

Country Name	The Study on Development and Management of Land and Water Resources for Sustainable Agriculture in Mizoram
India	

I. Project Outline

Background	Mizoram's steep mountainous area made it difficult to formulate irrigation plans, with an irrigation rate of 10%, the lowest in India. It was expected that effective utilization of water resources would lead to improvement of agricultural productivity because the annual precipitation was significantly higher than other regions in India. However, lack of coordination among agro-allied departments on farming improvement activities and irrigation plans made agricultural productivity extremely low. As an agricultural development master plan with comprehensive analysis of potential growth factors in Mizoram's agricultural development had not been formulated and therefore, scope of participatory irrigation facility detail design report (DPR) for small-scale irrigation projects had been limited to technical facility design.								
Objectives of the Project	<p><u>Expected Goals to be achieved by utilization of the proposed plan:</u></p> <p>(1) The beneficiary area of irrigation is expanded based on the master plan and DPR formulation model, and the amount of rice production by paddy field increases.</p> <p>(2) WUA (Water Users' Association) establishment rate improves based on DPR formulation model.</p> <p><u>Expected utilization of the proposed plan by the project:</u></p> <p>(1) The master plan is adopted by the Mizoram government.</p> <p>(2) Based on the DPR formulation model, formulation of DPRs based on coordination with other agricultural departments and beneficiary farmers is promoted by the Minor Irrigation Department (MID).</p>								
Activities of the Project	<p>1. Project site: Mizoram state</p> <p>2. Main activities: Formulation of the Master Plan, development of integrated and participatory model for formulating DPR, and strengthening of planning capacity of MID and other agro-allied departments.</p> <p>3. Inputs (to carry out above activities)</p> <table border="0"> <tr> <td>Japanese Side</td> <td>Indian Side</td> </tr> <tr> <td>1) Experts from Japan: 12 persons</td> <td>1) Staff allocated: 9 persons</td> </tr> <tr> <td>2) Training in Japan: 13 persons</td> <td>2) Land and facilities: Office space with furniture</td> </tr> </table>			Japanese Side	Indian Side	1) Experts from Japan: 12 persons	1) Staff allocated: 9 persons	2) Training in Japan: 13 persons	2) Land and facilities: Office space with furniture
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Project Period	September 2013- April 2015	Project Cost	(ex-ante) 270 million yen (actual) 255 million yen						
Implementing Agency	Minor Irrigation Department (MID, currently, Irrigation and Water Resource Department (I&WRD)), Mizoram state government								
Cooperation Agency in Japan	NIPPON KOEI CO., LTD., KRI INTERNATIONAL CORP.								

II. Result of the Evaluation

- Information was collected through response from the questionnaire to I&WRD.
- The evaluation of this project includes the impact of "The Project on Capacity Enhancement for Sustainable Agriculture and Irrigation Development in Mizoram" (2017-2022) (Technical Cooperation Project)".

1 Relevance
<p><Consistency with the Development Policy of India at the Time of Ex-Ante Evaluation and Project Completion></p> <p>The project was consistent with the development policies of India. At the time of ex-ante evaluation, the "11th Five-Year Plan" (2007-2012) aimed at achieving 4% growth in the agriculture sector. In order to achieve the target, expansion of irrigated areas, land and water resource management and others were regarded as important agendas. At the time of project completion, the growth target in the agriculture sector during the "12th Five-Year Plan" (2013-2017) was set at 4.0%. The 12th Plan needed to face challenges such as a shrinking land base, dwindling water resources, adverse impact of climate change, shortage of farm labour, and volatility in the international markets.</p> <p><Consistency with the Development Needs of India at the Time of Ex-Ante Evaluation and Project Completion ></p> <p>The project was consistent with the development needs of India for management and land water resources for agriculture. At the time of ex-ante evaluation, although the irrigation rate in Mizoram was the lowest in India, it was expected that effective utilization of water resources would lead to improvement of agricultural productivity because the annual precipitation was significantly higher than other regions in India. At the time of project completion, the agriculture sector played an important role in the state economy, as the share to Gross State Domestic Products (GSDP) was nearly 20% and 21% of outlay is given to agriculture and allied activities including irrigation in 12th Plan and therefore, needed to be strengthened sustainably.</p> <p><Consistency with Japan's ODA Policy at the Time of Ex-Ante Evaluation></p> <p>The project was consistent with Japan's ODA policy to India. Poverty reduction in rural areas was one of the priority areas under the "Country Assistance Program to India" (2006).</p> <p><Evaluation Result></p> <p>In light of the above, the relevance of the project is high.</p>
2 Effectiveness/Impact
<p><Status of Achievement for the Objectives at the time of Project Completion></p> <p>At project completion, all outputs were achieved, as (i) the Master Plan was formulated, (ii) the Model for formulating DPR was developed, and (iii) The following capacities of the officers in the State were strengthened in terms of collection of data and analysis, preparation of zonal development strategy and planning, GIS analysis for planning, and planning and policy document preparation and</p>

presentation.

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

The proposed plan has been utilized well after the project was completed. The Master Plan was approved by the Chief Minister of the State. Also, most of the present policies stated by the political leaders in the State has complied with the Master Plan.

