

1. Outline of the Project		
Country name: Tanzania		Project name: The Kilimanjaro Agricultural Training Centre Phase II Project
Fields: General agriculture		Assistance type: Technical cooperation project
Supervising office: Arid and Semi-Arid Farming Area Team I, Rural Development Department		Monetary amount of cooperation (at time of evaluation): 760 million yen
Period of cooperation	R/D: October 1, 2001, to September 30, 2006	Counterpart organization: Kilimanjaro Agricultural Training Centre (KATC) (supervising organization: Ministry of Agriculture, Food Security, and Cooperatives)
		Cooperating organizations in Japan: Ministry of Agriculture, Forestry, and Fisheries
		Other associated cooperation: None
Project sites: Six model sites in Moshi, Kilimanjaro Region		
<p>1-1 Background and outline of the Project</p> <p>Since the 1970s, various forms of cooperation have been provided to the Kilimanjaro Region of the United Republic of Tanzania (hereinafter “Tanzania”) in order to establish irrigated rice cultivation and to transfer technologies for this purpose. These efforts resulted in the amount of rice harvested from the Lower Moshi Irrigation Project reaching 6 tons, which is three times the national average, and extension of rice cultivation technologies to surrounding regions. Viewing the project’s activities and results highly favorably, the Tanzanian government submitted a request to Japan for a project to train agricultural technicians in September 1992 for the purpose of extending the project’s effects to all areas of the country. In response, JICA implemented the Kilimanjaro Agricultural Training Centre in July 1994. Including the extension period, this project was conducted over a period of seven years.</p> <p>There are other irrigated agricultural districts in Tanzania for which basic investment provided with support from various other countries has been completed. However, these districts are not producing adequate results for reasons that include the fact that rice cultivation technologies have not been established there; underdevelopment of use,</p>		

maintenance, and management frameworks for irrigation facilities; and lack of farmer organizations. Given these circumstances, the Tanzanian government submitted a request to Japan for technical cooperation in connection with a “Kilimanjaro Agricultural Training Centre Phase II Project.” This project would be for the purposes of raising the productivity of irrigated agricultural districts and of bringing the outputs of these districts closer to those seen in Lower Moshi through enhanced training activity.

In response to this request, the Japan International Cooperation Agency (hereinafter “JICA”) conducted studies to confirm the details of the request and to determine the feasibility of project-type technical cooperation. Based on the results, JICA began implementation of the Project in October 2001 for the purpose of providing cooperation in areas 1) to 4) listed below. The Project is scheduled to continue for five years. Currently, five long-term experts are dispatched to Tanzania (chief advisor, coordinator, water management, rice production and farm management, and extension and farmer training). These experts are providing guidance in the following fields:

- 1) Selection of irrigated agricultural districts having high potential for development from among existing irrigated agricultural districts
- 2) Development and implementation of training courses on introduction of irrigated rice-cultivation technologies that are matched to the region
- 3) Improvement of rice-cultivation productivity in irrigated agricultural districts through onsite training and follow-up instruction
- 4) Implementation of region-wide technical cooperation that targets neighboring countries (four countries: Kenya, Malawi, Zambia, and Uganda)

Given that the Project is scheduled to conclude in September 2006, JICA has decided to dispatch a Final Evaluation Team to Tanzania.

It should be mentioned that, because region-wide cooperation differs in terms of content and characteristics from the Project in Tanzania, an examination of improvement in the capacity of counterparts (hereinafter “C/Ps”) and of the effectiveness of training packages in the Kilimanjaro Agricultural Training Centre (hereinafter “KATC”) is being planned.

1-2 Description of cooperation

(1) Overall Goal

Rice productivity increases in places where KATC training has been conducted and in the surrounding area.

(2) Project Purpose

Rice productivity increases in the model sites through KATC training.

(3) Outputs of the project

- 1) The concept of and approach to the model sites are established.
- 2) The capability of KATC in identifying training needs is improved.
- 3) Technical training programs are strengthened to meet local needs.
- 4) The training program for improving the institutional frameworks of irrigation schemes is strengthened.
- 5) The capacity of KATC in collecting and providing useful irrigated rice cultivation information is improved.
- 6) The concept of and approach to mainstreaming of gender in planning, implementation, and monitoring of technical training on irrigated rice production are established.

