

Summary of Terminal Evaluation

I. Outline of the Project		
Country: Syria		Project title: The Project on Development of Efficient Irrigation Techniques and Extension Phase II
Issue/Sector: Agriculture/Forestry/Fisheries- Agriculture-Agriculture/General		Cooperation scheme: Technical Cooperation Project
Division in charge: Rural Development Department		Total cost (estimated at completion of the Project): approximately 330 million yen
Period of Cooperation	(R/D): From December, 2008 to June, 2012 (3.5 years)	Partner Country's Implementing Organization: Ministry of Agriculture and Agrarian Reform (GCSAR, DMIC, DAE, DTQ), Directorate of Agriculture of the targeted governorates (Rural Damascus, Daraa, Hama, Aleppo and Raqqa)
		Supporting Organization in Japan: Ministry of Agriculture, Forestry and Fisheries, JICA Support Committee for Dry-land Farming in Middle East
1-1 Background of the Project		
<p>Agriculture is one of the important economic sectors in Syria which provides nearly 25% of gross domestic product (GDP). Agriculture is also important for Syria as a source of employment and export earnings. Rainfed agriculture is still prevailing in Syria, which covers more than 75% of the total cultivated area but irrigated agriculture is regarded more preferable in terms of the crop production, because of the uncertainty and the fluctuation of rainfed agriculture production. However, irrigated agriculture consumes water more than 90% of the total water use in Syria, which hinder proper water resource allocation for other sectors such as industry and domestic water use. Therefore, the necessity and importance of water saving irrigation has been emphasized. The 10th Five Year National Development Plan (2006-2010) is one of the simplest examples showing such policy.</p> <p>Based on the request of the Government of Syrian Arab Republic, the Project on Development of Efficient Irrigation Techniques and Extension was implemented as a Technical Cooperation Project of JICA from March 2005 for three years in order to accelerate the shift from conventional water-consuming irrigation to the modern water-saving irrigation. This project (phase 1) attained its project purpose with certain amount of reduction of water use with the same level of crop yield in the project sites in Rural Damascus, Daraa and Hama governorates. The terminal evaluation study team for this project suggested that the process accomplished by the efforts of the staff contributed to establishing simple but essential model of changing farmers' awareness of water saving in Syria, and pointed out that the expansion of the activities to other districts in Rural Damascus, Daraa and Hama governorates, furthermore, to other governorates is needed to be accomplished.</p> <p>To address these issues, the Government of the Syrian Arab Republic requested Japan another technical cooperation project in order that proper amount of irrigation water is used through expanding the outcome of phase 1 project to the remaining areas in Rural Damascus, Daraa, and Hama governorates and new target area (Aleppo and Raqqa), improving surface irrigation techniques and cooperating with international research organizations. Syrian and Japanese sides agreed and signed on R/D of the project implementation of the phase 2 project and the Project started in December 2008. Even after the security situation in Syria is deteriorated in spring of the year of 2011 and the entrance of foreigners are restricted, project activities have been continued mainly by C/Ps in Syria with remote supports of Japanese experts in Japan.</p>		

1-2 Project Overview

This Project aims at making the quantity of irrigation water proper level by converting traditional irrigation methods to modern ones in targeted areas and capacitating human resources including extension workers mainly through training courses for disseminating the techniques of modern methods.

(1) Overall Goal

Proper amount of irrigation water is used by means of adopting efficient water-saving irrigation in the Target Areas. And, awareness of efficient water-saving irrigation is expanded to other areas in Syria.

(2) Project Purpose

The capability of extensionists and staff of related agencies on extension of water-saving irrigation are improved, and proper amount of irrigation water is used for each crop in the Project Sites.

(3) Outputs

- 1) Proper water-saving irrigation technique is devised, and the new water-saving irrigation technique is disseminated in the Project Sites in Aleppo and Raqqa Governorates. And, the training and extension system for the dissemination of the water-saving irrigation technique is established for the other areas in Aleppo and Raqqa Governorates.
- 2) The appropriate utilization of small-scale pressurized irrigation is disseminated widely in Rural Damascus, Hama and Dara Governorates.
- 3) Measures to improve and operate water-saving irrigation techniques are extended to the rest of Syria and to neighboring countries, through the cooperation with universities and international research organizations in Syria.

