

Summary of the Results of Evaluation Study (Terminal Evaluation)

1. Outline of the Project	
Country: Uzbekistan	Project Title: The Project for Water Management Improvement
Issues/Sector: Rural Development	Cooperation Scheme: Technical Cooperation Project
Division in Charge: Rural Development Department	Total Cost : 300 million Yen
Period of Cooperation	November 2009 –May 2012 (3.5 years)
	Partner Country's Implementing Organization: Ministry of Agriculture and Water Resources (MAWR) Supporting Organizations in Japan: Ministry of Agriculture, Forestry and Fisheries
Related Cooperation: N/A	
<p>1-1 Background of the Project</p> <p>In the Republic of Uzbekistan, efforts have been made on rehabilitation and repair of most of the country's I & D (I&D) infrastructures that were developed in the 1970's. However, the on-farm irrigation facilities have now nearly reached the end of their useful life. Deterioration has accelerated since independence due to large transfers of the agriculture sector and limited allocation of national budget to operation, maintenance (O&M) and rehabilitation, while water users have virtually little participation in managing I&D systems. At present, the O&M of I&D system is not at the sufficient standards, leading to the excessive water losses, low irrigation efficiencies, water logging, widespread of soil salinization, and declining crop yields. The deterioration/ losses of the resource base for agricultural production are estimated to cost the country about \$1.0 billion annually in economic prices.</p> <p>Recognizing needs for effective management of water resources, Water Users Associations (WUAs) were established, which has recently been renamed as Water Consumers Associations (WCAs). WCAs play an important role of water management at on-farm level, however, there are still many constraints due to deterioration of irrigation facilities, lacking capabilities of WCAs on water distribution and canal maintenance, insufficient technical support system and others.</p> <p>In order to improve the deficient situations, the Government of Uzbekistan (GoU) submitted requests of two assistance projects to the Government of Japan (GoJ) in July 2007, i.e. a technical cooperation project and a grant aid project. The GoJ has, however, approved only the technical cooperation project. The GoU has accepted sole implementation of the technical cooperation project without the grant aid, and the Record of Discussions (R/D) was signed in August 2009. The technical cooperation project, entitled as the Project for Water Management Improvement (hereinafter referred to as "the Project"), has then commenced in November 2009.</p> <p>At about 10 months from the commencement, a consultation mission was dispatched by JICA in September 2010 to discuss the measures to improve the Project implementation. In addition, the mid-term review was conducted by the joint team from September 7th to 27th, 2011 for the purpose of finding the degree on achievement based on the PDM (Project Design Matrix) and PO (Plan of Operations) and evaluating comprehensively with five evaluation criteria.</p>	
<p>1-2 Project Overview</p> <p>The Project is aiming at improving water management by the pilot WUAs in the target areas through improvement of training system within the Basin Irrigation System Management (BISM) and the Irrigation Systems Department in the respective areas through which appropriate technologies for water distribution and maintenance of irrigation and drainage facilities are disseminated to the pilot WUAs.</p>	

1-2-1 Overall Goal: Water management conducted by WUAs in Chirchik-Ohangaran (Basin Irrigation System Management: BISM) and Lower Syrdarya BISM is improved.

1-2-2 Project Purpose: Water management conducted by pilot WUAs is improved.

1-2-3 Outputs

1. Training system for WUAs is strengthened.
2. Capacity of pilot WUA staff for water distribution is improved.
3. Capacity of pilot WUA staff for maintenance of I & D systems is improved.

1-2-4 Target Areas:

Tashkent Region (under Chirchik-Ohangaran Basin Irrigation System Management, hereinafter referred to as "BISM")

Syrdarya Region (under Lower Syrdarya BISM)

Djizak Region (under Lower Syrdarya BISM)

1-2-5 Implementing Agency: Ministry of Agriculture and Water Resource (MAWR)

1-2-6 Inputs

Japanese Side: 300 million Yen

Long-term Experts: 4

Equipment: 70 million Yen

Short-term Experts: 6

Local Operation Cost 110 million Yen

Training of Counterpart personnel in Japan: 6

Uzbek Side

Counterpart personnel:10

Operation Cost: 7 million Yen (161,825,000.00 Uzbek Som)

Office and facilities at Project Office at Tashkent and offices and facilities for pilot WCAs

2. Evaluation Team

<Japanese Members>

	Name	Assignment	Designation/Organization
1	Mr. Hiroshi SUZUKI	- Team Leader/ Operation & Management of Irrigation Systems	Executive Technical Advisor to the Director General, Rural Development Department, JICA
2	Mr. Masahiko WATANABE	-Strengthening of WUA	Deputy Director, Overseas Land Improvement Cooperation Office, Rural Development Bureau, Ministry of Agriculture, Forestry and Fisheries,
3	Mr. Kenji KANEKO	- Planning Management	Advisor, Paddy Field Based Farming Area Division 1, Rural Development Department, JICA
4	Ms. Keiko ITAGAKI	- Evaluation & Analysis	Researcher, Global Link Management, Inc.

