

Country Name	Project on the Revision of National Irrigation Master Plan
United Republic of Tanzania	

I. Project Outline

Background	<p>Agriculture in Tanzania was an important sector in the country contributing 28.9% of the national GDP and accounting for nearly 19.5% of the total exports and 65.7% of Tanzanian people engage in agriculture. However, a large part of the sector depends on small-scale rain-fed agriculture and the production was vulnerable to natural conditions such as drought and flood. In Tanzania, irrigation development was regarded as one of the effective means of sustainable agricultural development and poverty alleviation in rural areas.</p> <p>The National Irrigation Master Plan (NIMP) was formulated in 2002 with the support of JICA aiming at effective and sustainable development of irrigation sub-sector. Based on the NIMP, the government of Tanzania was empowering local government for the small-scale irrigation development through Agricultural Sector Development Programme (ASDP) under its decentralized system. Many implementing frameworks and guidelines were already in place such as Environmental and Social Management Framework, Resettlement Policy Framework, and Comprehensive Guidelines for Irrigation Scheme Development (CGL) in cooperation with various Development Partners. Since 2013, the government of Tanzania also launched the Big Results Now initiative and irrigation development was one of the key components. Furthermore, the National Irrigation Act was enacted in 2013 to strengthen the implementing capacity and accelerate the sustainable irrigation development. Meanwhile, the irrigation sub-sector in Tanzania were facing new challenges such as adaptation to the climate change and water competition among the various water users.</p> <p>With this background, JICA conducted the Project based on the official request of the government of Tanzania.</p>										
Objectives of the Project	<p>This project aims to revise the NIMP2002 in view of contributing to poverty reduction and addressing climate change in Tanzania, thereby contributing to the strengthening of sustainable irrigation development by way of capacity enhancement of the National Irrigation Commission (NIRC).</p> <p>Expected Goals through the proposed plan¹: the irrigation development under NIRC is sustainably enhanced.</p>										
Activities of the Project	<p>1. Project site: The mainland of Tanzania</p> <p>2. Main activities: 1) Revision of National Irrigation Master Plan and 2) Establishment of Action Plan</p> <p>3. Inputs (to carry out above activities)</p> <table border="0"> <tr> <td>Japanese Side</td> <td>Tanzania Side</td> </tr> <tr> <td>1) Mission members: 9 persons</td> <td>1) Staff allocated: 5-6 persons from NIRC, 12-13 persons from zone offices</td> </tr> <tr> <td>2) Trainees received: 20 persons</td> <td>2) Land and facility: Office space, machinery, equipment, instruments, vehicles, tools, spare parts</td> </tr> <tr> <td>3) Equipment: GPS etc</td> <td>3) Local expense: Running expenses</td> </tr> </table>			Japanese Side	Tanzania Side	1) Mission members: 9 persons	1) Staff allocated: 5-6 persons from NIRC, 12-13 persons from zone offices	2) Trainees received: 20 persons	2) Land and facility: Office space, machinery, equipment, instruments, vehicles, tools, spare parts	3) Equipment: GPS etc	3) Local expense: Running expenses
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Project Period	(ex-ante) September 2016 – August 2018 (24 months), (actual) October 2016 – July 2018 (22 months)	Project Cost	(ex-ante) 320 million yen, (actual) 361 million yen								
Implementing Agency	National Irrigation Commission (NIRC)										
Cooperation Agency in Japan	Nippon Koei Co., Ltd. International Development Center of Japan Inc.										

II. Result of the Evaluation

1 Relevance/Coherence
<p>[Relevance]</p> <p><Consistency with the Development Policy of (country name) at the Time of Ex-Ante Evaluation ></p> <p>The project was consistent with the development policy of Tanzania at the time of ex-ante evaluation. Tanzania Third Poverty Reduction Strategy (MKUKUTA II) (5 years from 2010/11) aimed to increase the agricultural sector growth rate to 6.0% by 2015, and identified the expansion of irrigated area and promotion of irrigation facility development as priorities.</p> <p><Consistency with the Development Needs of (country name) at the Time of Ex-Ante Evaluation ></p> <p>The project was consistent with the development needs of Tanzania at the time of ex-ante evaluation. After the NIMP was formulated, the government of Tanzania transferred the responsibility for implementing small-scale irrigation projects of 500 ha or less from the central government to local governments (districts) under the ASDP (2006). Irrigation development was promoted in accordance with the</p>

¹ The degree of achievement of expected goals is not to be assessed in principle at the time of ex-post evaluation, since it is defined as the medium-to-long-term goals which will be attained as a result of crystallizing the proposed plan (“output” of the project).

