2% in 2012.

The final JICA report of JICA concluded that the objectives of the project had been achieved generally, but improvement to the capacities of the ISDs was still needed. In addition, the report pointed out that in reality the development and implementation of maintenance plans had not proceeded as expected.

6. Conclusion

The activities of JICA in Central Asia have focused on capacity building, such as human resource development. “Human Security” which is the main international cooperation policy of the Japanese government is reflected in this approach. JICA has also conducted water management projects by capacity building of the WUGs in China (Yamada, 2008).

In Central Asia, the norm of IWRM has been frequently mentioned by hydro-engineers in academic works, reports and documents. After IWRM was proposed at the Earth Summit in Rio de Janeiro in 1992, the idea has advanced and is often associated with the Millennium Development Goals by scientists and specialists (Nevelina et al., 2008). Several role players are involved in water management in various levels, such as the political, social, and community levels. International agencies are added to this combination in the instance of developing countries.

However, as mentioned in the final report of the “Water Management Improvement Project”, problems relevant to the maintenance of water infrastructure remain. It is difficult for small or grass-roots agencies to solve these problems alone. At high-level political meetings between the hydro engineers or officials of the member countries of the ICWC, ways to develop the human resources components of the WUAs were discussed. This difficult matter remained unsolved.

Ogawa (2014) divided the international cooperation activities focusing on development through investment and poverty reduction through technical aid. Ogawa referred to the United States Agency for International Development (USAID). Through the analysis, Ogawa suggested the importance of cooperation of development through investment and poverty reduction (Ogawa, 2014).

The “human security” and grass-roots approach, typical of the aid of the Japanese government, can be considered effective. Nevertheless in order to solve the problem of water resources management in Uzbekistan, donors will be confronted with the problem of the maintenance cost of a huge irrigation infrastructure. This “Water Management Improvement Project” suggests the necessity of cooperation between the grass-roots approach and the high-level and capital to achieve sustainable water resources management.

References
Japan Institute of Irrigation and Drainage (2003): Discourses of Knowledge of Water and Land vol.3 Consideration for agricultural water No.2.Japan towards worldwide discussion over water resources /View from Asia (Mizu tuti ni no ito kataru vol.3 Naogongyouyasu wo kangaeta ono.2 - Sekaihikene nizaizuron no ha heno Nihon / Ajiro karano Hassin). JIID, Tokyo, 279p.