

Summary of Terminal Evaluation

I. Outline of the Project	
Country: Arab Republic of Egypt	Project title: Water Management Improvement Project in the Nile Delta
Issue/Sector: Agricultural Development	Cooperation scheme: Technical Cooperation Project
Division in charge: Field Crop Based Farming Area Team II, Group II, Rural Development Department	Total cost (estimated at completion of the Project): extension period : 670 million Yen total :1.25 billion Yen
Period of Cooperation	(R/D): 2000.3.1~2005.2.28 (Extension): 2005.3.1~ 2007.2.28 (F/U):
	Partner Country's Implementing Organization: Irrigation Improvement Sector, Irrigation Department, Ministry of Water Resources and Irrigation Supporting Organization in Japan: Ministry of Agriculture, Forestry and Fisheries
<p>1 – 1 Background of the Project</p> <p>Ministry of Water Resources and Irrigation (MWRI) has conducted the Irrigation Improvement Project (IIP) for the purpose of efficient water resources usage and increasing of agricultural productivity. In response to the request of the Egyptian Government, JICA has cooperated to formulate a master plan and a feasibility study called "the Development Study for the Improvement of Irrigation Water Management and Environment; Conservation in the North-East Region of the Central Nile Delta (March, 1998- March, 1999)". Upon examining the results of the above mentioned development study, the Egyptian Government made a request to the Japanese Government for a technical cooperation project, the purpose of which is the improvement of the IIP methods through the implementation of the pilot project with farmers' participation and enhancement of the engineers' capability required for the implementation of the improved IIP in the above mentioned feasibility study area (the Upper Bahr Tera Command area).</p> <p>Afterwards, the Water Management Improvement Project in the Nile Delta (the Project) started in March 1, 2000 for five year period. As a result of the terminal evaluation conducted in October, 2004, the project period was extended another 2 years until February 28, 2007.</p>	
<p>1 – 2 Project Overview</p> <p>(1) Overall Goal Improved methods for the efficient and effective implementation of the IIP are disseminated in the Nile Delta, accompanied by an increase of agricultural productivity and the farmers' net income.</p> <p>(2) Intermediate Goal Improved methods for the efficient and effective implementation of the IIP raise irrigation efficiency and agricultural productivity in the project area.</p> <p>(3) Project Purpose Improved methods for the efficient and effective implementation of the IIP based on the full scale farmers' participation are verified in the project area.</p> <p>(4) Outputs Field 1. Improvement of irrigation facilities - Implementation method for improvement of irrigation facilities is improved. Field 2. Farmers' Water Management Organization (WUA & WUF) - Formulation method for farmers' water management organization is improved. (Field 3. <i>On-farm water management - Appropriate methods of on-farm water management are introduced.</i>) Field 4. General Project Management - Project activities and results are introduced to governmental staff properly.</p> <p>(5) Inputs (for the extension period) Japanese side: Long-term Expert: total 3 persons Short-term Expert: total 2 persons Trainees received in Japan: total 4 persons Provision of equipment: 0.4 million yen Local cost expenditure: 13 million yen Egyptian side: C/P: total 28 persons Local Cost: 19.7 million L.E. for the irrigation facilities construction works. (Expenses for fuel, instruments, consumables, employment of temporary staff were also borne by Egyptian side.), Provision of land and facilities</p>	