<Uzbek Members>

	Name	Assignment	Designation/Organization
1	Mr. Ikrom ERGASHEV	- Team Leader	Researcher, Department of I & D Systems Operations, Research Institute of Irrigation and Water Problem
2	Ms. Gavhar PALUASHOVA	Technical Conditions of Irrigation Systems	Senior researcher, Laboratory of Soil Studies and Leaching, Research Institute of Irrigation and Water Problem
3	Mr Shuhrat HAIDAROV	Financial Conditions	Engineer, Laboratory of Operations of Hydro-Meliorative Systems, Research Institute of Irrigation and Water Problem
4	Mr. Sanjar KAMBAROV	Water Distribution Planning	Engineer, Laboratory of Operations of Hydro-Meliorative Systems, Research Institute of Irrigation and Water Problem

3. Results of Evaluation

3-1. Achievement of the Project

3-1-1 Achievement of Outputs

(1) Output 1

Although the indicators on the training have been achieved, capacities of BISM and ISD staff have not yet been satisfactory. The Project has developed training modules for improvement of technical and managerial skills of WCAs with 7 textbooks and 3 additional manuals as well as some audio-visual materials. 7 trainers composed of BISM and ISD staff have gone through the TOT and taken part in the training activities, but there seem to be a certain room for further enhancement of teaching capacities of these trainers. The Project has so far conducted 194 training sessions i.e. attended by a cumulative total of 570 staff of the pilot WCAs.

(2) Output 2

This output has been achieved. 143 training sessions were conducted on water distribution, which were attended by a total of 393 staff of the pilot WCAs, with 65 participants per WCA on average. All pilot WCAs have formulated the water distribution plans for model areas, based on which water volume have regularly been monitored. As the data gathered by pilot WCAs have not yet been kept in proper forms of distribution records. The Project is currently training the WCAs so that they would be able to maintain the proper distribution records for coming cropping season.

(3) Output 3

The indicators on the training have been achieved, but the actual formulation and implementation of maintenance plans were not done as expected. 115 training sessions were on the maintenance of I & D systems, which were attended by a total of 382 staff of the pilot WCAs, with 63 participants per WCA on average. In 5 out of 6 pilot WCAs, maintenance plans were formulated for a total of 27 canals and records of maintenance and repair works were properly kept, but there has only been 9 canals where the plans were completed, while the planned works were partially implemented in 8 canals, and the plans were not implemented in 10 canals.

3-1-3 Achievement of the Project Purpose

It was assessed that the Project purpose has still been partially achieved. The Project has achieved the targets of 3 out of 5 indicators to measure the achievement of Project purpose, namely, recognition of WCA's capacity improvement by the members, participation of the members in the WCA's activities, and the decrease of non-irrigated area. However, the indicators on the collection rate of water and other service fees as well as on the implementation of water distribution could not fully reach the targets. This may be attributed to the delay of canal rehabilitation that hampered the implementation of water distribution plans in some WCAs as well as the delays in terms of maintenance of I& D facilities. Thus it is considered that the Project purpose would be achieved only after overcoming those remaining challenges.

3-2. Summary of Evaluation by Five Criteria

3-2-1 Relevance: High

The Project is still consistent with the priorities in the Welfare Improvement Strategy as well as in the upcoming sector plans by MAWR which follows the direction of foregoing National Drainage Plan (NDP) in providing supports to improve water management. The Project is also in line with the ODA policies of GoJ for Uzbekistan, with strong emphasis on agricultural and rural development. As the WCA officials and members appreciated the improvement of water management that has brought about the increased production, the activities of the Project were

evaluated as proper response to the needs of the beneficiaries.

3-2-2 Effectiveness: Moderate

The Project purpose is the improvement of water management activities conducted by the pilot WCAs. There is a logical sequence between the Project purpose and the outputs of the Project, i.e. improvement of training system of BISM and ISD and enhancement of WCAs' capacities on water distribution and maintenance of irrigation and drainage facilities. As out of the five (5) indicators to measure the achievement of the Project purpose, two indicators, i.e. collection of irrigation and other service fees and land area irrigated according to water distribution plans, were not achieved. Thus the overall assessment implies that actual water management activities by the pilot WCAs should further be improved. As there still seem to be some rooms for further reinforcement in terms of the output achievements as well, the effectiveness of the Project is considered to be moderate.

