

## Ex-post Evaluation Summary Sheet

Evaluation conducted by: JICA Myanmar Office

<b>1. Outline of the Project</b>	
<b>Country:</b> Myanmar	<b>Project Title:</b> Irrigation Technology Centre Project Phase II
<b>Issue/sector:</b> Agriculture Sector	<b>Cooperation scheme:</b> Project Type Technical Cooperation
<b>Division in charge:</b> Agricultural Technical Cooperation Division, Agricultural Development and Cooperation Department	<b>Total cost:</b> 630 Millions JPY (Phase II)
<b>Period of cooperation:</b> Phase II: (1999 to 2004) Follow-up: (2004 to 2005)	<b>Partner Country's Implementing Organization:</b> Irrigation Technology Centre
	<b>Supporting organization in Japan:</b> Ministry of Agriculture, Forestry and Fisheries
<b>Related cooperation:</b> Irrigation Technology Centre Project Phase I (1988 to 1998)	
<p><b>1-1 Background of the project:</b></p> <p>Agriculture has been the backbone of Myanmar economy, accounting for 52% of GDP and taking up 63% of workforce. With agricultural development being prioritized in national economic plans, the government had developed irrigation facilities throughout the country since 1992 in order to increase agricultural productivity through expansion of irrigation areas. Irrigation water, however, couldn't always reach every part of irrigable areas due to lack of satisfactory irrigation plans or proper water management technology.</p> <p>Against this background, towards achieving stable and increased agricultural production, Myanmar government requested the Irrigation Technology Centre project "Phase II", aiming at further expansion of irrigation areas and continued development of outputs from ITC project Phase I. After the completion of Phase II, "Follow-up" was carried out to finalize the technical book, one of major Phase II outputs.</p> <p>This ex-post evaluation was conducted on the Phase II and Follow-up with main focus on Impacts and Sustainability among five evaluation criteria.</p>	
<p><b>1-2 Project overview (Phase II)</b></p> <p>The Phase II was based at the Irrigation Technology Centre (ITC) in Bago and implemented in Ngamoeyeik project area in Hlegu by setting up test farms.</p> <p>(1) <u>Overall Goal</u> To raise agriculture productivity through improvement of irrigation technology (the goal to be achieved in about 10 years or more after the end of Phase II)</p> <p>(2) <u>Intermediate Goal</u> To establish appropriate water management technology in the three irrigation areas: Tabuhla, Zalettaw and Mazin ( The Intermediate Goal was introduced during the mid-term evaluation in November 2001 to be achieved in about 5 years after the end of Phase II and to bridge across the wide gap between the Project Purpose and Overall Goal)</p> <p>(3) <u>Project Purpose</u> To upgrade the irrigation technology especially in water management in Ngamoeyeik Project Area as a model, applying the basic irrigation technology which was achieved through the Phase I Project</p> <p>(4) <u>Outputs</u></p> <ol style="list-style-type: none"> <li>1) Irrigation technology of water management and maintenance in main facilities is improved.</li> <li>2) Study method for water management of terminal irrigation system is improved.</li> <li>3) Technical supporting system for water management is improved.</li> <li>4) Irrigation information management technology is improved to monitor irrigation projects.</li> <li>5) Water management technology is disseminated to technical staff of Irrigation Department and farmers in test farm through training</li> </ol> <p>(5) <u>Inputs</u> (Japan) Long-term expert: 13 persons, Short-term expert: 19 persons, Training in Japan: 29 persons, Equipment around 772 thousands US\$, Local cost 500 thousands US\$ (Myanmar) Project counterpart: 35 persons, Project operation costs around 2 millions Kyat</p>	
<b>2. Evaluation Team</b>	