(4) Inputs

Total input cost: 330 million yen

Japanese side:

JICA Expert: Total 6 persons; Training in Japan: 19 persons,

Technical exchange in third country: 15 persons,

Provision of equipment: Total 15.0 million yen and 287 thousand dollars (total 29 million yen)

Japan's cost expenditure: 94 million yen

Syrian side:

Counterpart: Total 56 persons; Local Cost: Total 02.8 million Syrian Pound (5 million yen)

Provision of land and facilities: Office space for Japanese experts (in Damascus, etc.)

Provision of equipment: 6 sets of 4WD vehicle, 5 sets of pickup truck

2. Evaluation Team

Members of Evaluation Team	1) Team Leader: Mr. Masayuki TAKAHASHI, Director, Field Crop Based Farming Division 2, Rural Development Department, Japan International Cooperation Agency (JICA) 2) Irrigation Agriculture: Dr. Hideyuki KANAMORI, Senior Advisor (Operation and Management of Irrigation Systems), JICA 3) Evaluation Analysis: Dr. Yoshihito KASHIWAZAKI, A & M Consultant, Ltd. 4) Cooperation Planning: Ms. Yuka ASAKAWA, Program Officer, Field Crop Based Farming Division 2, Rural Development Department, JICA
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Period of Evaluation	From February 29 th to March 19 th , 2012	Type of Evaluation: Terminal Evaluation
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3. Results of Evaluation

3-0 Background of this Evaluation

The Terminal Evaluation was conducted under the condition in which entrance of foreigners into Syria is restricted because of the deterioration of the security situation in Syria. Therefore, Japanese Evaluation Team was not dispatched to Syria but worked in Japan. In order to reduce the negative effects of this limited condition, the Team made efforts to find out actual activities conducted and produced outputs as precisely as possible by spending much time to interview Japanese experts and collecting updated information after the Mid-term Review conducted from questionnaires distributed to C/Ps. In addition, JICA requested the Government of Syria to elect evaluation members among personnel concerned in Syria, shared information provided by the Project and took place several video conferences so that this evaluation mission could be conducted with the style of a JOINT evaluation.

3-1 Achievement

(Project Purpose)

It is expected that the Project Purpose will be achieved at satisfactory levels by the time of completion of the Project.

For Indicator 1) “The usage of irrigated water for the crops in the Project Sites is reduced by the Project (10-20%)”, the reduction rates for all of the crops with available data, were recorded between 30% and 50% in the five governorates except cucumber in Hama (-2.7%). These rates were quite better than the targeted rate (10–20%)

For Indicator 2) “The capability of extensionists and staff of related agencies on extension of water-saving irrigation is improved (number of certified extensionists become more than 40% to the required number of water extensionists)”, the ratios in Daraa, Hama and Rural Damascus Governorates exceeded the targeted ratio (40%) in both 2010 and 2011 while those of Aleppo and Raqqa Governorates were considerably low in 2010 (21.3% and 35.0% respectively), but fairly improved in 2011 (33.8% and 50% likewise). Despite the low ratio in Aleppo (33.8%), the overall allocation sufficiency ratio (48.9%) has satisfied the indicator (40%), which proved the Project purpose was achieved in terms of Indicator 2).

(Output)

Output 1: The 4 indicators have been achieved and the achievement levels were more than expected. The reduction rates of irrigation water used for sugar beet and cotton recorded to 28.8–50.1% in 2010 and 16.8–55 % in 2011, which demonstrated that the rate of water saving was more than the targeted reduction rates (10–15%). The ratios of the irrigated area with water-saving irrigation system in the Project Sites changed from 16.9% to 36.9% (217% increase) in the project site in Aleppo and from 0.8% to 13.8% (1,725% increase) in Raqqa. In addition, The number of extension activities exceeded 17 times in 2011 in the both governorates and “implementation cycle for extension activities” has been established in order to improve the quality of extension.

