

Summary of Terminal Evaluation

I. Outline of the Project	
Country : Republic of Malawi	Project title : Project for Development of Medium Scale Irrigation Schemes
Issue/Sector : Agriculture/Forestry/Fisheries - Agriculture - Agricultural Engineering	Cooperation scheme : Technical Cooperation Projects
Division in charge : Rural Development Department	Total cost (estimated at completion of the Project) : Around 263 million Yen
Period of Cooperation From June 1, 2011 to May 31, 2014	Partner Country's Implementing Organization : (1) Ministry of Irrigation and Water Development (2) Ministry of Agricultural and Food Security
	Supporting Organization in Japan : Ministry of Agriculture, Forestry and Fisheries
<p>1 Background of the Project</p> <p>Malawi is located in South-East Africa, a country with a population of 13.9 million (in 2010) and a land mass of 118 thousand km², approximate. Agriculture (including forestry and fisheries) is one of the key industries in Malawi, which occupies 25.6% (in 2010) of Gross Domestic Product (GDP) and 74.6% (in 2010) of foreign currency revenue. Furthermore, 83% (in 2009) of the entire population is engaging in the agricultural sector (including forestry and fisheries). However, 90% of all farmers in Malawi are small-scale farmers who cultivate less than 1 ha of farmland, and most conduct rain-fed cultivation. Therefore, stabilization and improvement of farm productivity are challenges in Malawi.</p> <p>In this connection, the Green Belt Initiative (GBI) was proposed in 2010, wherein the Government of Malawi has made efforts to attain food security and improvement in agricultural productivity through effective utilization of water resources. Hence budget allocation for small/medium scale irrigation projects has been increasing. However, the capacity of Malawi's irrigation engineers/officers and extension officers in operating and managing irrigation schemes is not yet high enough.</p> <p>Considering the above situation and based on the request by the Government of Malawi, the "Project for Development of Medium Scale Irrigation Schemes" started in June 2011 as a 3-year project. The Project is aiming at the capacity building of irrigation engineers/officers and extension officers in the 11 districts of Machinga and Blantyre ISDs/ADDs. Before the completion of the project period (end of May 2014), this terminal evaluation study has been carried out for evaluating the degree of achievement of the Outputs and the Project Purpose, etc.</p> <p>2 Project Overview</p> <p>(1) Overall Goal</p> <p>Capabilities of irrigation engineers/officers and extension officers are enhanced in developing/rehabilitating small/medium scale smallholder irrigation schemes and in operating the new DoI's M&E system of irrigation schemes, through the dissemination of outputs and achievement of MIDP</p>	

(guidelines, manuals, instructions, etc.).

(2) Project Purpose

Capabilities of irrigation engineers/officers, extension officers and farmer groups are enhanced through development/rehabilitation, O&M and monitoring of target irrigation schemes.

(3) Outputs

- 1) Capabilities of irrigation engineers/officers and extension officers to implement the new DoI’s M&E system of irrigation schemes are enhanced through contributing to the development of the new system.
- 2) Capabilities of irrigation engineers/officers in survey, planning, EIA, design, construction, and operation and maintenance by farmers groups are enhanced.
- 3) Capabilities of extension officers in mobilizing and training smallholder farmers for the O&M of irrigation facilities and water management are enhanced.
- 4) The Project outputs and achievement are disseminated and shared among the stakeholders of irrigation development sector of the country.

(4) Inputs

Japanese side :

Japanese Expert: long-term 3 persons short-term 5 persons, Trainees received in Japan: 12 persons (2 more persons will participate in), Provision of equipment: around 0.32 million US dollars, Local cost expenditure: around 0.48 million US dollars

Malawian side :

Counterpart: 30 persons in total (at the terminal evaluation), Local Cost: salaries of counterparts, transportation expenses for counterparts, expenses of electricity and water, etc., Provision of office spaces: office space for Japanese experts at the headquarters of Department of Irrigation (Lilongwe) and Blantyre ISD, etc.