Members of Evaluation Team	(1) Mr. Hiroyuki Okuda, Project Formulation Advisor, JICA Myanmar Office (2) Mr. Kyaw Lwin Oo, Program Officer, JICA Myanmar Office (3) Mr. Toyomitsu Terao, Consultant, Fisheries Engineering Co., Ltd.	
Period of Evaluation	September 24, 2007 to October 8, 2007	Type of evaluation: Ex-Post
<b>3. Ex-post Project Performance</b>		
<b>3-1 Ex-post Performance of Project Purpose</b>		
<p>In Ngamoeyeik area during Phase II, Intensive Type test farms (15 plots, 62 acres) and Extensive Type test farms (36 plots, 310 acres) were constructed and relevant water management technologies were transferred. Activities in test farms are being implemented under the supervision of the Yangon Division Irrigation Maintenance Office to which ITC handed over all related responsibilities after Phase II. The technical book produced by Phase II (Follow-up) are highly appraised as useful for improving water management in training for Irrigation Department staff and farmers.</p>		
<b>3-2 Achievement related to Intermediate Goal</b>		
<p>After the Phase II and Follow-up, ITC started the Intermediate Goal Area (IGA) project in April 2005 by using its own resources to achieve the Intermediate Goal by March 2010. ITC has applied the five outputs of Phase II achieved in Ngamoeyeik, except intensive type test farm study, to improve the water management in three project areas (Tabuhla, Zalettaw, Mazin). IGA project is still halfway to its project term but achievements to date are adequate. Construction work of Zalettaw test farms (130 acres) was completed by March 2007 and test farm study will start in the next summer paddy around November 2007. Tabuhla test farm site (230 acres) was selected and its construction will start around the same time. Information and data collection for comparison study, training materials and preparation of technical books are on going. The intermediate goal will be achieved in Zalettaw and Tabuhla where activities precede as planned.</p>		
<b>3-3. Achievement related to Overall Goal</b>		
<p>Progress of IGA project is nothing but the achievement related to Overall Goal but even today there is still a wide gap between the Intermediate Goal and Overall Goal and it is still difficult for ITC to attain the Overall Goal, whose target are more than 300 irrigation areas in the whole country, within about 10 years. Towards achieving the Overall Goal, however, ITC has been conducting trainings and workshops on water management for ID staff and farmers throughout the country, not limited to the Intermediate Goal Areas.</p>		
<b>3-4 Follow-up of the Recommendations by Terminal Evaluation Study</b>		
<p>At the terminal evaluation in September 2003, three recommendations were made; 1)follow-up of Phase II to complete technical book, 2)training of agronomy for farming and 3)utilization of the equipment delivered. All the three recommendations were carried out.</p>		
<b>4. Results of Evaluation</b>		
<b>4-1. Impact</b>		
<p>The impact of improved irrigation technology on increased total yields (Indicator for Overall Goal) is a consequential, logical expectation but hasn't been observed yet in four project areas (Ngamoeyeik, Zalettaw, Mazin and Tabuhla). In recognition of the fact that rice yield is affected by not only irrigation water but also many other factors, cropping intensity is suggested as an alternative indicator. Data of the four irrigation areas shows higher cropping intensities than the union average and that their cropping intensities are on the increase by year. The data indicates that the improvement of irrigation technology is realizing expected impacts.</p> <p>The Phase II and IGA has also produced other significant, positive impacts. A water user group in Ngamoeyik area is activated, conducting regular meeting, managing conflicts among farmers, and providing voluntary maintenance of irrigation facilities. Workload of ID staff is reduced accordingly. Technical confidence of ITC staff are raised through implementation of IGA project for themselves.</p>		
<b>4-2. Sustainability</b>		
<ul style="list-style-type: none"> <li>• Sustainability from technical perspective is largely high. Transferred irrigation techniques are well sustained and steadily applied to the IGA project where adequate progress is observed.</li> <li>• Sustainability from institutional perspective is high. Among the total 24 staff officers of ITC, 11 are assigned for the implementation of IGA project and they all are former counterparts of Phase II.</li> <li>• Sustainability from financial perspective is high considering the budget allocation to ITC. The lack of foreign currency, however, becomes an increasing hindrance for ITC to maintain and continue to utilize laboratory equipment.</li> </ul>		
<b>4-3. Factors that have promoted the project</b>		

