Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Tanzania Office: April, 2020

Country Name	**Formulation and Training of the Guideline of the DADP Guidelines on Irrigation Scheme Development**
United Republic of Tanzania	

I. Project Outline

Background	In Tanzania, districts became responsible for implementing small-scale irrigation development projects such as water harvesting and rehabilitation of existing irrigation facilities, based on the "District Agricultural Development Plan (DADP)" formulated for each district, in accordance with the "Agricultural Sector Development Program (ASDP)" established in 2002. However, the experience and capacity of district irrigation technicians were not sufficient, and guidelines on irrigation projects in general, which were able to be referred to by district irrigation technicians, had not been developed, so it was difficult for districts to plan and implement irrigation projects efficiently.		
Objectives of the Project	Through 1) developing guidelines for irrigation scheme development and operation and maintenance (O&M), and 2) strengthening technical support system, the project aimed at enhancing capacity of district and zonal irrigation technicians thereby contributing to improvement and promotion of irrigation scheme development under DADPs.		
	1. Overall Goal: Irrigation scheme development under DADPs is improved and promoted. 2. Project Purpose: Capacities of the target Districts and Zonal Irrigation Technical Service Units for planning, implementation and O&M of irrigation schemes are enhanced.		
Activities of the project	1. Project site: Morogoro, Kilimanjaro, Mbeya and Mtwara irrigation zones 2. Main activities: 1) development of guidelines for irrigation development and O&M, 2) strengthening of technical support system 3. Inputs (to carry out above activities) Japanese Side 1) Experts: 16 persons 2) Trainees received: 5 persons 3) Equipment: vehicles, motorcycles, office equipment, surveying equipment including GPS and others 4) Local Operational Cost: general expenses and others		Tanzanian Side 1) Staff allocated: 21 persons 2) Facilities: Offices 3) Local Operational Cost: workshop expenses
Project Period	February 2007 –January 2010	Project Cost	(ex-ante) 340 million yen, (actual) 298 million yen
Implementing Agency	Ministry of Water and Irrigation (MoWI), Division of Irrigation Technical Services (DITS), Zonal Irrigation and Technical Service Unit (ZITSU, later reorganized to Zonal Irrigation Office (ZIO), and again restructured to the Regional Irrigation Office (RIO) in 2019.) Note: Irrigation commission has been shifted from MoWI to Ministry of Agriculture (MoA) after the project completion.		
Cooperation Agency in Japan	—		

II. Result of the Evaluation

1 Relevance

<Consistency with the Development Policy of Tanzania at the Time of Ex-Ante Evaluation and Project Completion>

The project was consistent with the development policies of Tanzania. At the time of ex-ante evaluation, the “National Strategy for Growth and Reduction of Poverty (NSGRP)” (2005) prioritized agriculture sector development for poverty reduction and economic growth. The "Agricultural Sector Development Strategy (ASDS)", a strategy aiming at revitalizing the country's agriculture, was formulated in 2001. Based on this, in 2002, in order to realize the ASDS goal of "raising farmers' income through creating an environment that improved agricultural productivity and profitability", the "Agricultural Sector Development Program (ASDP) " was formulated, and it was also decided to allocate the development budget in the agricultural field to the" district agricultural development plan (DADP) "through the ASDP basket fund. At the time of project completion, irrigation development was one of the priority areas within the agriculture sector including the National Irrigation Policy (NIP), which was in a final stage of approval.

<Consistency with the Development Needs of Tanzania at the Time of Ex-Ante Evaluation and Project Completion >

The project was consistent with the development needs of Tanzania for irrigation development. At the time of ex-ante evaluation, agriculture was a key industry in Tanzania with about 50% of GDP and about 75% of total exports, and about 80% or more of the domestic working population engaged, but most relied on rainwater. The agricultural production was greatly influenced by the fluctuation of natural conditions such as drought. At the time of project completion, in Tanzania, rain-fed agriculture was mostly common method, making farmers vulnerable to irregular as well as unstable rainfalls. The irrigation development was a fundamental activity in order to improve amount of harvest, thereby stabilizing agricultural production as well as improving food securities.

<Consistency with Japan’s ODA Policy at the Time of Ex-Ante Evaluation>

The project was consistent with Japan’s ODA policy to Tanzania. Agriculture including small-scale irrigation is one of the priority areas under the “Country Assistance Program for the United Republic of Tanzania” (2000).

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Status of Achievement of the Project Purpose at the time of Project Completion>

The Project Purpose was partially achieved. Although "More than 80 % of the target groups use the guidelines to improve irrigation development." (Indicator 1) was partially achieved having low level of utilization of implementation and O&M guidelines (G/Ls)., "At least two persons per each zone are qualified as trainers of the guidelines." (Indicator 2) was achieved.