II. Evaluation Team		
Members of Evaluation Team	1) Team Leader: Mr. Yukio YOKOI, Group director, Group II, Rural Development Department, Japan International Cooperation Agency (JICA) 2) Water Management/ Water Users Association: Mr. Kenichi YOSHIDA, Deputy Director, Overseas Land Improvement Cooperation Office, Design Division, Rural Development Bureau, Ministry of Agriculture, Forestry and Fisheries 3) Evaluation Management: Ms. Masako HISHIDA, Project Officer, Field Crop Based Farming Area Team II, Group II, Rural Development Department, JICA 4) Evaluation Analysis: Mr. Isao DOJUN, Chuo Kaihatsu Corporation	
Period of Evaluation	From November 24, 2006 to December 14, 2006	Type of Evaluation: Terminal
III. Results of Evaluation		
3 – 1 Achievement		
<p><u>Project Purpose</u> The degree of achievement of the Project Purpose is considered to be at a very satisfactory level. This is because the farmers in the project area are highly satisfied with the improved methods and results of the Project, and also because the counterparts express the high appreciation for usefulness of the improved methods in general.</p> <p><u>Field 1. Improvement of irrigation facilities - Implementation method for improvement of irrigation facilities is improved.</u></p> <p>(1) Construction works for targeted 65 mesqas have been completed and the all improved irrigation facilities were handed over to the respective Water Users' Associations (WUAs). (2) The manual for construction control explains 1) recording methods of finished construction works by using photographs and recording sheets, and 2) usage of equipment for construction management. The C/P have instructed the contractors to take proper records of construction works. As a result, the construction works during the extension period of the Project have been recorded almost successfully with appropriate recording sheets. While the use of photographs was not carried out by contractors at a sufficient level. (3) According to the questionnaire survey to farmers conducted in 2006, 92% of respondents consider that their WUAs are functioning well in terms of water management at mesqa levels. The main reasons include the WUAs' roles for problem solving, arrangement of irrigation water and fair water distribution. From these results, it seems that WUAs are carrying out appropriate water management at mesqa levels. In regard to WUF, 60% of respondents answered "the WUF is functioning well in terms of water management", 4% for "No" and 36% for "Not sure". It seems that farmers' recognition on WUF is not high yet because farmers have few chances to see the WUF activities.</p> <p><u>Field 2. Farmers' Water Management Organization (WUA & WUF) - Formulation method for farmers' water management organization is improved.</u></p> <p>(1) 66 WUAs were established in each mesqa, and they were registered officially. The project staff has been encouraging the farmers in the remaining mesqa to establish a WUA and join the WUF. The WUF was established in October 3, 2005 and has 4 sub-committees such as 1) solving problems, 2) irrigation, drainage and agriculture, 3) laser leveling and 4) environment and gender. According to the preliminary results of the monitoring survey on WUAs, it seems that most of the WUAs are functioning well at present in general, while some farmers pointed out that some WUAs are not necessarily functioning well. The counterparts also implied the needs of improvement for some WUAs. To assure the sustainability of WUAs, it is necessary for MWRI to give more trainings for WUA leaders and support their activities as much as possible. (2) Several materials for trainings were newly developed and utilized during the extension period of the Project. In addition, the manual of on-farm water management was translated into Arabic. Improvement of training materials on financial management and sample formats for financial document is underway. The text for the internal regulations will be a part of the WUA & WUF manual, which is under preparation. (3) According to the results of a monitoring survey, all surveyed WUAs (64 WUAs) are collecting irrigation operation fee and most of the WUAs can afford to cover the expenditure in this summer operation season. Moreover 67% of WUAs are collecting the pump replacement fee as a part of irrigation operation fee. Almost all the WUAs have the surplus in this summer if not considering the pump replacement. However, with the pump replacement cost included, only 31% of WUAs could balance their income with expenditure. For their sustainability, the WUAs should enhance awareness of the member farmers for this issue and some capacity building activities may help the situation.</p> <p>(Remarks: Since Field 3 was achieved by the end of February in 2005, there was no achievement during the extended period of the Project.)</p>		

Field 4. General Project Management - Project activities and results are introduced to governmental staff properly.

Meetings have been held for explaining the outputs of the Project to not only counterparts and other related staff of Irrigation Improvement Sector (IIS) but also the MWRI staff in charge of the World Bank financed project and the water board project (average number of participants is 25-30).

Through such occasions, the methods of the Project have been shared among most of the IIS engineers in Cairo, Tanta, and Kafr El Sheikh, and those in charge of the World Bank financed projects and the water board projects, ID engineers. They recognized that water management and administration of WUAs and WUF in the project area are substantially better than in the other IIP areas. Governmental staff, who had opportunity to know about the Project, recognizes the importance of disseminating the methods of the Project, believing that more involvement of other governmental staff would further enhance the outcomes of the Project.