(4) Inputs (at time of evaluation)

Japanese side

Dispatch of long-term experts:	Total of 11 experts (5-person system)
Dispatch of short-term experts:	Total of 16 experts (approx. 30 man-months)
Training of C/Ps in Japan:	13 C/Ps (approx. 50 man-months)
Provision of machinery and equipment:	Approx. 39.7 million yen
Assumption of local costs:	Approx. 99.5 million yen*

*Estimate up to September 2006

Tanzanian side

Allocation of C/Ps	Total of 34 C/Ps
Provision of land and facilities	
Assumption of local costs:	175 million Tsh (approx. 17.5 million yen)

KATC Self-Help Fund: Expenditure for project activities amounts to 26.168 million Tsh in local currency (approx. 2.61 million yen).

2. Outline of the Evaluation Team			
Members	Field	Name	Affiliation
	Team leader	Ryuzo Nishimaki	Senior Researcher, Rural Development Department, JICA
	Irrigated rice production	Naoki Ito	Subsection chief, Hokuriku Regional Agricultural Administration Office; Ministry of Agriculture, Forestry, and Fisheries
	Planning management	Hiroaki Nakahori	Senior Program Officer, Arid and Semi-Arid Farming Area Team I, Rural Development Department, JICA
	Evaluation and analysis/farmers' training	Akira Matsumoto	President, A&M Consultant, Inc.
Evaluation period	May 11, 2006, to May 23, 2006 (Team member for evaluation and analysis/farmers' training: from April 23 to May 23)	Evaluation type: Final evaluation	
<p>(1) The team will confirm achievements and implementation processes from the beginning of technical cooperation up to the Project's mid-point, and, based on information obtained, conduct a comprehensive evaluation of both the Japanese and Tanzanian sides from the standpoints of the Five Evaluation Criteria (relevance, effectiveness, efficiency, impact, and sustainability).</p> <p>(2) The team will hold discussions on the activities plan for the second half of the Project, issue necessary advice, and revise the plan as required.</p> <p>(3) The team will hold discussions on measures that should be taken to ensure smooth Project operation, and then report the results of these discussions with relevant advice to the governments and concerned authorities of Japan and Tanzania.</p>			
3. Outline of Evaluation Results			
3-1 Confirmation of achievements (achievement of the indicators)			
Outputs			
Output 1: Establishment of the concept of and approach to the model sites			
The concept of and approach to the model sites were established, and six model sites were selected. Moreover, in the last half of the Project, the Joint Coordination			

Committee agreed to implement applied training and selected irrigation schemes for three sites.

Output 2: Improvement in KATC's capability to identify training needs

Almost all (more than 80%) participants in training provided at model sites high satisfaction with training, rating it either A or B.

Output 3: Strengthening of technical training programs to meet local needs

- (1) Looking at the results of the first and second crops, the indicators pertaining to acquirement of necessary technologies by farmers were achieved in all schemes, with the exception of that for Nduguti, which could not produce rice due to drought.
- (2) Preparation of "technical standards" and "technical manuals" is scheduled to be completed by the end of the Project.
- (3) Three schemes were selected for practical training: Mkombozi, Muungano, and Lemkuna. Onsite training on land improvement and transplanting season is being provided at each site. A key farmer course (group training) is being implemented at Lemkuna.

Output 4: Strengthening of the training program for improving the institutional frameworks of irrigation schemes

- (1) Implementation plans (IP) were prepared in February 2003
- (2) Farm operation calendars were prepared for all model sites except Nduguti.
- (3) The number of irrigator's association/cooperative members increased in all model sites except Nduguti. Moreover, the number of members that pay membership association/cooperative membership fees increased at each model site.
- (4) Guidelines for strengthening irrigators' associations/cooperatives in both Swahili and English are scheduled to be completed by the end of the Project.

Output 5: Improvement of capacity of KATC in collecting and providing useful irrigated rice cultivation information

- (1) The regulations, workflow, and manual for management of outputs and preparation and issuance of PR materials were prepared; the foundation for an information management system was established; and moves toward implementation of these items have begun.
- (2) A total of five newsletters in Swahili (4,500 copies of each) and three newsletters

in English (1,000 copies of each) have been issued.