II. Evaluation Team

Members of Evaluation Team	1) Leader: Mr. Takeaki SATO, Visiting Senior Advisor, Japan International Cooperation Agency (JICA)	
	2) Irrigation Techniques: Mr. Takahito MISAKI, Senior Advisor for Overseas Agriculture and Rural Development, Design Division, Rural Development Bureau, Ministry of Agriculture, Forestry and Fisheries	
	3) Cooperation and Planning: Ms. Yurie KOMINE, Program officer, Arid and Semi-Arid Farming Area Division 1, Rural Development Department, JICA	
	4) Evaluation and Analysis: Mr. Isao DOJUN, Consultant, Chuo Kaihatsu Corporation	
Period of Evaluation	From January 15 to February 5, 2014	Type of Evaluation : Terminal

III. Results of Evaluation

1. Achievement

Output 1: “Capabilities of irrigation engineers/officers and extension officers to implement the new DoI’s M&E system of irrigation schemes are enhanced through contributing to the development of the new system.”

Achievement:

Considering the degree of achievement of the four indicators of Output 1 and the facts that the new DoI’s M&E system is mostly developed and data collection and data entry have been carried out in the 11 districts,

capabilities of irrigation engineers/officers and extension officers to implement the new DoI's M&E system are well enhanced. Although, compilation of a "Guideline for Monitoring & Evaluation of the Irrigation Sector" and finalization of the new DoI's M&E system are remaining activities within the project period, degree of achievement of Output 1 is very satisfactory.

Output 2: "Capabilities of irrigation engineers/officers in survey, planning, EIA, design, construction, and operation and maintenance by farmers groups are enhanced."

Achievement:

Considering the degree of achievement of the four indicators of Output 2 and the results of interview to irrigation engineers/officers, extension officers, and members of farmers groups of the three pilot irrigation schemes, capabilities of the irrigation engineers/officers concerned on technical knowledge and skills, especially practical skills of the irrigation engineers/officers who involved in the activities at the pilot irrigation schemes, have been well enhanced. Therefore, it is safe to say that degree of achievement of Output 2 is very satisfactory.

Output 3: "Capabilities of extension officers in mobilizing and training smallholder farmers for the O&M of irrigation facilities and water management are enhanced."

Achievement:

Considering the degree of achievement of the four indicators of Output 3 and the results of interview to irrigation engineers/officers, extension officers, and members of farmers groups of the three pilot irrigation schemes, capabilities of the extension officers concerned on knowledge and skills related to development of irrigation schemes, especially practical skills to facilitate and instruct to farmers, have been well enhanced. Therefore, it is safe to say that degree of achievement of Output 3 is very satisfactory.

Output 4: "The Project outputs and achievement are disseminated and shared among the stakeholders of irrigation development sector of the country. "

Achievement:

The project outputs/outcomes, such as characteristics of MIDP approach, manuals and guidelines produced, and good results and practices produced at the pilot irrigation schemes are planned to be presented at the district and national workshops which will be held in April/May 2014. Therefore, aim of Output 4 will be achieved within the project period.

Project Purpose: "Capabilities of irrigation engineers/officers, extension officers and farmer groups are enhanced through development/rehabilitation, O&M and monitoring of target irrigation schemes."

Achievement:

Considering the degree of achievement of the four indicators of the Project Purpose and the results of interview to irrigation engineers/officers and extension officers concerned, members of farmers groups of the three pilot irrigation schemes, and the Japanese experts, irrigation engineers/officers, extension officers and farmer groups have been well enhanced by carrying out the project activities. Activities for capacity building and remaining construction works at the two pilot irrigation schemes are to be continued within the project

period. Therefore, it is expected that degree of achievement of the Project Purpose will be very satisfactory at the end of the Project.

2. Summary of Evaluation Results

(1) Relevance: High

The relevance of the Project is considered to be high from the following viewpoints;

- 1) Conformity with needs of capacity building of target groups (irrigation engineers/officers, extension officers, and farmer groups) and needs of the target areas,
- 2) Relevance to the national policies of Malawi,
- 3) Conformity to the assistance policy of Japan to Malawi,
- 4) Appropriateness of the approach taken by the Project,
- 5) Comparative advantage of technical cooperation by Japan

(2) Effectiveness: High

The Project Purpose is expected to be produced in an effective way by the end of the Project and achievement of the Outputs of the Project have been well contributed to attain the Project Purpose, therefore, the overall effectiveness of the Project is considered to be high.

(3) Efficiency: Moderately high

The dispatches of Japanese experts were appropriate in terms of number of persons, duration of works in Malawi, and field of specialty in general. However, the timing of dispatches of several short-term experts was delayed due to the difficulty in recruitment and affected negatively on the progress of project activities. Procurement of equipment and training in Japan were appropriate. The number of assigned Malawian counterparts is appropriate. Several officers who were assigned as counterparts changed working places. Although new counterpart persons were assigned, these personnel changes might be affected for effectiveness of the intended capacity building. Budgetary allocation to the project activities by the Malawian side is limited. Considering these results of inputs by the Japanese and Malawian sides, it is judged that the efficiency of the Project is moderately high.