3-2-3 Efficiency: Moderate

The inputs by both Japanese and Uzbek sides were generally considered to be adequate and sufficient in terms of the volume as well as of the quality to conduct the planned activities and thus to produce the intended outputs, except for the problems of flume procurement for canal rehabilitation that caused delay of some activities for more than one year. Since the adverse effects of that problem were not negligible, the efficiency of the Project is assessed as moderate.

3-2-4 Impacts: High positive impacts

Based on a rough trial estimation of the future performance of the pilot WCAs, there seems to be a possible scope for the achievement of the overall goal, once the Project purpose would properly be achieved. There have been positive impacts from the Project on the agricultural production and economic conditions of the farmer beneficiaries, as well as the reduction of salinity problems. There have been positive changes in terms of organizational and financial aspects of the pilot WCAs. Social changes were also noted by the beneficiaries such as increased trust to WCAs from the members, closer relationship with ISD officials, and favorable recognition by as well as increased supports from local authorities such as *khokimiyat*. Spontaneous diffusion of technologies such as flume repair to other WCAs in the vicinity was also reported. Thus high positive impact is expected from the Project, while there has not been any negative impact of the Project reported or observed by the time of the Evaluation.

3-2-5 Sustainability: Moderate

(1) Policy and Institutional Sustainability:

The improvement of water management has been one of the most pressing needs that are emphasized in the current policies and programs of GoU, and the newly drafted five year program of MAWR is to further enhance amelioration, water resource management and development of water saving technologies. BISM and ISD are the due government functionaries i.e. responsible for water management and there have already been established channels among BISM, ISD and WCAs, which would quite likely continue to be functional after the completion of the Project. Therefore, the policy and institutional sustainability is assessed as fairly high.

(2) Organizational and Financial Sustainability

Although the Project has been implemented in line with the existing organizational structures and mandates of the BISM and ISD, continuous services of trainers are not secured with any legitimacy. The limited number of trainers against large coverage may be another constraint. As the financial resources of BISM and ISD are limited, supports to be rendered to WCAs after the

Project completion would be of much smaller scale, which cast some questions on the sustainability for the part of the implementing agencies. As for the pilot WCAs, it should be noted that the increased income are derived not only from the collection of fees but from the business operation of machineries such as excavators. They have set aside a portion of business income to secure funds for maintenance of the machinery, but depreciation is not considered. It would be necessary for them to further scrutinize the financial mechanism so as to avail sufficient fund to conduct sound water management activities on a transparent and sustainable basis.

(3) Technical Sustainability

The Project has trained the BISM and ISD officers to serve as the trainers who conduct training for the WCAs. However, some of the trainers still need support from expert team, and they should further accumulate experiences in teaching the modules and in providing field guidance so as to sufficiently and independently serve as trainers in the future course of dissemination. Although the pilot WCA officials are confident to continuously apply concrete techniques such as flume joint minor repair, most of them still need supports for planning exercises, such as block demarcations and formulation of water distribution plan. Thus the level of technical sustainability among the WCAs has not yet been satisfactory enough

3-3 Factors that Promoted Realization of Effects

(1) Factors concerning the Planning:

Although the Project is aiming to improve water management in six (6) pilot WCAs, it also establish the training system to ensure future dissemination. The Project was designed first to train BISM and ISD officers as trainers, who are to train WCA officers to conduct proper water distribution as well as to implement adequate maintenance of irrigation and drainage system. Three outputs are to be achieved in a step-by-step and mutually interlinked manner, which have been assessed as effective and contributing to the achievement of the Project purpose and sustainability of the Project.

(2) Factors Concerning the Implementation Process

Although the trainers are the officers of BISM and ISD who have regular assignments in their respective offices and the Project activities are the addition to those routine activities, the trainers have duly participated in most of the essential TOT processes. It should be noted as one of the promoting factors that not only the head management of MAWR but also directors of respective BISM and ISD have fully understood the framework and activities of the Project and have taken necessary actions to ensure the participation of these trainers in the Project activities and thus to improve the capacities of the WCAs.

3-4 Factors that Inhibited Realization of Effects

(1) Factors concerning the Planning: N/A

(2) Factors Concerning the Implementation Process

There has been a procurement problem related to the flume¹ rehabilitation, which was the very preliminary arrangement to be completed before any water management activities would take place. Many of the flumes were found to be of inadequate qualities and not serving the purpose after the installation was completed, but the supplier could not immediately provide the replacement. As the results, the replacement work has been continued even by the time of the evaluation. This problem has caused considerable delay in the progress of planned activities of the Project, thus the levels of achievement of some outputs were adversely affected.