3 – 2 Summary of Evaluation Results

(1) Relevance: High

The Project is well relevant to the needs of the farmers, because the farmers in the project area are satisfied very well with the improved irrigation facilities, irrigation water management, continuous flow, fair water distribution and the activities of WUAs. The Project is well relevant with the development policy of Egypt because one of the important policies for agriculture and irrigation sector in the Fifth Five-Year Plan for Socio-Economic Development (2002-2007) is improvement of water resources by rationalizing current water use and applying new irrigation systems, and the National Water Resources Plan specifies the policy to continue the irrigation improvement projects and strengthen the water users associations. One of the priority issues of Japanese ODA (official development assistance) to Egypt is improvement of agricultural productivity and improvement of efficiency of water use. The improved methods were developed jointly by the Egyptian staff and Japanese experts through adjusting Japanese experiences and technologies in accordance with Egyptian experiences and situations. It seems that the approach that the Project has taken is appropriate.

(2) Effectiveness: High

As a pilot project, the achievement of the Project Purpose is at a very satisfactory level and also the achievement of the Outputs is at a satisfactory level. Therefore, effectiveness of the Project is high.

(3) Efficiency: Satisfactory level

Inputs of the Egyptian and Japanese sides were appropriate in terms of quantity, quality and timing, etc., and have been utilized well for the project activities. The Joint Steering Committee meetings and the Joint Site Coordinating Committee meetings have been held periodically and have functioning appropriately for information sharing, problem solving and decision making. The frequent informal meetings among project site manager, counterparts and Japanese experts have been also functioning appropriately.

The factors that facilitated the efficiency are: 1) appropriate assignment of counterparts in terms of number and capability, 2) good relation and cooperation among counterparts and Japanese experts, 3) cooperative attitude of farmers and members of WUF, and, 4) counterpart training in Japan for decision makers in order to have proper recognition and knowledge on water management in Japan and confirm the importance of the Project.

(4) Impact: Many effects and impacts of the Project have been observed.

(A) Incorporation of the improved methods of the Project into other projects

1) Integrated Irrigation Improvement and Management Project (IIIMP) finance by World Bank

- ◆ Establishment of WUA and WUF in early stage
- ◆ Field survey with farmers' participation before designing of irrigation facilities
- ◆ Explanation of facility design to farmers before commencement of construction works

2) IIP2 (KfW assisted project)

- ◆ Concept about acquisition of farmer's agreement before implementation of the construction works

(B) Other effects and impacts

- ◆ Fairer water distribution at mesqa levels (between beginning point and end point of mesqa canal) and also among upstream, midstream and downstream of the delivery canal.
- ◆ Good on-farm water management in terms of quantity, timing and reliability.
- ◆ Functions of WUAs and WUF not only for good water management but also for problem solving.
- ◆ Less irrigation time at field.

- ◆ Less irrigation cost, and.
- ◆ Increase of yield in some part of the project area, especially midstream and downstream of the delivery canal.
- ◆ Reduction of conflicts among farmers and their complaints because of the fair irrigation water distribution and coordination by WUAs and WUF.
- ◆ Efficient land use, where old mesqa canal was located, filled up and used as field path, making transportation of materials and products easier.

(5) Sustainability

(A) Political aspect

Importance of irrigation improvement will continue. In addition, the draft of “Vision and Strategy for MWRI Institutional Reform” specifies the several strategies such as participation, decentralization and cost recovery for the purpose of more sustainable, equitable and efficient use of water resources. IIS prepared 2 years Action Plan to follow up activities at the project area for securing sustainability of the Project. While it may be necessary to re-examine this Action Plan for further improvement.

(B) Financial aspect

Main follow-up activities including those specified in the Action Plan are training for WUAs and WUF, therefore, necessary budget will be secured by MWRI.

(C) Organizational aspect

WUA: It is expected that the WUAs can continue collecting necessary expenses for water management through implementation of the Action Plan.