(4) Impact:

- 1) Prospect on achieving the Overall Goal in future: “Capabilities of irrigation engineers/officers and extension officers are enhanced in developing/rehabilitating small/medium scale smallholder irrigation schemes and in operating the new DoI’s M&E system of irrigation schemes, through the dissemination of outputs and achievement of MIDP (guidelines, manuals, instructions, etc.)”

It is expected that the pilot irrigation schemes will be properly operated (including water management), maintained by the farmer’s groups with support of irrigation engineers/officers and extension officers after the completion of the Project. It is also expected that elements of MIDP approach will be applied continuously to other small/medium scale irrigation schemes in the areas of Blantyre and Machinga ISDs/ADDs. For the regular implementation of the new DoI’s M&E system in the 11 districts, budgetary arrangement is necessary. For further capacity building of irrigation engineers/officers and extension officers by practicing learned knowledge and skills at fields, a systematic capacity building setup will be necessary by ensuring competent human resources as trainers, budget for capacity building activities and place for practicing (irrigation schemes). When the above-mentioned budgetary arrangement and systematic capacity

building setup are made, it is expected to be achieved the Overall Goal.

2) Other impact

- a) Other donor agencies have utilized of M&E system and data collected
- b) Utilization of knowledge and skills learned for other projects in 11 districts
- c) Collaborative relationship among irrigation engineers/officers, extension officers and farmer groups has been strengthened
- d) Increase of farmer income through increase of crop production and reduction of food shortage
- d) Improvement of farmers' livelihood

(5) Sustainability:

Sustainability of the Project in terms of policy is high. In order to ensure organizational, financial and technical sustainability of the Project, adequate measures are needed to be taken as described below.

1) Policy sustainability

Expansion of the irrigated area is considered a priority policy by the Government of Malawi and various measures for irrigation development are underway such as the master plan study for irrigation development (World Bank supported) and establishment of an irrigation development fund. In addition, importance of capacity building of irrigation engineers/officers, extension officers and farmer groups is well recognized by the Department of Irrigation in order to develop sustainable irrigation schemes. Therefore, policy sustainability of the Project will be secured.

2) Institutional/ organizational sustainability

Through participation in workshops and trainings of the Project, the various capacities of governmental officers are strengthened in general. One of the important characteristics of the Project is capacity building, especially practical knowledge and skills through OJT by implementing medium scale pilot irrigation schemes. Enhancement of ability in practicing knowledge and skills is considered very important for assuring sustainable development of irrigation schemes. The Irrigation Management Service Division in DoI is responsible for human resources development in collaboration with the Department of Human Resource Management and Development (DHRMD) under Office of the President and Cabinet for sustainable capacity building of irrigation engineers/officers and extension officers.

3) Financial sustainability

Although the Government of Malawi is facing financial difficulty, DoI has made efforts to allocate government budget for project activities during the 2013/14 fiscal year amounting 24 million MKW (this budget is a part of budgetary allocation to three JICA supported projects which are being implemented by the Ministry of Water Development and Irrigation). This effort is appreciated and should be continued to ensure financial resources for capacity building, especially strengthening the practical skills of irrigation engineers/officers, extension officers, and farmers.

4) Technical sustainability

The aim at improving the capacity of irrigation engineers/officers and extension officers is going to be accomplished at a very satisfactory level. It is highly assessed their capacity for an initial stage of the practical ability improvement. However, because of the project period (three years), irrigation engineers/officers and extension officers, who were involved in the activities in the pilot irrigation schemes, were able to practice their knowledge and skills at one or two cycles of development/rehabilitation of irrigation schemes from scheme preparation to O&M of schemes. Therefore, there are officers who have acquired good practical knowledge and skills on specific technical subjects and can instruct/train other officers properly, on the other hand, there are officers who have enhanced their capacity but its degree of capacity on specific technical subjects is not high enough. Therefore, there is room for further capacity building of officers.

3. Factors that promoted realization of effects

3-1. Regarding project plan: None

3-2. Regarding implementation process

There are three promoting factors such as 1) positive involvement of Malawian counterparts and good communication among the project team members (the Malawian counterparts and the Japanese experts), 2) positive participation of the farmers of the pilot irrigation schemes, and 3) appropriate process in developing manuals and guidelines.