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

The effects of the project have "partially continued" after the project was completed. Staff for both at zonal and districts office have used the guidelines for irrigation development and improvement. The G/Ls were upgraded to Comprehensive Guidelines (CGL) in the succeeding projects, and have been updated and revised so as to meet the practical needs on the ground. However, according to district staff, it has not been easy to follow all steps of CGL for donor funded irrigation schemes because each donor has its own way to implement and operate projects. What they did is to select and to choose particular steps in CGL in order to save time and money and omit the rest of steps of CGL. Also, under the chronical shortage of budget in the current government situation, it has been difficult to have full scale government contribution to donor funded irrigation schemes, which had limited full utilization of CGL.

The trainees have been acting as trainers in each district and the training and workshops have been conducted for promoting use of CGL.

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

The Overall Goal has been partially achieved by the time of ex-post evaluation. Irrigation development has improved and promoted under DADPs. During 2010 to 2018, 336 schemes have been improved and developed under the District Irrigation Development Fund (DIDF) and by other resource funds including Small Scale Irrigation Development Project (SSIDP: Yen Loan). Approximately 144 thousand ha in total have been developed during the same period. The promotion of irrigation development under DADPs have been depending on the availability of the basket fund; DIDF as well as the other Develop Partners' funds. The availability of those funds became slim in around 2016 onwards unfortunately. Therefore, without fund source, the number of physical irrigation scheme development got small since 2016.

<Other Impacts at the time of Ex-post Evaluation>

There have been some positive impacts from the gender perspective. In schemes which were involved in the project, the number of the women participated in the leadership/management in Irrigators Organization (IO) committees of the scheme has been higher than the ones which have not been trained under the project. Involving women in the leadership in IO was emphasized by the project. G/Ls promotes that the IO constitution must require at least 1/3 of IO management board to be filled by women. Not only the management, but also project encouraged the women's participation in the Operation and Maintenance of irrigation schemes by IO. During the field visit, it was found that due to gender subject matter have been much more aware after the project than before, men and women have shared workload. For example, women participation in leadership management and decision making for Mkindo IO have improved: (i) 33% of management committee members are women. (ii) Average women participation in General Assembly meeting where all important IO decision are made or approved is 49%. (iii) All IO subcommittees have at least one woman. (iv) Regarding farming activities, 65% of the duties are done by women.

It was found that during the field visits, positive impacts such as IOs' initiatives for construction of new canals and access roads, excavation of tertiary canals, collection of water tariff to be used for the O&M and administration, purchasing motor pumps, building milling machine houses, and rehabilitating the facilities. Efficiency in water distribution, reduction in conflict on water use, increases in production and others were also reported.

Since the trainings had positive impacts to the IO's and farmers at Morogoro-Mvomero District C council, Local Government Authority managed to conduct trainings for transferring the knowledge to other places which were not targeted by the project such as Dakawa, Wami Ruhindo, Kigugu and Mbogo Komtonga. As fund for complete training of CGL is not enough, Local Government Authority put more emphasis to train irrigators in listed above scheme for formulation and O&M part of guideline. According to Irrigation Engineer more importance is put to formulation because it is important for irrigators to get proper foundation of their schemes then it will be easy to make them understand the procedures such as operations and maintenance.

No negative impact on the natural environment by this project has been observed and there was no land acquisition and resettlement.

<Evaluation Result>

Therefore, the effectiveness/impact of the project is fair.

Achievement of Project Purpose and Overall Goal

<table>
<tr><th>Aim</th><th>Indicators</th><th>Results</th></tr>
<tr><td>(Project Purpose)
Capacities of the target Districts and Zonal Irrigation Offices for planning, implementation and O&M of irrigation schemes are enhanced.
.</td><td>Indicator 1: More than 80 % of the target groups use the guidelines to improve irrigation development.</td><td>Status of the Achievement: Partially achieved (Partially continued)
(Project Completion)
The formulation G/L had been utilized for all of the proposals for the irrigation development schemes for DIDF. On the other hand, the implementation and O&M G/Ls were not widely circulated yet; therefore there were limited applications of the G/Ls especially with regard to the O&M scheme.
(Ex-post evaluation)
Number of staff who has utilized the G/Ls
<table>
<tr><th>ZIO/
District technicians</th><th>Formulation G/L</th><th>Implementation G/L</th><th>O&M G/L</th></tr>
<tr><td>1.1Morogoro ZIO</td><td>9/22</td><td>6/13</td><td>6/7</td></tr>
<tr><td>1.2 District technicians under Morogoro ZIO</td><td>4</td><td>6</td><td>9</td></tr>
<tr><td>2.1 Kilimanjaro ZIO</td><td>14/14</td><td>14/14</td><td>14/14</td></tr>
<tr><td>2.2. District technicians under Kilimanjaro ZIO</td><td>61/61</td><td>61/61</td><td>61/61</td></tr>
<tr><td>3.1 Mbeya ZIO</td><td>2/19</td><td>15/19</td><td>6/8</td></tr>
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3.2 District technicians under Mbeya ZIO	0	11	38
4.1 Mtwara ZIO	17/17	17/17	17/17
4.2 District technicians under Mtwara ZIO	92/92	92/92	92/92

Indicator 2: At least two persons per each zone are qualified as trainers of the guidelines.

