No.

Ex-Post Evaluation Report of Japanese Technical Assistance Projects・Grant Aid Projects 2009 (Kenya)

November 2010

JAPAN INTERNATIONAL COOPERATION AGENCY

BINKO INTERNATIONAL LTD.

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Preface

Ex-post evaluation of ODA projects has been in place since 1975 and since then the coverage of evaluation has expanded. Japan's ODA charter revised in 2003 shows Japan's commitment to ODA evaluation, clearly stating under the section "Enhancement of Evaluation" that in order to measure, analyze and objectively evaluate the outcome of ODA, third-party evaluations conducted by experts will be enhanced.

This volume shows the results of the ex-post evaluation of Technical Cooperation projects and Grant Aid projects that were mainly completed in fiscal year 2006. The ex-post evaluation was entrusted to external evaluators to ensure objective analysis of the projects' effects and to draw lessons and recommendations to be utilized in similar projects.

The lessons and recommendations drawn from these evaluations will be shared with JICA's stakeholders in order to improve the quality of ODA projects.

Lastly, deep appreciation is given to those who have cooperated and supported the creation of this volume of evaluations.

November 2010
Atsuro KURODA
Vice President
Japan International Cooperation Agency (JICA)

Disclaimer

This volume of evaluations, the English translation of the original Japanese version, shows the result of objective ex-post evaluations made by external evaluators. The views and recommendations herein do not necessarily reflect the official views and opinions of JICA. JICA is not responsible for the accuracy of English translation, and the Japanese version shall prevail in the event of any inconsistency with the English version.

Minor amendments may be made when the contents of this volume is posted on JICA's website.

JICA's comments may be added at the end of each report when the views held by the operations departments do not match those of the external evaluator.

Contents

Republic of Kenya

Ex-post Evaluation of Japanese Technical Cooperation Project

"The International Parasite Control Project in the Republic of Kenya"

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1. Project Description

1.1 Background

The International Parasite Control Project (hereinafter referred to as "the Project") started as the "Research and Control of Infectious Parasitic Diseases Project" which had two main activities: one was to improve the research capacity for infectious diseases (HIV/AIDS, viral hepatitis, and opportunistic infections), and the other was to develop human resource and establish information network for parasite control. In order to be implemented more effectively in both projects, the Project was divided into two projects, the "International Parasite Control Project" and the "The Research and Control of Infectious Diseases Project", in April 2003, and both projects ended in 2006.

The Project was based on the Global Parasite Control Initiative (hereinafter referred to as GPCI). This Initiative was presented by Japanese former Prime Minister, Mr.Hashimoto at the Birmingham Summit in 1998. The Initiative proposed to establish a hub center of training courses for human resource development and information network in order to promote parasite control effectively. Additionally, the Initiative promoted school-based approach of parasite control, which is the way of eradication of parasitic diseases in Japan (for example, this approach is providing not only the pharmaceutical treatment but also health education in schools). On the basis of the Initiative, Centers of International Parasite Control (hereinafter referred to as CIPACs) were established in three countries (Thailand, Ghana, and Kenya), and the Japan International Cooperation Agency (hereinafter referred to as JICA) has started technical cooperation projects in each country. In Kenya, the Eastern and Southern Africa Center of International Parasite Control (hereinafter referred as to ESACIPAC), was established at the Kenya Medical Research Institute (KEMRI) in 2001.

JICA had implemented technical cooperation projects and Grant Aid projects at KEMRI from the late 1970s to the year 2006, and focused on infectious diseases, including parasitic diseases, for almost 30 years. During this period, KEMRI conducted the various themes of research activities including parasitology (in particular, Schistosomiasis and Filariasis), and become one of the biggest medical research institutes not only in Kenya but also in the Eastern and Southern African region.

