

Evaluation Result Summary

1. Outline of the Project		
Country: The Federal Democratic Republic of Ethiopia		Project Title: The Project for Irrigation Farming Improvement
Issue/Sector: Agriculture		Cooperation Scheme: Technical Cooperation Project
Division in Charge: Arid and Semi-Arid Farming Area Division I, Rural Development Department, JICA		Total Costs (at the moment of the evaluation): 317 million Japanese Yen (Estimate amount as of the end of the project period)
Period of Cooperation	(R/D) : From September 27, 2005 to September 26, 2009	Partner Country's Implementing Organization: Oromia Regional State Water Resources Bureau (Former Oromia Irrigation Development Authority)
		Supporting Organization in Japan: Ministry of Agriculture, Forestry and Fisheries
<p>1-1 Background of Project</p> <p>In the Federal Democratic Republic of Ethiopia (hereinafter referred to as "Ethiopia"), agriculture is a remarkably significant sector for its economy and industry, employing 85% of the working population and accounting for approximately 50% of the national GDP. The "Sustainable Development and Poverty Reduction Program" (SDPRP), which was established in September 2002, also highlights promotion of the "Agriculture Development-Led Industrialization" (ADLI). Meanwhile, the country has been suffering from a serious food crisis caused by droughts since late 2002, which has largely affected its economy and industry. The government of Ethiopia, in addressing the food security challenges as its top priority task, launched measures to increase the agricultural productivity and crop diversification. However, limitations in human resources and capacities in the country have inhibited the implementation of such measures.</p> <p>Under such circumstances, Japan International Cooperation Agency (JICA) conducted the "Study on Meki Irrigation and Rural Development" (September 2000-January 2002) and formulated a master plan for agricultural and rural development, focusing on irrigation development in the Meki area of the Oromia Region. JICA also conducted two basic studies on agricultural development in March and August 2002, whose conclusion proposed cooperation projects to respond to development needs in areas of (1) research and dissemination system in the agricultural sector and (2) small-scale irrigation systems.</p> <p>Following this background, as its cooperation in the latter, JICA conducted the "Study on Capacity Building Programs for Community-based Irrigation Development in Central Oromia Region" from April 2003 to October 2004 in order to prove the feasibility of a project formulated in the course of the above-mentioned studies. This pilot intervention confirmed that participatory planning, construction / rehabilitation work, human resource development and organisation of water users associations (WUAs) would effectively work in the local environment. Based on these results, the government of Ethiopia, concluding that the development of small-scale irrigation for wider coverage and its promotion would largely contribute to increase agricultural productivity in rural areas and mitigate the food security problems, requested the government of Japan for the proposed technical cooperation project and appointed the Oromia Water Resources Bureau (OWRM), whose former body was the Oromia Irrigation</p>		

Development Authority(OIDA). Subsequently, the

“Project for Irrigation Farming Improvement” was started in September 2005.

This project aims to improve water utilization technologies and techniques among farmers in the target area through standardizing rehabilitation methods for existing gravity force irrigation systems, improving management of small scale irrigation scheme, standardizing water harvesting technology (WHT) and improving irrigated farming technology, and its planned implementation period is for 3 years starting from September 2005, having OIDA as JICA project team’s counterpart. Currently three Japanese experts (chief advisor/irrigation engineering, coordinator/farmers’ organisation, design/construction management) are assigned to the project site.

1-2 Project Overview

(1) Purpose of the Cooperation

This project aims to improve water utilization technologies and techniques among farmers in the target area through standardizing rehabilitation methods for existing gravity force irrigation systems, improving management of small scale irrigation scheme, standardizing WHT and improving irrigated farming technology.

(2) Overall Goal

The agricultural productivity in the project target area is increased.

(3) Project Purpose

Water utilization technologies and techniques among farmers in the project target area are improved.

(4) Output

- 1) Rehabilitation methods for existing gravity force irrigation systems are standardized.
- 2) Management of small scale irrigation scheme is improved.
- 3) WHT is standardized.
- 4) Irrigated farming technology is improved.