Status of the Achievement: Achieved (Continued)
(Project Completion)
The irrigation staff at both zonal and district levels from 4 target zones participated workshops/trainings on all the stages of the G/Ls (i.e. from formulation to O&M), hence it is expected that they would be able to utilize them in their respective irrigation development schemes once the G/Ls are finalized and circulated in each district.
There are 4 irrigation staff at Morogoro ZIO and 5 irrigation staff at Kilimanjaro ZIO who had undertaken training courses to district irrigation staff as trainers of the G/Ls. As for Mbeya and Mtwara irrigation zones there were two irrigation.
They have practically had an ability as a trainer and played the role.
(Ex-post evaluation)

1.Number of trainers

ZITSU	Number of trainers
Morogoro ZIO	4
Kilimanjaro ZIO	6
Mbeya ZIO	3
Mtwara ZIO	8

2.Number of training courses conducted

Number of training courses / ZIO	2016	2017	2018
Morogoro ZIO	0	8	8 in 4 LGA,s
Kilimanjaro ZIO	1	9	9
Mbeya ZIO	2	3	3
Mtwara ZIO	5	4	9

(Overall Goal)
Irrigation scheme development under DADPs is improved and promoted.

Indicator 1:
Irrigation areas are expanded at least 10,000 ha per year in line with the Comprehensive G/L.

Status of Achievement: Partially achieved
(Ex-post evaluation)

1. Number of irrigation schemes accepted under District Irrigation Development Fund (DIDF)

	2010	2011	2012	2013	2014	2015	2016	2017	2018
Morogoro ZIO	5	7	7	3	-	-	9	-	-
Kilimanjaro ZIO	14	18	8	7	9	9	11	11	4
Mbeya ZIO	25	24	1	0	0	0	0	0	0
Mtwara ZIO	1	5	4	2	12	0	7	0	3
Tabora ZIO	10	7	5	0	5	0	5	0	1
Mwanza ZIO	5	5	5	27	9	3	-	5	-
Katavi* ZIO	2	2	-	-	-	-	4	6	1
Central ZIO	-	-	-	-	-	-	-	-	-
Total	62	68	30	39	35	12	36	22	9

The number "0" is no project in the particular year, and "-" means no information available.
*Katavi Zone was established in 2017. The projects under Katavi Zone till 2016 were constructed in the current Katavi Zone area. However, actual supervision was under Tabora Zone before Katavi's separation in 2017.

2.The number of irrigation schemes which implemented trainings according to the G/Ls under District Agriculture Development Grant (DADG) NIDF (National Irrigation Development Fund), FACF (Food and Agricultural Counterpart Fund), Project For Capacity Development For The Promotion of Irrigation Scheme Development under the District Agricultural Development Plans Phase 2 (TANCAID2) (succeeding project of the project for formulation and training of the guideline of the DADP guidelines on irrigation scheme

development)

	2010	2011	2012	2013	2014	2015	2016	2017	2018
Morogoro ZIO	5	7	7	3	-	-	9	-	-
Kilimanjaro ZIO	5	5	3	3	4	11	11	3	3
Mbeya ZIO	37	27	2	-	10	13	3	15	3
Mtwara ZIO	0	0	0	3	1	1	0	0	0
Tabora ZIO	2	2	33	3	1	1	-	-	-
Mwanza ZIO	3	5	12	5	5	2	2	8	8
Katavi ZIO	2	2	-	-	-	-	4	6	1
Central ZIO	-	-	-	-	-	6	2	-	-
Total	54	48	57	17	21	34	31	32	15

3.Accumulated Irrigated Area (thousand ha)

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018
Irrigated area	331	345	354	363	450	461	461	468	475

Source：JICA documents, questionnaires and interviews with National Irrigation Commission (NIRC), and zonal irrigation offices

3 Efficiency

Both the project cost and project period were within the plan (the ratio against the plan: 88%, 100%). The outputs were produced as planned. Therefore, the efficiency of the project is high.