1.2 Project Outline

Overall Goal	Control programmes and applied field research on parasite control are strengthened through capacity building of human resource development and research activities in Kenya and participating countries.
Project Objective	ESACIPAC performs the role of the center for human resource development and human/information network establishment in Kenya and participating countries in order to strengthen effective control of the targeted Parasitic Diseases (Malaria, Geohelminthiasis, Filariasis and Schistosomiasis).
Outputs	1. ESACIPAC as an international center is strengthened to carry out its mandates effectively.
	2. Appropriate strategies for control of targeted parasitic diseases, for which school health-based model is being established in Kenya, are developed.
	3. Policy makers and concerned members of the participating countries are sensitized and committed to the Project.
	4. Appropriate training to enhance human capacity is undertaken.
	5. Information and human network on parasite control is developed with the participating countries, Asia Center of International Parasite Control (hereinafter referred to as ACIPAC), Western Africa Center of International Parasite Control (hereinafter referred to as WACIPAC), international organizations and other institutions.
	6. Applied field research activities are undertaken, including application/development of appropriate tools.
Inputs 1 (at completion of the Project)	Japanese side: Experts: Six for long-term experts; Twelve for short-term experts Five for trainees received Equipment cost: 6.2 million Japanese yen Local cost: 12.19 million Japanese yen Kenyan side: 36 Counterparts Land and facilities: office and the land for the training center
Total Cost	44.3 million yen (after separation of the former project, 2003-2006)
Period of Cooperation	May 1, 2001 to March, 2003 (before separation)/April 1, 2003 to April 30, 2006
Executing Agency	Kenya Medical Research Institute (KEMRI); Ministry of Health (present Ministry of Public Health and Sanitation); Ministry of Education

[1] Inputs include before separation of the Project (2001-2003). A main activity of the former part of the Project was preparation for the training course, such as collecting information through country visits, and implementing a symposium to inaugurate ESACIPAC and to appeal for the importance of parasite control. And some activities of information network were implemented such as development of the website and publication of newsletters. These activities enabled to implement the training courses and establish information network smoothly after separation of the Project.

Cooperation Agency in Japan	Keio University, Nagasaki University; Tokyo Medical and Dental University; Ministry of Health, Labor and Welfare; International Medical Center of Japan; Japan Association of Parasite Control
Related Cooperation (if any)	Technical cooperation: Epidemics Research and Control Project (1979-1984), KEMRI Project (1985-1990), Infection Research and Control Project I (1990-1996), Infection Research and Control Project II (1996-2000), Third Country Training Programme on Blood Safety (1998-2001 and 2003-2007) Grant Aid: KEMRI Construction Project (1982-1983), KEMRI Improvement Project (1997), Infection and Parasite Control Facility Construction Plan (2004)

1.3 Outline of Terminal Evaluation

1.3.1 Achievement of Overall Goal

Two impacts were reported in the terminal evaluation report. One is on Kenyan national policy and programmes such as the national school health program and the national school health policy. The other is on people in the model site of school health (for example, decrease in the parasite infection rate and behavioral change).

1.3.2 Achievement of the Project Objective

The terminal evaluation concluded that the Project was nearly successful because four indicators (1. Human resource development in Kenya and participating countries; 2. Establishment of information networking at ESACIPAC; 3. Development of guidelines for parasite control in Kenya; and 4. Applied field research) were almost accomplished. In particular, Indicator 1 and Indicator 3 were remarkably achieved.

1.3.3 Recommendations

There are five recommendations made in the terminal evaluation, which focus on a training course and its expansion to participating countries.

① The international training modules need to be revised in order to include the concept of GPCI by Japanese and Kenyans.
② A report on the activities of the model site for school based approach needs to be made.
③ Follow-up cooperation for participants in international training courses needs to be considered.
④ ESACIPAC needs to strengthen the Third Country Training Programme in order to make use of the training center which is constructed by the Japanese Grant Aid project.
⑤ It is necessary to be supported by international organizations in order to expand the parasite control into participating countries.

2. Outline of the Evaluation Study

2.1 External Evaluator

Yuki Fukuda, Consultant, Binko International Ltd.

2.2 Duration of Evaluation Study

Duration of the Study:	December 2009 to November 2010
Duration of the Field Study:	March 15, 2010 to March 23, 2010;
	May 23, 2010 to May 29, 2010

2.3 Constraints during the Evaluation Study

As information on the plan of the Project is not available, it was impossible to analyze the efficiency with comparison between the plan and the actual performance. Hence, the efficiency is analyzed with evidences from some project documents and interviews.