“District Agricultural Development Plans” (DADPs), and it was necessary to respond to these small-scale irrigation projects implemented by local governments.

<Appropriateness of Project Design/Approach>

The project design/approach was appropriate. No problem attributed to the project design/approach was confirmed.

<Evaluation Result>

In light of the above, the relevance of the project is ③².

[Coherence]

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

The project was consistent with the Japan’s ODA policy to Tanzania at the time of ex-ante evaluation. “The Country Assistance Program for the United Republic of Tanzania” (2012) positioned “Economic growth for poverty reduction” as one of the priority areas, including support to agricultural development plan and support to increase rice production, especially. In the 5th Tokyo International Conference on African Development (TICAD V) in 2013, the Government of Japan expressed the continuous support on increasing rice production.

<Collaboration/Coordination with other JICA’s interventions>

The collaboration/coordination between the project and the following projects of JICA was planned at the time of ex-ante evaluation and was implemented, the positive effects were confirmed at the time of ex-post evaluation.

- 1) Small Scale Irrigation Development Project (SSIDP) (2013 – 2021D), a ODA loan project, supported the development of irrigation infrastructure. SSIDP rectified the District’s budgetary problem and Capacity Development for the Promotion of Irrigation Scheme Development under the District Agriculture Development Plan Phase 2 (TANCAID II) program (2015 – 2019) provided their input of CGL seminar from the 2nd Batch Sub-project of SSIDP implementation. The supervising skills of the NIRC and Districts were substantially improved through this seminar and SSIDP activities.
- 2) Capacity Development for the Promotion of Irrigation Scheme Development under the DADP (TANCAID) (2010 – 2014), TANCAID Phase 2 (2015 – 2019) and Project for Supporting Rice Industry Development in Tanzania (TANRICE2) (2012 –2019), technical cooperation project, supported the capacity enhancement of irrigation engineers. NIMP identified human resource deficit and human capacity gap of the existing staff, thus TANCAID II & TANRICE Projects targeted to improve human capacity through training. TANCAID II and TANRICE made it easier for defining and implementation of NIMP (programs and priorities).

<Cooperation with other institutions/ Coordination with international framework>

The cooperation/coordination with the United States Agency for International Development (USAID), the African Development Bank (AfDB), and the World Bank (WB) was planned at the time of ex-ante evaluation and implemented as planned, and the positive effects were confirmed at the time of ex-post evaluation.

- 1) USAID: The interview with USAID was made in the project and identified some issues for the irrigation development in the future, such as environmental flow assessment and linkage with private sector in agriculture value chain. These issues were considered when the NIMP was revised in the project.
- 2) AfDB: The interview with AfDB was made in the project and identified some issues for the irrigation development in the future such as Coordination with Agricultural Sector Development Programme 2 (ASDP2) (especially, irrigation development in Lake Zone). These issues were considered when the NIMP was revised in the project.
- 3) WB: Expanded Rice Production Program (ERPP) provided capacity building and knowledge sharing, strengthen rice seed system and implementation of irrigation schemes. Proper utilization of water (efficiency of water utilization) approach introduced in the NIMP was adopted in Resilient Natural Resource Management for Tourism and Growth (REGROW) Project. Also, capacity building and strengthening of Irrigator’s Organization offices were done in the REGROW and all these align with the Revised NIMP.

<Evaluation Result>

In light of the above, the coherence of the project is ③.

[Evaluation Result of Relevance/Coherence]

In the light above, the relevance/coherence of the project is ③.

2 Effectiveness/Impact

<Status of Achievement for the Objectives at the Time of Project Completion>

The NIMP was revised and action plan was established.

<Utilization Status of the Proposed Plan at the Time of Ex-post Evaluation>

The proposed plan has been partially utilized by the time of ex-post evaluation. The large-scale irrigation development has been commenced at July 2021 as scheduled in the revised NIMP, while the medium-scale irrigation development has been delayed due to low disbursement of fund from the government. Capacity development trainings to NIRC irrigation staff in Regional Irrigation Offices (RIOs) have been conducted in accordance with NIMP after the project completion.

<Status of Achievement for Expected Goals through the Proposed Plan at the Time of Ex-post Evaluation>

The expected goals through the proposed plan have been partially achieved at the time of ex-post evaluation. Most of identified schemes are ongoing, and the staff have basic skill and utilize it. The problem is limited resources to put all the plans in implementation.