4. Factors that impeded realization of effects

4-1. Regarding project plan: None

4-2. Regarding implementation process

Although it was assumed that construction of irrigation facilities at the pilot irrigation schemes should be completed within a dry season, construction works are still on going at 2 pilot irrigation schemes due to difficulty of brick making by farmers, which are used as materials of irrigation canals (this is situation at the terminal evaluation and construction works will be completed by the end of the project term). Therefore, it was necessary to instruct farmers groups on operation and maintenance of irrigation facilities, water management and irrigated agriculture. Instruction on water management in dry season (water availability is limited compared to rainy season, therefore, more appropriate water management is required) can't be done within the project period.

5. Conclusion

It is expected that enhancement of capabilities of irrigation engineers/officers, extension officers and farmer groups will be achieved by the end of the Project through "Direct management construction system", "Farmer's self-help participation" and "Involving irrigation and extension officers in all process" etc. It is concluded that the Project will be terminated in May 2014 as planned.

6. Recommendations

6-1. Things to be implemented by the end of the Project

Implementing process and experiences of MIDP approach should be consolidated in order to apply MIDP approach to other sites and to implement systematic trainings. The implementation process and experiences

at three pilot sites should firstly be compiled.

6-2. Things to be implemented after the Project

(1) Application of MIDP approach

At the mid-term review conducted in November 2012, it was recommended that the process of MIDP approach be clarified. Based on the recommendation, the Project made a brochure for “MIDP Approach for Medium Scale Irrigation Development in Malawi”, and used it as material of public relations.

MIDP approach, which has elements of “Direct management construction system”, “Farmer’s self-help participation” and “Involving irrigation and extension officers in all process” etc., is an effective approach for practical capacity development of irrigation engineers/officers, extension officers and farmer groups. This approach has advantages such as; lower construction cost compares with ordinary contract-out construction, sustainable operation and maintenance by farmer themselves after construction. The government of Malawi appreciates those advantages highly and irrigation engineers/officers and extension officers participated in the Project applied MIDP approach to other projects.

The Team recommends that the government of Malawi should apply MIDP approach to appropriate size of irrigation projects.

(2) Extension of MIDP approach

The Project plans to share MIDP approach with irrigation engineers/officers and extension officers in the country at the national workshop to be held before termination of the Project.

The Team confirmed that the government of Malawi is considering extension of MIDP approach to other districts after the Project completion. In order to do that, the Team recommends that necessary trainings should be implemented continuously and irrigation engineers/officers, extension officers and farmers groups should acquire practical techniques through visit the Project pilot sites and implementation of small and medium scale irrigation projects.

It is necessary that the government of Malawi should establish long-term plan for necessary number of irrigation engineers/officers and extension officers, contents and level of required technologies in order to conduct systematic trainings.

(3) Utilization of DoI’s M&E system of irrigation schemes

The Project so far developed DoI’s M&E system and its guideline, and implemented training for use of the system targeting irrigation engineers/officers and extension officers in two ISDs/ADDs and eleven districts. Since indicators of database are large in number and complicated, and also the number of government staff is limited, the Team recommends that necessary indicators and frequency of data update should be improved based on size of schemes through continuous trial operation of M&E database.

(4) Collaboration with development partners

The Project already has good cooperative relationships with other projects supported by several development partners. The government of Malawi should have continuous collaboration with development partners to apply MIDP approach to new projects for which detail plan are to be made in the second half of 2014 funded by World Bank and European Union in agriculture and irrigation sector.

Particularly in M&E sector, the government of Malawi should continue collaboration with AfDB and M&E system should be used when new irrigation development projects are implemented with support of other development partners.

(5) Budget and human resources

The government of Malawi should make possible effort to secure necessary budget and human resources for implementing above recommendations.

7. Lessons Learned

(1) Collaboration of different ministries official

MIDP approach has some effective elements. Particularly collaboration between irrigation engineers/officers and extension officers were effective for smooth implementation of small irrigation development. This collaborative work of government officers of different ministries will be useful to other similar projects in the future.

(2) Involvement of beneficiaries

The benefit of participation of farmers at all stages was verified through the Project. Now, farmers have confidence of project management by themselves in the pilot sites. Good farmer organization and hardworking spirit are vital for successful irrigation development. And this brings in sense of ownership.

(3) Participation of local leaderships

Strong and active participation of local leaderships in irrigation development plays vital role in smooth implementation of the Project. Therefore, the same process should be applied to other similar projects.