(5) Input (as of the moment of the terminal evaluation)

<Japanese site> Total Cost of Input: 317 million Japanese Yen (as of the moment of the evaluation)

Long-term Experts: 4 experts in total (a team of three persons)

Short-term Experts: 17 experts (54.8 man-months)

Overseas Training: 12 trainees in Japan (50 man-months)

Equipment: 8.212 million Japanese Yen

Local Cost: 38.353 million Japanese Yen

<Ethiopian site>

Counterparts: 39 persons in total

Project office

2. Evaluation Mission			
Members	Assigned Roles	Name	Organisation/Position
	Leader/ Rural Development	Ryuzo NISHIMAKI	Rural Development Department, JICA / Agricultural Advisor
	Irrigation Planning	Hiroaki KUNIHURO	Overseas Land Improvement Cooperation Office, Design Division, Rural Development Bureau , Ministry of Agriculture, Forestry and Fisheries
	Irrigation Farming Technologies	Satoru TAHASHI	Tokyo University of Agriculture/ Professor
	Evaluation/ Analysis	Jun KAKINUMA	Earth and Human Corporation/ Researcher
	Planning/ Administration	Seisaburo ASANO	Arid and Semi-Arid Farming Area Division I/ Programme Officer
Period of Evaluation	From June 25 to July 8, 2008 (For the member in charge of evaluation/ analysis, from June 15 to July 8)		Type of Evaluation: Terminal Evaluation
3. Summary of the Evaluation Results			
3-1 Assessment of Achievements (status measured by indicators)			
3-1-1 Achievements by Intended Output			
1) Output 1: Rehabilitation methods for existing gravity force irrigation systems are standardized. Output 1 is considered to be achieved satisfactorily by the end of cooperation period.			
a) The construction of rehabilitation in the two target areas was completed and the management of the irrigation system has been handed over to the corresponding WUAs.			
b) A draft version of guidelines for the rehabilitation methods has already been prepared and its final version will be completed by the end of this cooperation.			
c) In Katar area, the construction of rehabilitation work for the irrigation, covering in total of 430ha, was conducted to benefit 1,074 households. In Arata Chufa area, the construction of rehabilitation work for the irrigation, covering in total of 92.7ha, was conducted to benefit 322 households.			
2) Output 2: Management of small scale irrigation scheme is improved. Output 2 is considered to be achieved satisfactorily by the end of cooperation period.			
a) A draft of guidelines has already been prepared based on the experiences and analysis of activities in the pilot areas.			
b) Editing of a revised version of the guidelines will be completed by the end of the project period.			
c) The contents of the guidelines are applied to improve the management of small-scale irrigation scheme.			
3) Output 3: WHT is standardized. Output 3 is considered to be achieved satisfactorily by the end of cooperation period.			
a) 27 farming households were selected as model farms (MF). Then the feasibility of diffusing WHT			

was examined based on a study on the MF's perception about the technical assistance and interest generated among surrounding farms.

- b) In response to a suggestion provided by the project management monitoring mission, a series of activities concerning the spate irrigation were incorporated into the project activities. Due to this change, a fact-finding field study and problem analysis were conducted before the present evaluation.
- c) By the end of the cooperation period, while continuing extension activities, the project will complete publication of its WHT guidelines, technical manual and training material for farmers.

4) Irrigation farming technology is improved.

Output 4 has already been achieved satisfactorily.

- a) As main subjects for improvement, the project identified water-saving farming techniques and the crop calendar. A leaflet which describes the necessary amount of water by each crop (depending on different stages of its development) and a crop calendar for major crops were produced. These materials are used in training sessions.
- b) It is confirmed that the project will continue working on provision of training, improvement of training materials and promotion of the knowledge and understanding among stakeholders.

3-1-2 Project Purpose

<Project Purpose>

Water utilization technologies and techniques among farmers in the project target area are improved.