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

There were positive impacts on social inclusion, wellbeing and human rights. Although the NIMP has no its own project, it helped to identify potential area for irrigation, so that people on such areas have got stable water resource which affect profit of products, comparing with irrigation schemes which have been not listed in the NIMP. The beneficiaries will have more reliable irrigation resources, which will allow them to irrigate for more than one season and promote a better standard of living. Comparing schemes implemented by NIMP and those not implemented by NIMP, the production rate will be higher in the implemented schemes.

² ④ : very high, ③ : high, ② : moderately low, ① : low * To be the same afterwards.

In addition, the yield of rice has increased in some irrigation schemes such as Lemkuna and Madibira, due to improved farmers awareness on the application of good agricultural agronomical practices training provided by projects such as TANCAID, TANRICE and SSIDP fund for scheme development by lining of canals. Furthermore, many organizations and stakeholders of Irrigation Development, such as WB, International Fund for Agricultural Development (IFAD), World Food Programme (WFP), are referring to NIMP on the irrigation development and water resources issues.

<Evaluation Result>

In light of the above, the effectiveness/impact of the project is ②.

Status of Achievement of Utilization Status of the Proposed Plan and Expected Goals through the Proposed Plan

Aim	Indicators	Results	Source																																																															
(Utilization Status of the Proposed Plan) • Progress of project formulation on priority development scheme proposed in the revised NIMP • Capacity development of NIRC in terms of project planning, implementation, and monitoring	Indicator 1 Construction of prioritized irrigation developments (large-, medium-scale irrigation scheme) are commenced by NIRC.	Status of Utilization: Partially utilized (Ex-post Evaluation) <ul style="list-style-type: none"> In the NIMP, the large-scale irrigation development was expected to be commenced by NIRC by 2021 and a large-scale irrigation development in Mbeya has been commenced at July 2021 as scheduled. List of medium-scale irrigation scheme developed and rehabilitated by ERPP: Although the medium-scale irrigation is delayed from the revised NIMP, NIRC has entered into contracts with various contractors for implementation in FY 2022/23. During the financial year 2022/23 The commission has planned to construct 6 irrigation dams with 102,535,000 cubic meters and 25 irrigation schemes with 53,234 ha by June 2023 (activity progress is at 15%), to construct 8 Irrigation dams with 29 Million Cubic meters and farm irrigation infrastructures with 15,405 ha of irrigation under ECF by June 2023 (activity progress is at 22%), to construct irrigation infrastructure in 14 irrigation schemes with 19,963 ha of irrigation under ECF by June 2023 (activity progress is at 15%). Lastly the commission has also planned to conduct feasibility studies and detailed design for 42 irrigation schemes with 91,357 ha of irrigated agriculture by June, June 2023 (activity progress is at 30%). Despite the fact that the planned activities were not completed within the planned financial year, the activities will continue to be implemented within 2023/24 financial as per their contract time which goes beyond 12 months <table border="1"> <thead> <tr> <th>Name of large-scale scheme</th> <th>Region name</th> <th>Commencement period</th> </tr> </thead> <tbody> <tr><td>Madibira</td><td>Mbeya</td><td>July 2021</td></tr> <tr><td>Mkombozi</td><td>Iringa</td><td>July 2021</td></tr> <tr><td>Mgambalenga</td><td>Iringa</td><td>August 2022</td></tr> <tr><td>Ilemba</td><td>Rukwa</td><td>August 2022</td></tr> <tr><td>Kamsamba</td><td>Songwe</td><td>August 2022</td></tr> <tr><td>Rudewa</td><td>Morogoro</td><td>August 2022</td></tr> <tr><td>Chosi-Herman</td><td>Mbeya</td><td>August 2022</td></tr> <tr><td>Msagali</td><td>Dodoma</td><td>August 2022</td></tr> <tr><td>Luiche</td><td>Kigoma</td><td>August 2022</td></tr> <tr><td>Msesule</td><td>Mbeya</td><td>August 2022</td></tr> <tr><td>Makwale</td><td>Mbeya</td><td>September 