Output 6: Establishment of the concept of and approach to mainstreaming of gender in planning, implementation, and monitoring of technical training on irrigated rice production

- (1) Gender training needs have been established, and the percentage of women participants in training consistently exceeds 45%, thereby achieving the target.
- (2) In 2004, gender-specific training (manufacturing of improved cooking stoves, household budget management) was held in Mbuyuni in October, Mwamapuli and Nduguti in November, and Mwega in December. In January of 2005, such training was held in Mombo and Nakahuga.

Project Purpose

Indicator 1: Average rice yield per unit area of sample farmers in model sites increases by 12-43% by 2005 compared to 2002

With the exception of Nduguti, which could not produce rice due to drought, all schemes achieved yields that exceeded the target in the second crop period (average 3 → 4 tons/ha).

Indicator 2: By 2005, the net return rates from rice in all the model sites increase compared to those of 2002.

In general, farmers' earning rate increased significantly. Moreover, revenue per unit area (UNR) improved dramatically for all schemes. Thus, it can be concluded that net return rates have improved (net rate of return: average 60 → 73%; UNR: average 341 → 864 Tsh/ha).

Indicator 3: By 2005, property irrigated area increases in all the model sites compared to those of 2002.

The five conditions—water distribution plans, land leveling, levee between fields, drainage problems, irrigation water benefits, etc.—were roughly satisfied. Thus, it can be determined that the Project Purpose has been achieved.

3-2 Outline of evaluation results

(1) Relevance

The relevance of “increased rice production,” which is the Project Purpose, is

maintained in both the policies of the Tanzanian government (National Poverty Eradication Strategy, Agricultural Sector Development Program, etc.) and Japan's aid policy. Moreover, beneficiaries have high demand for training on irrigated rice cultivation.

(2) Effectiveness

All activities are being implemented as scheduled, and each Output is contributing to the achievement of the Project Purpose. With the exception of one site, at which training could not be provided due to drought, increases in unit yield and improvements in net rate of return are being seen in all model sites. Thus, the team has determined that steady progress is being made toward achievement of the Project Purpose.

(3) Efficiency

In general, the inputs from the Japanese side and the Tanzanian side have been appropriate in terms of quantity, quality, and timing. All inputs are being sufficiently applied to Project implementation, and therefore it is expected that the Project Outputs will be largely achieved by the end of the Project. However, there were instances in which delays in C/Ps' arrival at their posts and personnel changes caused by study leaves or transfers had an impact on Project implementation (e.g., effect on activity progress, including implementation of training, instances in which the effects of training in Japan are not retained by KATC due to personnel transfers after training, etc.).

Training and other Project activities were implemented efficiently and effectively through, for example, efforts to reduce training costs and efforts to facilitate work to coordinate training. Thus, significant outputs were manifested in accordance with each activity.

In linkage with other donors, collaboration with FAO project sites had been planned at the beginning of the Project, and farmers targeted by FAO projects are now participating in KATC training. Moreover, because the model sites are irrigation projects or facilities that are supported or built by a variety of donors (IFAD, AfDB, CIDA, etc.), efficient use of these projects/facilities is being pursued, and thus linkage is helping enhance farmers' capacity.

(4) Impact

Looking at the Overall Goal of the Project, no determination can be made as to whether or not rice productivity is rising in irrigation schemes located near model sites that received training. However, based on the results of this evaluation, the team confirmed that the outputs of training have been extended to other irrigation schemes through regional extension workers or officials and study tours implemented by the district. Moreover, the following positive changes have occurred that are in addition to increased rice productivity:

- 1) Diffusion of effects caused by consequences of Project activities, improvement of living standards and livelihoods, district support for the Project, and participation in onsite training by neighboring farmers as a result of Project activities
- 2) Reduced workload and empowerment of women
- 3) Increased income and labor employment for farmers

Furthermore, the fact that profitability in terms of yield, revenue, and UNR are increasing in all target countries through regional cooperation indicates that KATC training can help realize higher rice productivity and better livelihoods for small-scale farmers.

(5) Sustainability

Technical sustainability

C/Ps are gaining confidence by acquiring know-how needed to implement farmer training as well as training experience. They are also gaining the skills and coordinating abilities needed for farmer training. Moreover, key farmers, intermediate farmers, and other farmers are continuing to acquire know-how and skills. In particular, the key farmers are gaining confidence as leaders that can disseminate their own experiences and technical know-how to others. Thus, the Project can be expected to have a certain degree of sustainability.