3. Result of the Evaluation (Overall Rating: A)

3.1 Relevance (Rating: a)

3.1.1 Relevance with the Development Plan of Kenya

The consistency between the Project and the Development Plan of Kenya is high.

The Kenya Poverty Reduction Strategic Paper (2003) mentions two development policies related to the Project. One is human resource development in education and health. The other is importance of cross-sectoral cooperation for public health. In addition, specific policy on parasite control is stated as one of school health programs in National Health Sector Strategic Plan II (2005-2010); and National Education Sector Support Program (2005-2010), both of which were enforced during the Project.

Accordingly, the relevance with the Development Plan of Kenya is high, as the Project is accordant with poverty reduction policy, health policy, and education policy.

3.1.2 Relevance of the Development Needs of Kenya

The consistency between the Project and needs in Kenya is high.

According to the health management information system (2002), the national major cause of outpatient morbidity was malaria (first place in total outpatient morbidity) and other intestinal worm diseases (fourth place in total outpatient morbidity). This fact leads to the assumption that the parasitic diseases targeted are common among Kenyans.

Also, the questionnaire filled in by the Executing Agency mentions that the prevalence of parasitic diseases is quite diverse in Kenya. For example, there are few cases of malaria in Nairobi City and some parts of Central and Rift Valley Provinces, seasonal transmission can be seen in parts of the Central, Eastern, and North Eastern Provinces, and the Coast, and Western Provinces and parts of Nyanza have stable transmission. Soil-transmitted helminthiasis and schosistomiasis are common in the Western, Nyanza, Central, Eastern, and Coast Province, and the rate of lymphatic filariasis is high in the Coast Province.

Although all targeted parasitic diseases are not prevalent in all areas of Kenya, the infection rate and the outpatient morbidity are high, therefore the Project is accordant with the Development Needs in Kenya is high.

3.1.3 Relevance with Japan's ODA policy

The Project is based on GPCI, which was advocated in 1998. Additionally, following two initiatives, the Okinawa Infectious Disease Initiative (2000) and Health and Development Initiative (2005) include parasite control based on GPCI.

The Project is based on one of the important issues stated in Japanese initiatives for health; therefore the relevance with Japan's ODA policy is high.

This project has been highly relevant with the country's development plan, development needs, as well as Japan's ODA policy, therefore its relevance is high.

3.2 Effectiveness (Rating: a) [2]

3.2.1 Project Outputs

3.2.1.1 Output 1

At completion of the Project, Output 1, "ESACIPAC as an international center is strengthened to carry out its mandates effectively", was uncompleted partly as some indicators of the total four (1. Center activities are institutionalized, 2. Terms of references are clearly defined, 3. Steering committee is constituted, and 4.Fulltime personnel are identified, assigned, and appreciated) were not identified.

First, during the Project, ESACIPAC activities were almost institutionalized (achievement of Indicator 1). ESACIPAC was established in 2001 and the former director of KEMRI announced that ESACIPAC is the eleventh center of KEMRI at the Board of the Management. In 2002, ESACIPAC held an international symposium to inaugurate the center, and invited people from Japan, international organizations and CIPACs in Thailand and Ghana. In 2003, ESACIPAC started to manage its role with three divisions: Training; Research activities; and Information Network.

However, a definition of terms of references (Indicator 2) and the situation of full-time personnel (Indicator 4) were not identified. Although KEMRI tried to increase ESACIPAC full-time personnel, there were one director, two researchers (including the director), seven technologists, two field workers, and 15 administrative staff (such as secretaries and drivers) at completion of the Project. Almost all researchers involved in the Project came from another center in KEMRI and left ESACIPAC for their original center after the Project. Also, there was no written terms of references, thus it is hard to say that terms of references were clearly defined.

At last, a steering committee by directors of centers in KEMRI was not constituted (Indicator 3). According to project documents, prospective members of the potential steering committee

[2] Sub-rating in "Effectiveness" includes evaluation result of "Impact".

were so busy that the committee could not have organized during the Project. Instead, a Project implementation committee was held regularly by the Project team.

