

Terminal Evaluation

Africa

1. Outline of the Project

Country:

Kenya

Project title:

Agricultural Machinery Management

Issue/Sector:

Agricultural Engineering

Cooperation scheme:

Third-Country Training Program

Division in charge:

Africa Division, Regional Department IV(Africa,Middle East and Europe)

Total cost:**Period of Cooperation**

Fiscal Year 1999 - 2003

Partner Country's Implementing Organization:

Jomo Kenyatta University of Agriculture and Technology (JKUAT)

Supporting Organization in Japan:**Related Cooperation:**

Project-type Technical Cooperation; "Jomo Kenyatta University of Agriculture and Technology (JKUAT)(Under Graduate Program) Phase 2"

1-1 Background of the Project

In the eastern, central and southern African regions, agricultural production accounts for over 20% of GDP on average while contributing in excess of 75% of all export earnings. 85% of the population is engaged in agriculture. Agriculture plays an important role for socioeconomic development, however, agricultural mechanization was not sufficiently advanced, and low productivity was one of the problems in the region.

Expanding agricultural productivity is an urgent task to cope with the serious shortage of food supply, and each country is trying to promote a mechanization policy. However, these countries did not have enough know-how for the maintenance and management of machinery, and insufficiency of maintenance and management and shortage of spare parts interfered with the effective utilization of existing agricultural machinery.

To cope with the above needs, the government of Kenya requested the government of Japan to implement a training course in the above mentioned field at Jomo Kenyatta University of Agriculture and Technology (JKUAT) which had wide experience in implementing third-country training.

1-2 Project Overview

The project implemented training on modern management methods for agricultural machinery to promote agricultural machinery for Eastern, Central and Southern African countries.

(1) Overall Goal Enhancement of efficient and productive utilization of agricultural machinery in Eastern, Central and Southern African countries.

(2) Project Purpose

Skills of participants on agricultural machinery are improved in Eastern, Central and Southern African countries.

(3) Outputs

1) Participants broaden the knowledge and techniques in utilization and management of agricultural machinery.

2) Participants acquire suitable techniques in utilization and management of agricultural machinery.

3) Training capacities in agricultural mechanical engineering in participant countries and institutions are up-graded.

(4) Inputs

Japanese side:

Equipment

Short-term Expert

Local Cost

Kenyan Side:

Counterparts

11

Land and Facilities

Local Cost

(5) Participant Countries

Botswana, Ethiopia, Eritrea, Lesotho, Malawi, Namibia, Swaziland, Uganda, Tanzania, Zambia, Zimbabwe, Djibouti and Rwanda.

2. Evaluation Team

Members of Evaluation Team JICA Kenya Office
(Commissioned to: ALMACO Management Consultant Ltd.)

Period of Evaluation January 2003 - February 2003 **Type of Evaluation:**
Terminal Evaluation by Overseas Office

3. Results of Evaluation

3-1 Summary of Evaluation Results

(1) Relevance

The training was consistent with the development needs and policies of participating countries which were agriculture dependent and tried to solve food supply problems by increasing agricultural productivity. The training was to coincide with promoting regional cooperation and the socioeconomic development objectives as envisaged in East African Community (EAC), Common Market for Eastern and Southern Africa (COMESA) and Southern African Development Community (SADC) (whichever participating countries belonged to). Judging from the country reports and interviews, the training was corresponding to the needs and organizational purposes of organizations which participants worked for and implementing organizations.

(2) Effectiveness

The training on agricultural machinery management was implemented to forty participants by 2002. Based on the interview survey, 67% of the ex-participants mentioned that they "fully understood the contents of the training and could apply the acquired knowledge and skills" and 33% indicated that they "understood the contents and could apply the knowledge and skills to some degree." The curriculum included most of the necessary themes for agricultural machinery management, and ex-participants mentioned that the time for lecture was appropriate, but there were some who indicated that time for practice was short. As a whole, the project was largely effective.