On the other hand, looking at region-wide cooperation, C/Ps have been leaving Tanzania to provide training in countries and regions with different regional characteristics than their own; this activity is raising C/Ps' capabilities and giving them confidence. Moreover, it was confirmed from the results of this evaluation that the training C/Ps have implemented thus far, including the training approaches and methods, are effective and have universality in other regions as well.

Systematic and institutional sustainability

Given C/Ps' technical capacity and ability to management training, the team believes that KATC will be able to provide at least a minimum level of training even after the end of the Project. However, a number of issues still need to be considered. Among them are 1) how will KATC collaborate with district personnel and display its coordinating capacities and functions as an organization, and 2) how will capable young KATC staff members be recruited and trained.

Financial sustainability

KATC is becoming recognized as a training organization that specializes in irrigated rice cultivation. However, when the original plan is considered, KATC has not received sufficient funds from the government budget. And, while KATC has been steadily receiving "externally funded" training programs and the self-help fund has been growing, the relevant amounts are not enough to sustain KATC's activities and functions. Consequently, continued government support will be required, as will better revenue-raising by KATC through use of its experience in applied training.

3-3 Factors contributing to emergence of effects

Positive factors

- (1) Sufficient time was taken when formulating Project plans based on the participatory approach, the needs of farmers and other beneficiaries were accurately ascertained and analyzed, and the results were reflected on and utilized in training.
- (2) Appropriate consideration of gender was incorporated into training as an important element toward achievement of the Project Purpose.
- (3) Efforts were made to clarify the responsibilities and roles of regional stakeholders, which include farmers, district personnel, extension workers, and irrigation scheme officers.
- (4) Implementation of region-wide cooperation for neighboring countries helped C/Ps accumulate technical know-how and was instrumental in giving them confidence.

3-4 Problem areas and factors leading to problems

(Negative factors)

Drought had a major impact on paddy fields and onsite training. Droughts are something that cannot be controlled by the Project and, as was established in the external conditions at the time of the mid-term evaluation, were an unanticipated factor that hindered Project progress.

3-5 Conclusion

- (1) Activities to transfer technologies are being smoothly implemented by the Project. Improvements are being seen in not only C/Ps' capability and skills but also KATC's ability to formulate and implement training.
- (2) Given technical transfer among farmers at the model sites, recognition of KATC as a training facility, and other factors, it is expected that the Project will have sustainability in terms of technical and organizational aspects. However, if sustainability in terms of budgetary and financial aspects is to be ensured, continued government support as well as self-help efforts by KATC to improve its own revenue will be required.
- (3) It is expected that the Project Purpose and Outputs as defined in the PDM will be largely achieved by the end of the Project Period.
- (4) Based on the findings mentioned above, it is concluded that the Project will be terminated in September 2006 as planned.

3-6 Recommendations

- (1) Items that should be implemented before Project termination
 - 1) Implementation of onsite training at the site at which rice could not be produced due to the effects of drought (Nduguti)
 - 2) Compilation of the results of applied training
 - 3) Presentation of methods for confirming and monitoring expansion from the model sites to other regions
 - 4) Extension of Project activities to the district, MAFC, donor organizations, etc.
 - 5) Systematization of Project Outputs and reinforcement of capabilities to disseminate information
- (2) Items that should be implemented by the Tanzanian government or Japanese government after Project termination
 - 1) Guarantee of KATC activity sustainability by clarifying the position of research institutes in ASDP
 - 2) Necessity for support for training implementation from the district and ministries/agencies in charge of agricultural affairs
 - 3) Necessity for expansion of Project Outputs
 - 4) Necessity for aftercare (repair of irrigation facilities, etc.) in order to enhance training effects at the model sites

- 5) Bilateral efforts toward further development of region-wide cooperation
- 6) Expansion of areas covered by KATC training (crops other than rice, mechanization, introduction of new varieties, agrochemicals, etc.)

3-7 Lessons learned

- (1) Cultivation of a trusting relationship based on a long history of cooperation between Japan and Tanzania
- (2) Verification of the effectiveness of training that packages carefully selected technologies that are matched to farmers' needs
- (3) Project purpose that is designed to have direct benefits for farmers
- (4) Effectiveness of participatory methods for extension among farmers
- (5) Necessity to improve the intermediary functions of government so that these participatory extension methods will function properly