Accordingly, the achievement of Output 1 was limited at completion of the Project.

3.2.1.2 Output 2

Output 2, "Appropriate strategies for control of targeted parasitic diseases, for which school health based model is being established in Kenya, are developed." was achieved. Output 2 had two indicators: 1. Guidelines for parasite control are developed; and 2. Model project(s) for parasite control in Kenya is/are implemented in schools.

First, guidelines for parasite control, "National Worm Control in School-Age Children" were developed (achievement of Indicator 1). There are two types of guidelines: one is a "Guide for district level managers; and the other is the "Teacher Training Kit". Both guidelines were approved by the Ministry of Education and the Ministry of Health in 2004.

Second, a model project in schools was implemented in Mwea Division, Kirinyaga District, and Central Province (achievement of Indicator 2). The model project had three components of parasite control in schools: the de-worming program; environment and sanitation; and health education.

Guidelines for parasite control were developed by ESACIPAC and accepted by ministries, also the model project for parasite control in schools was implemented; therefore Output 2 was achieved.

3.2.1.3 Output 3

Output 3, "Policy makers and concerned members of participating countries are sensitized and committed to the Project", has a discussing point mentioned below. Output 3 had four indicators: 1. Country visit; 2. International workshops; 3. Participants of training course are nominated; and 4. Returning participants are assigned to the parasite control program.

The Project team visited participating countries from 2001 to 2006 (achievement of Indicator 1). International workshops were organized with the World Health Organization Regional Center for Africa (hereinafter referred to as WHO-AFRO) in June and October 2003 (achievement of Indicator 2). ESACIPAC held three international training courses, and each training course had participants from participating countries (refer to Table 1 in 3.2.2). Some activities organized by ex-participants were recognized in almost all countries (achievement of Indicator 3 and 4). In particular, Tanzania, Zambia, Uganda and Zanzibar[3] implemented activities for school health and parasite control with assistance from international organizations and NGOs.

However, according to some Project documents and interviews, it was pointed out that the Project had less impact on participating countries than other two International Parasite Control Projects because no small-scale pilot project, which was the main task of GPCI, had started in

[3] One part of United Republic of Tanzania. Zanzibar has its own judicature, legislation, and administration.

these countries during the Project in Kenya. Comparing the Project Design Matrix (hereinafter referred to as PDM4) of the Project in Kenya with those of Thailand and Ghana, PDMs for Thailand and Ghana mentioned concrete activities and/or indicators in participating countries. In case of the Project in Kenya, as the PDM did not state any clear activities or indicators in participating countries, it would be difficult for people involved in the Project (such as Japanese experts, counterparts and JICA offices) to set a common goal. Hence, in case a project requires outputs in participating countries, it is necessary to define specific activities and/or indicators at the beginning of a project and to share them with people involved in a project. .

Although there are some comments that impact on participating countries is limited, it can be said that Output 3 was achieved because four indicators aimed to be goal in the PDM were identified.

3.2.1.4 Output 4

Output 4, "Appropriate training to enhance human capacity is undertaken." was achieved. Output 4 had three indicators: 1. Training curricula and materials are developed and utilized; 2. The center offers at least one international and one in-country course each year; and 3. The field sites for training are established and utilized.

First, training curriculum and materials were developed and utilized (achievement of Indicator 1). Developed curriculum and materials were different between international training course and in-country training course. A training curriculum and materials for the in-country course, such as health education materials for teachers and students, were developed and a training curriculum for health education was developed. However, while a curriculum for the international course was developed by collaborative work with WHO-AFRO, materials were not developed. Instead, ESACIPAC distributed handouts to participants if facilitators gave permission.

Second, ESACIPAC offered one international and one in-country course every year during the Project period (achievement of Indicator 2). Both international and in-country training were implemented three times. In-country courses held in Mwea division focused on health education and de-worming activities, and targeted at teachers and health personnel. The international training courses focused on school based parasite control, and each training course had about 20 participants.