2022</td></tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Name of medium-scale scheme</th> <th>Region name</th> <th>Commencement period</th> </tr> </thead> <tbody> <tr><td>Jobaj Six</td><td>Arusha</td><td>May 2020</td></tr> <tr><td>Idete</td><td>Morogoro</td><td>August 2022</td></tr> <tr><td>Matebete-Gonakuvagogolo</td><td>Mbeya</td><td>August 2022</td></tr> <tr><td>Uturo-Isenyela</td><td>Mbeya</td><td>August 2022</td></tr> <tr><td>Magurkenda Sukuma</td><td>Mwanza</td><td>August 2022</td></tr> <tr><td>Ulyanyama</td><td>Tabora</td><td>August 2022</td></tr> <tr><td>Mgongola</td><td>Morogoro</td><td>August 2022</td></tr> <tr><td>Membe</td><td>Dodoma</td><td>August 2022</td></tr> </tbody> </table>	Name of large-scale scheme	Region name	Commencement period	Madibira	Mbeya	July 2021	Mkombozi	Iringa	July 2021	Mgambalenga	Iringa	August 2022	Ilemba	Rukwa	August 2022	Kamsamba	Songwe	August 2022	Rudewa	Morogoro	August 2022	Chosi-Herman	Mbeya	August 2022	Msagali	Dodoma	August 2022	Luiche	Kigoma	August 2022	Msesule	Mbeya	August 2022	Makwale	Mbeya	September 2022	Name of medium-scale scheme	Region name	Commencement period	Jobaj Six	Arusha	May 2020	Idete	Morogoro	August 2022	Matebete-Gonakuvagogolo	Mbeya	August 2022	Uturo-Isenyela	Mbeya	August 2022	Magurkenda Sukuma	Mwanza	August 2022	Ulyanyama	Tabora	August 2022	Mgongola	Morogoro	August 2022	Membe	Dodoma	August 2022	NIRC
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	Indicator 2 Capacity development training to NIRC irrigation staff in RIOs is conducted.	Status of Utilization: Mostly utilized (Ex-post Evaluation) <ul style="list-style-type: none"> Number of trainings has been conducted in accordance with NIMP after the project completion. <table border="1"> <thead> <tr> <th>Year</th> <th>Target (NIRC/RIO/LGA)</th> <th>Type of training provided</th> <th>Total number of participants</th> </tr> </thead> <tbody> <tr> <td>2018</td> <td>NIRC/RIO/LGA</td> <td>Construction, Design procedures, Operation and Maintenance training conducted by TANCAID IIproject</td> <td>200</td> </tr> <tr> <td>2019</td> <td>NIRC/RIO/LGA</td> <td>Construction, Design procedures, Operation and Maintenance training conducted by TANCAID IIproject</td> <td>500</td> </tr> <tr> <td>2020</td> <td>Irrigation Office (IO), LGA</td> <td>Irrigation Service fee collection (ISF), IO registration</td> <td>2,000</td> </tr> <tr> <td>2021</td> <td>IO, LGA</td> <td>ISF, IO registration</td> <td>2,000</td> </tr> <tr> <td>2022</td> <td>IO</td> <td>Strengthening IO & OM trainings</td> <td>800</td> </tr> </tbody> </table>	Year	Target (NIRC/RIO/LGA)	Type of training provided	Total number of participants	2018	NIRC/RIO/LGA	Construction, Design procedures, Operation and Maintenance training conducted by TANCAID IIproject	200	2019	NIRC/RIO/LGA	Construction, Design procedures, Operation and Maintenance training conducted by TANCAID IIproject	500	2020	Irrigation Office (IO), LGA	Irrigation Service fee collection (ISF), IO registration	2,000	2021	IO, LGA	ISF, IO registration	2,000	2022	IO	Strengthening IO & OM trainings	800	NIRC Training reports																																							
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(Expected Goals through the Proposed Plan) The irrigation development under NIRC is sustainably enhanced.	NIRC completes the development of medium-scale irrigation scheme while utilizing external resources.	Status of Achievement: Partially achieved (Ex-post Evaluation) <ul style="list-style-type: none"> There are several ongoing construction work for medium scales irrigation schemes. However, issue of fund limitation has been limiting them to complete all target schemes on time. NIRC was able to work in 5 schemes from 2015/16 to 2021/22 by doing some infrastructure development, training on System for Rice Intensification and warehouses through ERPP mentioned above utilizing external resource. 	NIRC
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3 Efficiency

The project cost slightly exceeded the plan (the ratio against the plan: 113%) due to combined factors and the project period was within the plan/as planned (the ratio against the plan: 92%). Outputs were produced as planned.

In the light above, the efficiency of the project is ③.