WUF: The collection of irrigation operation fee is not possible due to the lack of necessary legal arrangement. Therefore, certain measures are necessary to secure activities of the WUF until approval of the law.

(D) Technical aspect

The counterparts of the Project have good capacity in implementing construction works with farmer’s participation, establishing WUA and WUF, and conducting trainings on water management, administration, and O&M of irrigation facilities for leaders of WUAs and WUF. However, the number of staff who is capable of disseminating the methods is very limited because the capacity will be built only by practical experiences. It may be difficult to simply apply the improved methods to other areas due to the nature as being a small scale pilot project.

The recent projects including the IIIMP, which the MWRI is strongly prompting, deal with various issue such as drainage, subsurface water, and environmental issues besides irrigation. The improved methods of the Project should be merged with other tasks to address new issues mentioned above in an integrated way. Another point to be taken into consideration is enhancement of water use efficiency not only at the mesqa levels but also at the higher levels, i.e. branch and main canal is crucial for more efficient water use.

Therefore, both further capacity building of the MWRI staff to cope with new issues and establishment of an organizational system for dissemination are essential.

3 – 3 Factors that promoted realization of effects

- (1) By observing the improved irrigation facilities in the downstream area of the project area, farmers in the upstream area understood that good quality of facilities and good irrigation water distribution can be realized by the Project. Afterwards, project staff could obtain agreements from the farmers in regards to the establishment of WUA and design on the irrigation facilities easier than before.
- (2) Project staff is trying to solve problems, which farmers are facing, by addressing in a timely and appropriate manner.
- (3) Introduction of the competitive bidding among short listed contractors for assuring quality of construction works.
- (4) One package contract for construction works such as pump facilities, gate facilities and other civil works for preventing delay of construction works.

3 – 4 Factors that impeded realization of effects

Due to some mesqas have been divided several mesqas, modification of design of irrigation facilities had been done. After then, farmers’ agreement on the establishment of WUA and design of irrigation facilities were obtained. Therefore, schedule on construction works was delayed. Due to such delay, training activities were also delayed.

3 – 5 Conclusion

The Project is in conformity with the needs of farmers in the project area, the development policy of Egypt and the ODA policy in Japan. Techniques transferred by Japanese side and the project approach were appropriate. The project purpose will be achieved very satisfactorily and efficiency of the Project is also at a satisfactory level. Various good effects and impacts are observed, but further substantial efforts are needed for achieving the overall goal and intermediate goal. By implementing the drafted Action Plan, good water management by WUAs and WUF within the project area will be secured in a sustainable way, while a strategy of wider scope for efficient water use is needed. Regarding the dissemination of the improved methods to other areas in the Nile Delta region, several methods have been recognized useful and appropriate by the people involved in the other irrigation related projects, and, in disseminating the outcomes of the Project, it is essential to make maximal use of the people involved in the Project, who have had good experiences and capacity in terms of technicality as well as good understanding of the concept of participatory approaches. It is highly probable that the project purpose will be achieved by the end of the extended project period. Therefore, it is concluded that the project can be completed on February 28, 2007 as planned.

3 – 6 Recommendations

3–6–1 Follow-up activities for the water management in the Bahr El Nour area

(1) Within the remaining project period

- ◆ IIS and other related governmental agencies ensure sufficient human resources and financial resources, and establish a follow-up local committee. The roles of such committee is to have regular meetings (at least once every half a year) to report and share the situations, and discuss the arising problems for solutions, among related people including those at regional and capital levels and of JICA Egypt office.
- ◆ IIS promotes organizing internal regulations of WUAs in writing. This can help the efforts of forming associations in other regions.
- ◆ IIS makes maximal efforts to realize more involvement of the other ministries and governmental agencies (e.g. Ministry of Agriculture and Land Reclamation, in particular, Agricultural Research Center, Extension Services and Agricultural Cooperatives) for improving the livelihood of the farmers in the area. Specific actions may include lectures on crop selection for water saving, cultivation and marketing tips for such crops, formal requests for loans for initial investment.
- ◆ IIS takes necessary actions to enhance the use of certain pieces of equipment, which are currently not in use due to the lack of people capable to operate them.