Third, the field sites for training were established and utilized (achievement of Indicator 3). Each international training course included field site activities (the first training course used Kismu as the field site, and the second and the third training course were in Mwea Division.)

As training curriculum and materials were developed and utilized, and ESACIPAC offered one international training course with a field site activity and one in-country training course each year, Output 4 was achieved.

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[4] A framework for planning, implementing, monitoring, and evaluating projects. (Reference: JICA evaluation guideline.)

3.2.1.5 Output 5

Output 5, “Information and human network on parasite control is developed with the participating countries, ACIPAC, WACIPAC, international organizations and other institutions.” was almost achieved. Output 5 had five indicators: 1. WEB page is uploaded and maintained; 2. Visits among centers exchanged; 3. Visits to international organizations and institutions; 4. Newsletters are published; and 5. Information between participating countries and ESACIPAC is exchanged.

The official website opened in 2003; however, it was hardly updated during the Project (Indicator 1). Visits among centers exchanged often because each training course had participants from WACIPAC and/or ACIPAC, and some Kenyan counterparts went to both centers in order to attend their workshops or training courses (achievement of Indicator 2). ESACIPAC visited international organizations and institutions such as WHO-AFRO (achievement of Indicator 3). Moreover, ESACIPAC invited some staff from such organizations as facilitators of the training course and as observers of de-worming activities. Newsletters were published regularly (achievement of Indicator 4), and by completion of the Project 16 newsletters were distributed to other centers of KEMRI, ministries, international organizations and participants of the training courses. Information was exchanged through training courses, such as country information and participants’ contact information (achievement of Indicator 5). ESACIPAC made reports on international training courses with these collected information. Additionally, there were 80 key persons for parasite control at completion of the Project.

Although the website was not updated regularly, there were visitors among CIPACs and international organizations, newsletters were published, so far information was exchanged. Therefore Output 5 was almost achieved.

3.2.1.6 Output 6

Output 6, “Applied field research activities are undertaken, including application and development of appropriate tools.” was achieved. Output 6 had two indicators: 1. Research tools are applied/developed and used for parasite control; and 2. Findings are disseminated.

Three applied field research activities were conducted (achievement of Indicator 1), which were: 1. Entomological studies for Malaria in Mwea; 2. Evaluation of the treatment effect for schistosomiasis and soil-transmitted helminthiasis in Kwale and Mwea School; and 3. Filariasis activities in Kwale to determine treatment coverage, monitoring the effect of MDAs at sentinel sites, and spot-checking.

These findings were disseminated (achievement of Indicator 2). They were prepared for use in 11 articles, and three of them had already been submitted to the committee in KEMRI at completion of the Project. Also, some findings were presented at the Africa Health Science Conference.

As field research activities were conducted and these findings were disseminated, Output 6 was achieved.

3.2.2 Achievement of the Project Objectives

3.2.2.1 Indicator 1

Indicator 1, "The personnel in charge of parasite control programs in Kenya and participating countries have been successfully trained by the center", was achieved. Three international training courses were held, and each course had participants from both Kenya and participating countries. Table 1 indicates that the themes of the training courses, the number of participants and their occupations.

Table 1. Participants and Countries in International Training Courses

1. Strategic Planning for Parasite Control			2. School-based Parasite Control			3. School-based Parasite Control		
Country	No.	Occupation	Country	No.	Occupation	Country	No.	Occupation
Kenya	3	MOH	Kenya	2	MOH MOE	Kenya	5	MOH MOE
Tanzania	2	MOH	Tanzania	1	MOE	Tanzania	3	MOH MOE
Botswana	2	MOH	Botswana	3	MOH MOE	Botswana	1	MOH
Zimbabwe	2	MOH	Zimbabwe	1	MOH	Zimbabwe	2	MOH MOE
Uganda	2	MOH	Uganda	2	MOE	Uganda	1	MOE
Zanzibar	2	MOH	Zanzibar	2	MOH MOE	Zanzibar	2	MOH MOE
Zambia	1	MOH	Zambia	2	MOH MOE	Zambia	4	MOH MOE
Malawi	2	MOH	Malawi	1	MOH	Malawi	3	MOH MOE
Ghana	1	MOH	Ghana	1	WACIPAC	Ghana	1	WACIPAC
			Thailand	1	Mahidol Uni.	Mozambique	1	NGO staff
Total	17		Total	16		Total	23	