Output 2: The 3 indicators have mostly been achieved. The data are the same as those presented for the Mid-term Review since an impact survey in advance of the terminal evaluation could not be carried out due to the deterioration of the security situation in Syria. In spite of this fact, all of the indicators have been achieved except the increase rate of irrigation farmers in Halfaya extension unit of Hama. Considering the fact that the C/Ps reported through a questionnaire survey that the conditions have certainly been improved since the Mid-term Review, it can be assumed that all indicators have been

achieved.

Output 3: The indicator has been achieved. A variety of joint activities with universities in Syria and international research organizations have been conducted such as researches on water-saving irrigation techniques, development of extension tools for water-saving irrigation, support for the training course by ICARDA, participation in international congress, etc. (ICARDA: International Center for Agricultural Research in the Dry Areas).

3-2 Summary of Evaluation Results

(1) Relevance: High

Because of limited water resources in Syria and for stabilizing agricultural production, accelerating efficient water use through the dissemination of water-saving irrigation is necessary and essential and therefore this project is consistent with needs of the beneficial country and beneficiaries. Conversion of irrigation system to water-saving irrigation is regarded important in the 10th Five-Year Plan (2006-2010) of Syria. One of the important issues of the assistance policy of the Government of Japan to Syria is water resources management and its effective use. Taking these facts into consideration, the relevance of the Project is high.

(2) Efficiency: Excellent

The Project Purpose has mostly been achieved and the 3 Outputs were efficiently produced. Output 1 aims at the extension of water-saving irrigation in the 2 governorates newly included in Phase 2 while Output 2 targets at the introduction of more advanced modern irrigation (small-scale pressurized) into the 3 governorates, that have been the project sites since Phase 1. The Project Purpose can be achieved through the above 2 outputs, however, Output 3 was drawn up in order to extend the project outcomes through the collaboration with universities and international institutes, which is a part of the Overall Goal of the Project.

(3) Effectiveness: High

The outputs of the Project have been produced satisfactorily. The indicator on the quality of the extension activities has not been confirmed yet due to the current situation in Syria. Nevertheless, a countermeasure to improve the extensionists' performance has already been taken and established by means of monitoring and evaluation in the "implementation cycle". Accordingly, the indicator is expected to prove satisfactory by the end of the Project. Both Syrian and Japanese sides have appropriately provided the inputs for the project activities in terms of human resources, equipment, trainings in Japan, the technical exchange in third countries, and the budget. These inputs and resources have been utilized effectively for the implementation of the project activities.

The products of the Phase 1 Project have been utilized effectively during the Project. Similarly for the human resources, the Syrian counterparts involved in the Phase 1 as well as the water extensionists trained during the previous project effectively participated in the project activities, which have significantly contributed to the management of the project operation.

(4) Impact

1) Prospect of achieving the Overall Goal

Based on the data collected through the impact survey in 2010, the indicator 1) Total amount of irrigation water per unit area decreases more than 10% without yield decrease in Target Area by the end of 2017 is very likely

to be achieved. The Ministry of Agriculture and Agrarian Reform has been planning to establish a National Training Team in order to train a sufficient number of water extensionists as players in the field. The outcomes of the Project as of the present strongly indicate positive prospects for achievement of the Overall Goal as 5 extra years are still given to the responsible organizations before the assessment of the achievement of the Overall Goal.

2) Other Impacts

The following positive impacts have been observed.

- Increased collaborative relationships between the organizations concerned
- Competitive mind in farmers on efficient water use and crop yield
- Newly introduced irrigation approach; the group-irrigation program
- Comprehensive training course adopted by MAAR(Ministry of Agriculture and Agrarian Reform) as an official system
- Saving the working time, diesel & fertilizer, and improving the quantity of crops
- The paradoxical impact of the absence of the Japanese experts: nurturing the ability of management and the ownership of the C/Ps

(5) Sustainability

1) Political aspect

The Government of Syria has placed great importance on the modernization of irrigation in order to efficiently utilize the limited water resources for agricultural production therefore the policy sustainability will be secured regardless of the deterioration of the security situation.