(3) Efficiency

All the courses and program activities were implemented as scheduled, the resources provided were fully utilized and the training was implement at the same cost of a similar training course implemented in JKUAT. According to the interview survey, the amount of aid, and the quality and the quantity of facilities, equipment and lecturers were appropriate. In the meantime, during some practical training, some agricultural machinery was broken and the training was abandoned, but other inputs were appropriate and efficient in terms of their quality and quantity.

(4) Impact

83% of the ex-participants have applied the attained techniques in the training, given lessons and lectures and actively

disseminated the acquired knowledge and techniques to 1,125 students, farmers, engineers and colleagues. The harsh economic condition and the small scope of the farmers hampered the mechanization and introduction of tractors. There were some participants who could not disseminate the acquired techniques in their country because of a lack of facilities and equipment.

There were some unexpected impacts. The skills and instructing capacities of lecturers of JKUAT were improved, which enhanced its reputation in Eastern, Central and Southern African countries. They promoted communication within the area by staying in touch with ex-participants and their organizations. Therefore, the training contributed to the efficient utilization of agricultural machinery in the area.

(5) Sustainability

All the ex-participants have worked at the same department since the project and have disseminated the acquired knowledge in the training course at their workplaces. In the meantime, there remained a problem that the organization they worked for did not have enough facilities.

Through implementation of the training, lecturers at JKUAT acquired the knowledge from both developed and developing countries and improved their technical levels, and so management capability for training was improved. As the curriculum and manual were developed considering the necessity of the area, similar training can be implemented from now on, utilizing them. In the meantime, JKUAT depended on the governmental budget, therefore if the funding can be assured, the sustainability of the project will be assured.

3-2 Factors that promoted realization of effects

(1) Factors Concerning the Planning

N/A.

(2) Factors concerning the Implementation Process

1) JKUAT had the necessary facilities and equipment and excellent lecturers, which led to the realization of effects of the project.

2) Participating countries tried to increase the agricultural productivity through mechanization and to foster agricultural engineers enthusiastically, which made the smooth implementation of the training possible.

3-3 Factors that impeded realization of effects

(1) Factors Concerning the Planning

N/A.

(2) Factors concerning the Implementation Process

1) As the training period was as short as 40 days, it was difficult for the training to secure enough time for practical training, site tours and research subjects.

2) Shortage of maintenance and management costs of machinery and cumbersome purchasing procedures for spare parts at JKUAT adversely affected the accomplishment of the project purpose to some degree.

3) The lack of facilities and equipment at the ex-participants' organization hampered the dissemination of knowledge and skills.

3-4 Conclusion

It is necessary to review some of the themes of the training in terms of their contents and time allocation. However, as a whole, the training improved the knowledge and skills of participants on agricultural machinery management and could fully accomplish the original purpose. If funding is assured, JKUAT will be able to continue the training. On the other hand, the sustainability of the training at participating countries will be affected by funding and equipment.

3-5 Recommendations

(1) It is recommended that JICA should review time allocation and extend the course period to 45 days because site training and computer lessons needed to be completed.

(2) For the utilization of traditional agricultural methods in participating countries and for promoting agricultural policy to meet the needs of each country, it is recommended that the training deal with towing techniques utilizing animals such as cows.

(3) It is recommended that the training be continued for another five years because the need for agricultural machinery management for participating countries remains huge.

- (4) It is necessary to evaluate the outputs of the training effectively and apply them to future training. It is recommended that contact lists of participants and organizations they work for are prepared, for providing feedback and follow-ups. In order to promote dissemination of the acquired techniques, the organizations which have the facilities and funding should send participants to the training.
- (5) It is necessary for the participant to continuously be involved in the actual agricultural machinery management to enhance the effects and sustainability of the training.
- (6) It is recommended that JKUAT implement the agricultural machinery management course for the program at graduate school, utilizing the funds from school tuition to enhance the sustainability of the training after the completion of the support from JICA.

3-6 Lessons Learned

A program should be developed, taking the economical development level of each country into consideration to cope with the different development level and needs of the participating country. It is useful to learn from the experience of the ex-participants and to improve the training textbooks at an advanced educational organization like JKUAT.

3-7 Follow-up Situation

N/A.