The project purpose is considered to be achieved for the most part by the end of cooperation period. The achievement status and its future prospect are as follows:

- 1) Indicator 1: The guidelines are authorized by OWRB.
The guidelines (an English version and an Oromo language version) are estimated to be authorized before the termination of the project in September 2008. QWRB and JICA will organise a workshop for their users on the specific contents of those materials.
- 2) Indicator 2: The OWRB staff members understand the guidelines (those of OWRB headquarters, branches of East Shewa and Arsi (the central branch of the former OIDA belongs to this zone) and 6 district branches under these two zone branches).
The guidelines are known to and well understood not only by the project counterparts but also by senior officials.
- 3) Indicator 3: The guidelines were applied to other projects implemented by OWRB (apart from April 2008).
The OWRB officials have applied the guidelines to other OWRB projects. A NGO which provides similar technical assistance as the project made a favourable comment on the quality of the guidelines.

3-2 Results of the Evaluation

(1) Relevance: High.

As both Ethiopia's national development policies and Japan's ODA policies related to the assistance to the agricultural sector of Ethiopia have not changed since the start of the project, the relevance of this cooperation has been maintained at a high level.

1) Coherence with the Ethiopian government's policies

The sector of agriculture accounts for 50% of total GDP and 90% of export value of Ethiopia and supplies 70% of materials for domestic production. The concept and strategies of ADLI which started in 1994 were taken over by SDPRP and the Plan for Accelerated and Sustained Development to End Poverty (PASDEP) later on. The irrigation development is also coherent with the PASDEP and Ethiopia's endeavour to achieve its Millennium Development Goals "poverty reduction, food security and sustainable development".

2) Coherence with the Japanese government's ODA policies

Japanese cooperation for Ethiopia has maintained an emphasis on the establishment of food security. This project forms a part of JICA's assistance programme for "improvement of agricultural productivity" where "improvement of irrigation-related technologies" is stated as one of its specific measures.

3) Coherence with the beneficiaries' (target group's) needs

The improvement of irrigated farming technologies is a crucial component not only for enhanced agricultural productivity among farmers but also for the establishment of food security in the country on a long-term basis, and therefore the project corresponds to the needs of its beneficiaries, such as farmers and the implementing organisation.

4) Implementing organisation

According to the "Strategic Planning and Management" (2006/07-2011/12), the mid-term plan of OIDA, its mission is to reserve water resources for agricultural production by means of the irrigation development and to provide reliable services to diffuse new technologies for improvement of the farmers' livelihood in order to achieve their food self-sufficiency and production of surplus crops for the market. The present project's overall goal is to enhance the agricultural productivity, which is coherent with the mission and strategy of OIDA which is its implementing organisation.

(2) Effectiveness: High.

The major part of activities has been conducted as planned and produced output to contribute to the achievement of the project purpose.

At the beginning, the advancement of the project implementation was inhibited to a certain extent due to frequent organizational reforms and relocation of counterpart officials. However, with an additional input of a long-term expert and also continual sending of short-term experts, the project purpose is considered to be achieved for the most part. Specifically, the final copy of guidelines (English version) which have been prepared based on products of the project will be completed and will be translated into Oromo language, and then obtain OWRB's authorization by the end of August 2008. After the authorization by OWRB, they will be diffused among OWRB officials to ensure their

understanding through workshops where the printed copies of the final version will be distributed.

(3) Efficiency: The project purpose will be achieved for the major part, despite the personnel relocation in the Ethiopian counterpart organisation and delays in provision of Japan's input.

1) Input Efficiency

Input from both countries has contributed to achieve the output of the project and, generally, are considered as appropriate in terms of their quantity, quality and timing. However, the relocation of OWRB (former OIDA) personnel and problems in assignment of short-term Japanese experts which did not follow the plan caused certain delays in progress of the project.

2) Input/Activity Efficiency

At the first stage of the project, its capacity was not sufficient to handle the wide range of its activities since only two long-term experts had been assigned to cover the four project output. This problem was solved later, as the assignment of an additional long-term expert (design/construction management) was approved thanks to the project management monitoring mission.