2) Organizational aspect

The implementing organizations of the Project have well defined tasks on research, training, extension, and promotion of modern irrigation and also have sufficient number of staff and long-experiences in the respective field of the tasks. Therefore, the modernization of irrigation by the extension of water-saving irrigation techniques to the farmers will be continued in a sustainable manner.

3) Financial aspect

DMIC has been providing a financial support for farmers to introduce modern irrigation system. It is needless to mention that the Government of Syria should allocate a sufficient amount of the budget in order to further expand the extension activities on water-saving irrigation nationwide after the completion of the Project.

4) Technical aspect

The capacity of the Syrian C/Ps and staff concerned with the Project has developed not only the techniques on modern irrigation but also the management skills through the implementation of the project activities. In addition, the number of water extensionists with proper knowledge and skills has been increasing in the 5 governorates. Therefore, the techniques and skills are considered to sustain in future.

5) Social, cultural and environmental aspects

In terms of the environmental aspects, the following factors have been considered by the Project.

- Reduction of water seepage, especially groundwater

- Rationalization of fertilizer
- Fair supply of water among the farmers in some project areas

3-3 Factors that helped the implementation of the Project

(1) In terms of the project design

The Government of Syria established DMIC and has been providing a grant and loans to the farmers in order to activate the introduction of irrigation equipment, which has greatly contributed to the Project. This policy enabled for the both parties to share the roles as the hardware by the Syrian side and the software by the Japanese side with the players from the both sides.

(2) In terms of the implementation process

One of the factors that helped smooth implementation of the project activities is “good collaboration between the organizations concerned”. The personnel concerned in the Project have established excellent relationships not only within the Project but also with the farmers and other institutions, which positively affected on the effectiveness of the Project functions.

3-4 Factors that impeded the implementation of the Project

(1) In terms of the project design

Nothing particular.

(2) In terms of the implementation process

The dispatch of Japanese experts was partially restricted due to Japan’s security instructions, some activities have been postponed, and Terminal Evaluation was carried out under the condition in which surveys on the spot could not be conducted because of the deterioration of the security situation in Syria.

3-5 Conclusion

The Project has continued its activities even under the current difficult situation in Syria although a part of the activities has been postponed and has kept producing its outputs with satisfactory levels in terms of relevance, efficiency and effectiveness. The Project also produced a variety of positive impacts though the future financial support should be secured by the ample efforts from the Syrian side. These facts enable it to conclude that the Project is expected to complete its period by achieving the Project Purpose by the end of the Project.

3-6 Recommendations

(1) Impact survey

A field survey is recommended to jointly carry out by Syria and Japan to collect information missing because of the restriction of the survey without a visit in the field and to find out the real achievement once the situation in Syria is settled down.

(2) National training team

In order to disseminate the outcomes of the Project to other governorates in Syria and ensure the sustainability of training structure and the function of the Project, it is strongly recommended that the idea of forming a National Training Team within the MAAR is realized.

(3) Training curriculum

In order to further enhance the communication between the extensionists and farmers, it is recommended for the project team to add a training item on “attitude” to the curriculum in the remaining period.

(4) Additional approaches for water-saving irrigation

In order to conduct further water saving, research on other measures than pressurized irrigation should be sustained on managerial, institutional and agronomical approaches for maximizing water productivity.

3-7 Lessons Learned

(1) Intermediate of supporting favorable relationships beyond departments and/or directorates

Implementing a project that intermediates several organizations is effective to accelerate collaboration among related parties.

(2) Key factors for a successful technical cooperation; Issues to be addressed and a financial back-up in the beneficial country

For formulating a successful technical cooperation, to address one of the most crucial development issues and to have financial back-up for supporting core activities of the project in the beneficial country are some factors that are surely considered.