4 Sustainability

<Policy Aspect>

National Irrigation Act (NIA) and National Irrigation Policy (NIP) have been effective since the beginning of the Project. The importance of the sustainable and effective irrigation development is mentioned in these two documents and ASDP2 has been implementing for higher productivity, commercialization level and smallholder farmer income for improved livelihood, food security and nutrition.

< Institutional/Organizational Aspect>

It can be considered that NIRC management and staff including project counterparts transferred and suspended so often due to the decision by political administration. NIRC has changed from operating through zones and adopted Regional and District offices to effectively perform its obligations, and it has been functioning. However, additional staff needs to be employed as shown in the table below and such additional staff will be hired starting from FY2022/23, since NIRC's work is expanding.

Section/Position in NIRC	Types of works	Number of staff actually allocated	The required number of staff (Requirements)
Design and Research	Design and Research on Irrigation projects	30	200
Infrastructure development	Construction supervision	42	300
Operation and Support services	Strengthening IO and OM capacity building	27	300

NIRC has established a coordination mechanism and network among stakeholders for implementation of the NIMP. Strengthening of Coordination Division at NIRC has met and encouraged private sectors, NGO and DPs investing Irrigation.

<Technical Aspect>

The staff in NIRC have sustained necessary skills and knowledge acquired through the trainings (including on job training) provided during the project which empower them to implement the plan developed by the Project. However, at the moment the number of staff and resources in NIRC are not enough to implement the plans due to the high demand of the irrigation development given the fact that there is huge area to be developed in terms of hard and soft components.

<Financial Aspect>

NIRC has allocated the necessary budget for implementation of the plan developed by the project. However, due to the demand and challenges facing the irrigation sector in Tanzania during the fiscal year, the disbursed amount was low compared to the allocation and its budget execution rates were less than 70%.

<Environmental and Social Aspect>

Since the project was conducted to revise NIMP as bases for irrigation development in Tanzania and any large-scale constructions were not planned, there was no monitoring system considered at the time of ex-ante evaluation and there was no monitoring activity related to the risk to the environment and social aspects.

<Evaluation Result>

In light of the above, some problems have been observed in terms of the technical and financial aspects of the implementing agency and a slight problem has been observed in terms of institutional/organizational aspect. Therefore, the sustainability of the project effects is ②.

5 Summary of the Evaluation

The project prepared the revised NIMP and action plan. After the project completion, the revised NIMP and action plan have been partially utilized. The large-scale irrigation development has been commenced at July 2021 as scheduled in the revised NIMP, while the medium-scale irrigation development has been delayed due to low disbursement of fund from NIRC. As for sustainability, since NIRC's work is expanding, the additional human and financial resources are required to implement activities in the revised NIMP and action plan. As for efficiency, although the project cost slightly exceeded the plan, the project period was within the plan and outputs were produced as planned.

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

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

Since the revised NIMP has identified major and potential areas for irrigation development (low, medium and high potential areas), NIRC is encouraged to follow the recommendation of the revised NIMP to ensure good and sustainable irrigation development in Tanzania. Additionally, capacity building of the staff who are responsible for the irrigation sector is essential to ensure their ability for appropriate implementation and monitoring of irrigation projects.

Moreover, the government should also ensure that it allocates and disburse funds for the construction and repair of irrigation infrastructure

to continue all the projects that have already been started including those which are currently stalled due to budget limitation. For the FY 2022/23 NIRC has planned to construct 14 irrigation dams, build infrastructures in 39 irrigation schemes, rehabilitate deteriorated irrigation facilities in 30 irrigation schemes including dams, conduct feasibility studies in 22 strategic basins and 42 irrigation schemes and to validate irrigation area in five regions.

On the other hand, in order to follow the revised NIMP directives and the CGL accordingly, NIRC is recommended to sustain and improve, when necessary, what has been developed by the Project such as effective utilization of web-based irrigation data base as well as involvement of different stakeholders.

Lessons Learned for JICA:

During the project implementation, the government changed position of NIRC from being under Ministry of Water and Irrigation to Ministry of Agriculture. Additionally, there were frequent transfers and suspensions of NIRC management and staff including project counterparts. These changes had affected the project smooth implementation and the information gathering during the ex-post evaluation. Therefore, JICA should request the implementing agencies to prepare the progress report periodically in which the progress and issues of the project are described, and handover note when responsible person is transferred during the project implementation. As the result, the new staff can easily and quickly catch up the project and the project would not delay.



Intake Wier at Kasese Irrigation Scheme (Mwankulu Village)



River Msadya in June 2015