4 Sustainability

<Policy Aspect>

CGL has been authorized as reference for the irrigation development and has been stipulated in the policies including the "National irrigation Policy 2010", the "Revised National Irrigation Master Plan, 2018", "ASDP II" and others as well as the "National Irrigation Act no.4 2013". This is the strong support for maintaining the project achievement.

<Institutional Aspect>

Operational structures for promoting small scale irrigation development at both of DITS under MoA and ZIO level have been appropriate, however, the current number of staff in each section has not been reaching to the required staff allocation. National Irrigation Commission (NIRC) is responsible for coordination, promotion, and regulation of irrigation sector development in the country. Therefore, NIRC's firm foundation as the authority for promoting irrigation development is crucial for the sustainability of the project. However, there have been frequent reshuffles and transfers of staff which weaken the NIRC's operation.

<Technical Aspect>

All the target areas have been provided with technical supports such as issues of quality control, preparation of estimate of materials used for construction. Also On the Job Training (OJT) have been utilized to share the appropriate skills and knowledge. Even though many officers have been trying to utilize knowledge and skills obtained from such technical supports and OJTs, ministry, zones (current Regional Irrigation Engineers), and districts technical skill has been recognized as insufficient. This is because Ministry has difficulty in maintaining skills due to frequent transfer, time lag in having new comers to the sector and retirement of a number of staff who were trained under the project.

<Financial Aspect>

Lack of budget have been making irrigation development slow, and it has affected the quality of irrigation works and caused poor monitoring of irrigations schemes and development in general. Also, it has demoralized irrigation staff and left them with planned activities unimplemented. As future plans, NIRC will establish irrigation development fund which will be receiving as the following. ①part of irrigation service fee collected by farmers (25% of the irrigation service fee collected by IOs), ②from disposition or transfer of the government owned irrigation schemes, ③the recoverable costs to be paid by irrigation schemes for irrigation development, ④from disposable of obsolete plants and equipment, ⑤funds for the certain purpose approved by the parliament ⑥ charge or fees in respect of programmes, publications, documents and other services provided by the commission, ⑦with the approval Minister of Agriculture and the Minister of Finance and Planning responsible for finance by the way of donations, loans, or any other financial assistance from within or outside the country. This will somehow reduce the budget gap which has been experienced for some time. Its operationalization will start this FY 2019/2020.

Budget of DITS for small scale irrigation development

(Unit: TZS)

Year	Source of Fund	
	GoT	Foreign (SSIDP-JICA)
2016/17	2,239,980,000	1,101,177,000
2017/18	1,539,468,128	2,503,524,645
2018/19	0	5,265,653,000

<Evaluation Result>

Some problems have been observed in the institutional, technical and financial aspects, therefore, the sustainability of the effects through project is fair.

5 Summary of the Evaluation

The project partially achieved the Project Purpose at the project completion, and the effects of the project have partially continued, as the guideline developed under the project has been used to some extent. The Overall Goal has been partially achieved, because the number of irrigation scheme development have decreased since 2016, but the total area have expanded. As for the sustainability, some problems have been observed in the institutional, technical and financial aspects, however, no problem has been observed in the policy aspect.

Considering all of the above points, this project is evaluated to be satisfactory.

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

- Ministry of agriculture is recommended to allocate budgets for irrigation development including supporting utilization of CGL, supportive supervision at all levels and to disburse the fund as planned to carry out the intended activities timely.
- In all aspects from formulation, implementation and O&M, all the items of the CGL have to be utilized fully during irrigation development. The ministry of agriculture has to prioritize irrigation schemes to be developed rather than investing into many irrigation schemes partially.
- The ministry of agriculture needs to guide/support the National Irrigation Commission by securing necessary funds and staff which make sure it performs its responsibilities as planned. Frequent reshuffles and transfer weaken them and it becomes unstable and less confidence.

Lessons Learned for JICA:

- After the completion of the project for this project, there were two additional succeeding projects ("Project for Capacity Development for the Promotion of Irrigation Scheme Development under the District Agricultural Development Plans" Phase 1& 2 (TANCAID1) and (TANCAID2)) to follow up the project outputs. The continuous supports and follow up by the authorities encouraged farmers to continue applying what they have learnt from the trainings. Also, the good performance of the farmers who were trained may have contributed to making the officers in charge of irrigation development confident to expand the same trainings to other schemes.
- The positive impact by the training has been observed (Other impacts). Capacity building to Irrigators Organizations and farmers is an important component to the sustainability of irrigation projects. In the visited projects' demo sites for O&M and Formulation and Implementation (F&I), it clearly shows that the knowledge obtained from project activities contributed to the production increase and it is one of the reasons made farmers to be able to contribute to the O&M of their facilities.
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Paddy Plot at Mahande Irrigation scheme: good agronomic practice

Meeting with IO leaders at Mahande Irrigation scheme