Small scale irrigation facilities, with the participations of the farmers, have been continuously implemented since the time of project completion, 25 projects in 2015, 27 in 2017 and 14 in 2018. Although the relevant agro-related departments have not been involved in the formulation, the on-going JICA-supported technical cooperation project (TCP) (“The Project on Capacity Enhancement for Sustainable Agriculture and Irrigation Development in Mizoram”, July 2017-July 2022) has involved these departments in small scale irrigation facilities implemented within the project, and collaboration among relevant departments have been observed.

Out of 22 projects proposed under the Master Plan, 16 projects have started implementation and one has been in the preparation stage. The remaining five has not yet started, however, implementing organizations have been decided.

After the project completion, the New Economic Development Policy (NEDP) was formed as a flagship program of the State. Developed capacity of the officers, data compiled and proposed ideas for agriculture sector development were used for the preparation NEDP planning paper. The developed capacity was also used for micro planning such as DPR for minor irrigation projects and district agriculture planning under Rashtriya Krishi Vikas Yojana (RKVY, A National Agriculture Development Programme prepared in 2007 by the Department of Agriculture, the Government of India in compliance of the resolution of National Development Council and consultation with the Planning Commission) and others.

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

The Expected Goals have been partially achieved. The survey result of this ex-post evaluation shows that every year the irrigation beneficiary area has increased (Expanded areas are 1,118ha in 2015, 1,464 ha in 2017 and 506ha in 2018 respectively). Although evaluation for rice production has not been done by date and there has been no way to get the figure of the rice production, from the expansion of the beneficiary area and the on-going TCP, it can be predicted that the rice production has also increased.

The WUAs have been increasing its number every year.

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

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

< Evaluation Result >

Therefore, the effectiveness/impact of the project is high

3 Efficiency

Both the project cost and project period were within the plan (the ratio against the plan: 94%, 100%). Therefore, the efficiency of the project is high.

4 Sustainability

< Policy Aspect >

There have been two policies which support minor irrigation development. “Har Khet Ko Pani (Water for every field)” (2015/16–2019/20) has been formulated with the vision of extending the coverage of irrigation and improving water use efficiency. The “Socio-Economic Development Policy” (2019/20 onwards) aimed at improving agriculture linked road and Irrigation system

< Institutional Aspect >

The sufficient number of staff in each agro-related department in the State have been decided. Although there have been vacant posts, these are expected to be filled through implementing the TCP. As MID (current I&WRD), that was formed in 2007, is a young department, new posts have not been created and the number of staff has declined. The department has faced problems in executing projects due to insufficient number of staff, however, the department has been working on to improve the situation by proposing some measures. Though there is no proper mechanism for coordination among the agro allied departments, there is a good coordination among the departments in implementation of the Master Plan.

< Technical Aspect >

According to I&WRD, the technical capacity has been acceptable but has needed to be improved at the time of ex-post evaluation. At the time of ex-post evaluation, TCP project has been on-going with participation of agro related departments, and each department has been responsible for number of pilot projects. Under the TCP, it is expected that the capacity of government officers will be developed through their participation and activities in the pilot projects.

< Financial Aspect >

Out of the 22 projects proposed by the Master Plan prepared by the project, the budget has been secured for the 16 project which has been on-going.

< Evaluation Result >

There have been some problems observed in the institutional and technical aspects. Therefore, the sustainability of the effects through the project is fair.

5 Summary of the Evaluation

At the project completion, all the outputs were achieved including the formulation of master plan, development of the model for formulating DPR and the strengthening of the State officials. After the project was completed, the proposed plan has been utilized. The Master Plan was approved by the State and the small scale irrigation facilities have been utilized continuously with the participation of farmers, though the participation of related departments have yet to be strengthened through the on-going technical cooperation project. The Expected Goals have been partially achieved as irrigation beneficiary area has increased. As for the sustainability, some problems have been observed in institutional and technical aspects such as insufficient number of staff, coordination among the departments and necessity of further capacity enhancement, nevertheless, there have been no problems in policy and financial aspects .

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

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

- Since the budget and in charge departments to implement the 16 projects under the Master Plan has been decided, the critical issue

remaining is the human resource/capacity of each department, and the coordination among the departments for implementing the projects. It is necessary for the State government to speed up in filling the vacant seats in the departments, especially in I&WRD. For the coordination among the departments, it is necessary for the State government to appoint one department who will be responsible to formulate a proper system, or give an order for related departments to coordinate with each other. JICA has begun the next technical cooperation, named "The project on capacity development planning and implementation for minor irrigation scheme in Mizoram", from 2017 up until 2022, taking a countermeasure by formulating a coordination system called "BAIDC" for inter-related coordination and its sustainability.

Lessons Learned for JICA:

- I&WRD has not checked or evaluated the amount of rice production, which is one of the indicators to verify effectiveness of the ex-post evaluation. It needs to be carefully examined, whether the evaluation indicators set is actually possible to be measured (does the Executing Agency has skills or method to measure those indicators, or otherwise could it be collected from other departments) at the time of ex-post evaluation.
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Construction of a headwork under TCP
(before the project)



Construction of a headwork under TCP
(after the project)



Rehabilitation of a canal under TCP
(before the project)



Rehabilitation of a canal under TCP
(after the project)