<p>(1) Impact</p> <ul style="list-style-type: none"> <li>• Introduction of the Intermediate Goal provided a clear goal and timeframe for ITC to carry on the improvement of water management technology after the Phase II</li> <li>• Rice quota system to the government was eased to a large extent in 1989 and completely abolished in 2003, resulting in the increased prices of rice at harvest time and providing incentive for farmers on rice production.</li> </ul> <p>(2) Sustainability</p> <ul style="list-style-type: none"> <li>• Three contributing factors to sustainability are noticed: constant budget allocation to ITC, assignment of former project counterparts to IGA project, efforts on maintenance of facilities and equipment against aging degradation</li> </ul>
<p><b>4-4. Factors that have inhibited the project</b></p> <p>(1) Impact</p> <p>A concrete plan doesn't exist on how ITC continuously strengthens its capacity and advance water management technology so that the current ITC activities can be accelerated towards achieving the Overall Goal.</p> <p>(2) Sustainability</p> <p>Unavailability of spare parts and consumables of laboratory equipment, due to the shortage in ID of foreign currencies to purchase them, has influenced and will further affect the operation of ITC</p>
<p><b>4-5. Conclusion</b></p> <p>The ex-post project performance of the Phase II is kept high. It is possible for ITC to achieve the Intermediate Goal by its target year of 2010. The production of technical books for each irrigation area is in progress and can be completed as planned in Zalettaw and Mazin areas. It is difficult for ITC to attain the Overall Goal because of its far-reaching scope and set timeframe of about 10 years. There are, however, many positive impacts observed after Phase II toward achieving the Overall Goal in terms of capacity of ITC staff and activity of Water User Association. In line with its main mandate of providing technical supports to irrigation projects and of conducting training for ID staff and farmers, ITC is currently trying to identify a feasible way to extend its technical support to more than 300 irrigation areas throughout the country.</p>
<p><b>5. Recommendations and Lessons Learned</b></p>
<p><b>5-1. Recommendations</b></p> <p>For ITC, it is recommended that;</p> <ul style="list-style-type: none"> <li>• ITC balance human resources and allocation of assignments among sections to adjust the difference of workload which has been realized during the course of IGA implementation.</li> <li>• ITC strengthen its capacity for research and development to further promote irrigation technologies to suit with local conditions at low-cost and in a viable way at field level, as well as to maximize the effectiveness of training on ID staff and farmers.</li> <li>• ITC continue accurate and constant data collection of crop production including paddy in project areas in collaboration with MAS and SLRD, who compose working groups for IGA implementation along with ITC.</li> </ul> <p>For ID, it is recommended that;</p> <ul style="list-style-type: none"> <li>• ID explore a possibility of whether experts of relevant technical fields can be invited to ITC for reviewing its current organizational capacity and for suggesting feasible ways to accelerate current ITC activities.</li> <li>• ID consider to capacitate the Upper Myanmar ITC with proper mandate and role, financial and human resources so that it can provide water management trainings for ID staff and farmers along with ITC Bago.</li> <li>• ID help ITC staff improve their technical expertise in each respective field through opportunities such as attending technical training, seminar and workshop in abroad as well as in-country.</li> </ul> <p>For JICA, it is recommended that;</p> <ul style="list-style-type: none"> <li>• JICA assist ITC in acquiring spare parts and consumables for and in repairing of test instruments and laboratory equipment, which has been impossible due to the shortage of foreign currencies in ITC especially in recent years.</li> </ul>
<p><b>5-2. Lessons learned</b></p> <ul style="list-style-type: none"> <li>• Farmer participation to water management is demonstrated important as the mobilization of a water user association through farmers training has realized several, significant impacts.</li> <li>• Introduction of Intermediate Goal is beneficial, when a wide gap between Project Purpose and Overall Goal is identified, for counterparts and JICA to make the process visible and clear for attaining the Overall Goal.</li> <li>• Observed difficulty of achieving the Overall Goal is attributed to the way the Overall Goal and its indicators were set, instead of due to current project activities. Revision of the Overall Goal can be considered during evaluation.</li> </ul>