Since then, the activities for planning of irrigation rehabilitation work, promotion of irrigated farming and training have been conducted efficiently and appropriately to contribute to the project outputs.

3) Coordination and collaboration with other projects and organisations

The project team jointly organised training for Development Agents (DAs), or extension workers, with other on-going projects assisted by JICA. Meanwhile, equipment (small pumps) which Japan had donated when the "Study on Capacity Building Programs for Community-based Irrigation Development in Central Oromia Region" in Meki and Katar areas have been fairly maintained and the impact of this pilot intervention, such as organisation of Water Users Associations (WUAs)/Water Users Committees (WUCs), guidelines and rehabilitation systems, have remained in the communities. This also contributed to the efficiency of the present project.

(4) Impact: Various positive impacts as well as a few specific, adverse impacts were identified.

Various positive impacts as well as a few specific, potentially adverse impacts of the project are as follows:

1) Achievement of the Overall Goal

The level of overall goal achievement of the project cannot be measured at the moment, due to difficulties in collecting comprehensive data on production volume, productivity and number of farmers who newly started irrigated farming in the surrounding areas. However, according to a survey result, the frequency of harvest among farmers in the project target areas has increased to twice or three times per year, including dry seasons.

Furthermore, the following positive impacts related to the overall goal are observed:

- ① The livelihood of farmers in the project target areas has been improved.
- ② The workload of farmers in the project target areas has been reduced. Meanwhile, now they are able to offer an opportunity of employment to people from other areas during the busy farming season.

③ In the project areas where a small-scale pump irrigation system was introduced, some farmers purchased an additional pump with their own resources in order to extend the irrigated fields.

2) Ripple Effect on Food Security and among Neighbouring Farms

Thanks to the irrigated farming, some farmers in the project target areas have enough harvest for their food self-sufficiency. On the other hand, despite the reduced precipitation during the short rainy season of 2008, the production volume of principle crops has been maintained as normal. Farmers in the neighbouring areas of the project site visit the beneficiary farm fields to learn about the new technologies.

3) Potential Negative Impacts

In lower parts of the project areas, there are farmers facing a problem of water shortage, which may lead to a conflict among WUC/WUAs. In Meki, the adoption of small-scale irrigation spread rapidly and as a result, there are around 1,300 pumps installed in the surrounding area of Lake Ziway. Without an appropriate control measure by law, it may cause an adverse decline in the groundwater level in the future.

(5) Sustainability: The sustainability of the project impacts is considered to be ensured depending on the developments of the following specific conditions:

1) Financial Aspect

Given that the regional state government of Oromia has been promoting the introduction of modern irrigation system for wider population, it is expected that the Promia Disaster Prevention, Preparation and Food Security Committee (ODPPFSCC) assign a budget for the project-related activities on a regular basis.

2) Organisational Aspect

The Business Process Re-engineering, which forms a part of the public reform, is at its final stage and the actual structure of OWRB seems to be maintained.

3) Technical Aspect

The capacity level of the OWRB headquarters personnel for technical assistance and administration is sufficiently high to conduct the improvement of irrigation systems and continue provision of assistance.

The zone branches of OWRB are expected to continue their administrative services and assistance to WUCs/WUAs and farmers. However, given that the administrative services and assistance in the agricultural sector will be transferred to the responsibility of the Agriculture and Rural Development Bureau after the reform of the regional state governments, it will be necessary to establish close coordination with the woreda offices of agriculture and rural development and those in charge of the water resources management in order to ensure the sustainability of the positive impacts in the project target areas.

3-3 Factors Contributing to Positive Impacts

(1) Planning of training and meetings has been conducted based on solid coordination among OWRB

officials, woreda officials, DAs, WUCs/WUAs, farmers and JICA. This was a positive factor for the achievement of the project purpose.

- (2) Pedal-powered pumps, equipment for a drip irrigation system and plastic sheets provided by OWRB and JICA served as incentive for farmers to introduce WHT.