(2) After the completion of the project

- ◆ IIS and other related governmental agencies maintain the proper allocation of resources for the Bahr El Nour area. Central Department for Irrigation Advisory Service takes important roles because the organization is in charge of supervising the activities of the established WUF and WUAs. However, the people involved in the Project should be properly considered for this purpose.
- ◆ The WUF in the Bahr El Nour and its sub-committees maintain and enhance their activities with a good support of relevant organizations.

3–6–2 Dissemination of the outcomes of the project to wider areas in Nile Delta

(1) Within the remaining project period

- ◆ IIS specifies a list of specific outcomes of the Project and a list of possible roles of WUF and WUAs.
- ◆ IIS formulates a strategy for developing appropriate approaches for the future related improvement projects, in a shorter period and on a larger scale with taking poverty reduction aspect into account.
- ◆ IIS holds a seminar to share the list of specific outcomes of the Project, the list of possible roles of WUF and WUAs. The seminar should be a good occasion to seek a network for daily informal view-exchange to share the core concept of the Project among the relevant people. Special attention should be paid on how to disseminate the outcomes of the Project into IIIMP from now on.

(2) After the completion of the project

- ◆ IIS and other related governmental agencies take identified actions based on the discussion in the seminar above.
- ◆ IIS, in proper cooperation with other related governmental agencies, considers how to address the need to replicate, upscale and disseminate the considerable experiences gained through the Project.
- ◆ To support IIIMP areas and make the outcome of the Project applicable, further development activities on participatory water management could be considered in a district within the IIIMP areas promoting integration approach.

3-6-3 Further consideration for the drafted action plan

(1) Within the remaining project period

- ◆ IIS, in proper cooperation with other related governmental agencies, re-examines the drafted action plan taking into account the recommendations from this evaluation.

(2) After the completion of the project

- ◆ The related agencies, under the supervision of the identified key agency, implement, monitor and evaluate the activities under the action plan.

3-6-4 Revision of the indicators for the Intermediate Goal and the Overall Goal

(1) Revision of the indicators for the Intermediate Goal

Current indicators	Proposed indicators
In five years after the end of the Project,	In five years after the end of the Project,
i) irrigation efficiency increases	i) farmers' satisfaction level with the roles and functions of WUAs and WUF increases
ii) fair water distribution is improved	ii) agricultural productivity such as crop yield increases
iii) indicators of agricultural productivity per unit of land increase	

(2) Revision of the indicators for the Overall Goal

Current indicators	Proposed indicators
By the year 2017 in a certain districts of Bahr Tera,	By the year 2017 in certain districts <u>in the Nile Delta,</u>
i) new approaches of the IIP are disseminated	i) new approaches of the IIP are disseminated
ii) indicators of agricultural productivity	ii) indicators of agricultural productivity increases
iii) improvement of the farmers' living condition	iii) the farmers' net income increases

3-7 Lessons Learned

- ◆ While promotion of establishment of farmers' association is in general not easy task, the Project has achieved substantial progress in this regard. The Project has especially cared for fostering the consciousness of the project staff in terms of the importance of participatory approach and attitudes towards farmers, spending considerable time period from the early stages of the project period. The Project has been keen to obtain and maintain farmers' confidence for the project activities, for example by addressing in a timely and appropriate manner the specific problems that the farmers face. These points could be taken for proper consideration of the other relevant projects such as those for agricultural extension or those with participatory approach.
- ◆ Poverty reduction of farmers, which is one of the priority issues in the country and in the recent projects such as IIIMP, could have been considered in earlier stages for the Project and may be appropriate for future consideration in developing strategies for water resource management.
- ◆ In the different stages of the implementation of the Project, the project targets and related activities have been modified by the then evaluation teams. Having observed the outcomes of the Project, such evaluation process effectively influenced and guided the project implementation, and the project staff adequately followed the received guidance.