¹ Ready-made reinforced concrete materials for composing small size open canal, which is unified side wall and bottom part.

3-5 Conclusion

It was evaluated that the relevance of the Project is high and that there has been positive impacts derived from the Project activities. However, the effectiveness, efficiency and sustainability could not reach to the satisfactory level. There were some unprecedented problems regarding the rehabilitation of irrigation facilities which was the very preliminary conditions for the Project activities, thus some of the expected outputs have not yet been achieved. The Project purpose may not fully be achieved within the scheduled cooperation period. Thus, it is necessary to examine the possibility of extending the cooperation period and/or providing additional inputs for the due attainment of the Project purpose.

3-6 Recommendations

(1) Efforts to ensure the attainment of the overall goal

In order to achieve the overall goal of the Project, it is required to extensively and systematically disseminate the techniques of water management by WCA to other WCAs in the target areas. As the GoU may not be able provide as large physical inputs as the Project did, major means of dissemination would be the utilization of the training modules developed by the Project in any training organized by BISM and ISD. More officers of BISM and ISD should be trained as the trainers who can conduct training sessions and properly guide the field activities by WCAs. It may also be effective to strategically focus on any particular WCAs when there would be large intervention with physical inputs such as rehabilitation / development of I & D facilities, machineries, and so forth.

(2) Objective analysis on the effectiveness of Project interventions

It has been pointed out that the improved water management contributes not only to increase agricultural production but also to reduce soil salinity. The WCA officials have also stressed the effects of improved water management, which they felt in their real farming practices. It would thus be worthy for the MAWR to conduct any study to objectively analyze the actual effects of water management improvement, based on the accurate data from the field. They would serve as rationale and firm basis for justification of any future policies and programs of the GoU in the sectors related to water resources and amelioration.

(3) Development of technologies for facility diagnosis and better maintenance of I & D facilities

Through the Project implementation, capacities of the pilot WCAs to maintain their I & D system have been improved. To promote proper maintenance of I & D facilities by WCAs on a long term perspective, it would be necessary for the MAWR to develop and standardize adequate technologies of maintenance and diagnosis of facilities suitable to the local conditions, which would provide sound basis for judgment on the necessity of development, repair and maintenance of the facilities. It is also essential to involve not only the research institutions but also the end users of the developed technologies such as WCAs in the process of technology development so as to ensure the liability and applicability of the technologies.

3-7 Lessons Learned

(1) Enhancement of comprehensive capacities of water users associations

The Project has aimed to improve technical capacities for water management in the pilot WCAs, thus it provided direct supports to the officers of the WCAs. As the transparent management of assets such as excavators was still found to be a challenge for some WCAs, the necessity of promoting overall initiatives of the general councils of WCAs has come to the discussions. In any future project to support water users associations, efforts should be made with long term

perspectives to develop the managing authorities of the general council of WCAs who are to supervise the technical performances of the officers, which should be taken into account in any future intervention for capacity enhancement of WCAs.

(2) Design of projects that include pilot infrastructure components

The Project was designed with infrastructural components of rehabilitation of I & D systems in the pilot WCAs as basic arrangement required for actual conduct of water management activities. In the course of Project implementation, the rehabilitation work has required considerable efforts and time of the Project personnel, especially with the problems of flume procurement, let alone the fact that there are 6 pilot WCAs which are geographically scattered. It is therefore drawn as one of the lessons that, for any project with pilot infrastructure component, project design should carefully be examined, taking into thorough consideration the allocation of project personnel, the number and location of sites, possible countermeasures in case of delays of physical work, and so forth.

(3) Network among the participating agencies at the field level

The Project has worked with BISM, ISD and the pilot WCAs in three provinces, and most of the Project counterpart personnel have been assigned in these BISM and ISD. The Project personnel have closely coordinated with each other through the network of the stakeholders at the field level on the day-to-day operations, while the overall supervision was provided by the MAWR, both of which have facilitated smooth implementation of the Project activities. From these experiences, it is considered useful for similar projects in the future which operate in the several sites in the field to strengthen the network among the stakeholders at the field level, aside from the institutional supervision by the central office.

(4) Promotion of regional cooperation

Several activities of the Project were delayed due to the unavailability of locally suitable technologies and knowledge. On the other hand, useful water management technologies such as discharge measurement were introduced and the appropriate technologies such as relatively low cost method of minor repair of flume joints were developed through the Project. Taking the common contexts in the region into consideration, it will be effective and efficient to introduce and promote technical exchanges with the neighboring countries which face similar problems. It would thus be important to design the framework of the technical cooperation project in Central Asia and Caucasus with the concept and perspectives of regional cooperation