3-4 Obstructive Factors

- (1) Relocation of OWRB officials, their change of job, the restructuring of OWRB and lack of counterpart member with a permanent contract have been obstructive factors for the achievement of the project purpose.
- (2) Problems regarding assignment of short-term experts which did not follow the plan also affected the advancement of the project implementation.

3-5 Conclusion

- (1) The present project is relevant to the policies of the government of Ethiopia, beneficiaries' needs and the ODA policies of the government of Japan.
- (2) The project purpose and its output are considered to be achieved by the end of cooperation period. Positive impacts are observed as a result of the project activities. Meanwhile, their sustainability hinges on the financial, organisational and technical conditions on the part of the regional state government of Oromia (OWRB and related actors).
- (3) Given the above-mentioned achievement status, this project will be terminated on September 26, 2008.

3-6 Recommendations

- (1) Short-term Actions (during the project implementation period)

- 1) Guidelines

The three guidelines (gravity force irrigation, small-scale pump irrigation and WHT) should be completed, authorised and published by the end of August. Additionally, a workshop and meetings should be organised in order to ensure good understanding of those guidelines among the OWRB officials.

- 2) Gravity Force Irrigation

Once editing of the final version of the guidelines is completed, the training manual for rehabilitation work of the force irrigation system should be revised. Monitoring and evaluation of this activity also should be conducted by the end of project period.

- 3) Small-Scale Pump Irrigation

After completing the final version of the guidelines, its copies should be distributed to the users, namely, woreda technicians, DAs and other relevant actors, while also organising workshops to promote solid understanding of the material among them.

4) WHT

While working to complete the final version of the guidelines, repair work should be arranged as some of WHT facilities in the project target areas are damaged. Monitoring on the impact of WHT should be continued and, as regards the spate irrigation, further problem analysis will be needed.

5) Irrigated Farming Technologies and techniques

The project team needs to conduct an experiment in water-saving techniques (water volume requirement for complementary irrigation), for which OWRB should appoint an official to be in charge of it.

(2) Mid-term and Long-term Actions (after the termination of the project)

1) Adoption and Distribution of the Guidelines

OWRB, as the implementing body of the project, should be committed to adopt the guidelines and to distribute them to all the relevant actors (its zone branches, woredas, DAs, WUCs/WUAs and farmers).

2) OWRB's Organisational and Financial Commitment for Sustainability

For the sustainability and reinforcement of OWRB's activities to improve irrigation system facilities, it is indispensable to ensure allocation of its budget and human resources for irrigation development on a regular basis.

3) Maintenance in the Project Target Areas

After the termination of the project, it is desirable that the assistance for maintenance and repairs of the irrigation facilities in the project target areas is covered with funds of WUCs/WUAs.

4) Construction of Collaborative Relationship with the Oromia Agriculture and Rural Development Bureau

In order to diffuse appropriate technical knowledge, the water resources offices at zone and woreda level are advised to maintain close communication to exchange information with DAs, as they are in charge of conducting training on water management for farmers, and provide feedback on training conducted by OWRB. Meanwhile, for the sustainability of the project impacts, OWRB should program and conduct training, especially those on irrigated farming technologies and techniques, in coordination with the Agriculture and Rural Development Bureau. In the meantime, publicity activities to promote water harvesting (including information about sales of equipment for it) need to be organized in collaboration with the Agriculture and Rural Development Bureau.

5) Environmental Considerations

a) In order to reserve water resources and prevent conflicts over water distribution, the regional state government of Oromia needs to conduct a study as a basis for establishment of its water management master plan. Legal measures to control water distribution also should be established at each zone and woreda level.

b) To preserve water quality, it is necessary to eliminate sediment upon discharging water.

3-7 Lessons Learned

- (1) In order to promote project activities, the implementing organisation should appoint a counterpart with a permanent contract.
- (2) It should be ensured that the new project utilize the results of this project, including its impacts.