References: The questionnaire of the ex-post evaluation and reports by ESACIPAC
MOH: Ministry of Health; MOE: Ministry of Education

As Table 1 shows, 56 officers from the ministry of health, the ministry of education, CIPACs and NGO in 10 countries and Zanzibar participated in the training courses organized by ESACIPAC.

3.2.2.2 Indicator 2

Indicator 2, "Information collected by ESACIPAC from established network activities is well used for effective parasite control." was achieved. ESACIPAC established three types of information network, which were a human network, website and newsletters. A human resource network was established through three international training courses. Not only participants' contacts information, such as e-mail address and postal address, but also country information on parasitic diseases was compiled in the report on each international training course. In addition, the Project team visited participating countries in order to exchange information on parasite control with ex-participants and JICA country offices in 2005. The official website was developed in 2003, but it was not been regularly updated during the Project. Sixteen newsletters were published, and they were distributed for other centers in KEMRI, ministries, international organizations, and participants of the international training courses.

As ESACIPAC established three types of network and exchanged information with participating countries and international organizations, Indicator 2 was achieved.

3.2.2.3 Indicator 3

Indicator 3, “School health guidelines is developed based on the model parasite control and are adopted by the ministries concerned in Kenya.” was almost achieved. At completion of the Project, although a draft of the school health guideline was completed, guidelines were not approved yet by concerned ministries. Therefore, Indicator 3 was nearly achieved.

3.2.2.4 Indicator 4

Indicator 4, “Applied field research activities for parasitic diseases control are carried out as stated in the ESACIPAC documents.” was achieved because Project documents and questionnaires mentioned three field research activities were conducted during the Project.

The Project has largely achieved its objective; therefore its effectiveness is high.

3.3 Impact

3.3.1 Achievement of Overall Goal

The overall goal, “Control programs and applied field research on parasite control are strengthened through capacity building of human resource development and research activities in Kenya and participating countries.”, is almost achieved. The Overall Goal had five indicators: 1. Appropriate strategies and tools are developed for improvement of the control programs on the targeted parasitic diseases; 2. Policies on parasitic diseases control are enhanced and articulated; 3. Currently lowly-ranked parasitic diseases are ranked higher; 4. The personnel in-charge of control programs in parasitic diseases in Kenya and participating countries are substantially trained; and 5. Burden of parasitic diseases is reduced. Each indicator is accomplished as follows:

First, appropriate strategies and tools have been developed for improvement of parasite control (achievement of Indicator 1). This strategy is de-worming activities in schools by teachers. In addition, a manual for the training course in de-worming activities by teachers has been developed, and this strategy is utilized in other areas in Kenya. Also, policy on parasite control has been enhanced and articulated (achievement of Indicator 2). Parasite control programs are included in some national policies and programs such as National Health Sector Strategic Plan II (2005-2010) and National Education Sector Support Program (2005-2010). Moreover, national school health policy and national school health guidelines were enforced in 2009, and both include school based parasite control. And low-ranked parasitic diseases have been ranked higher (achievement of Indicator 3). National Health Sector Strategic Plan II mentions that parasite control is a special service for children aged six to twelve.

Second, personnel in charge of parasite control programs in Kenya and participating countries have been substantially trained (achievement of Indicator 3). After completion of the Project,

two types of international training course have been held every year: one is the Third Country Training Programme (hereinafter referred to as TCTP) by JICA; and the other is the training course with Partnership for Child Development (hereinafter referred to as PCD). While these two training courses have a common theme, the targeted participants are different. TCTP is for district-level managers from health sector and education sector, and PCD is for ministry officers, experts in education and public health from NGOs. Finally, according to the questionnaire, the infection rate of parasitic disease in the model site has been decreasing (achievement of Indicator 5). For example, in Mwea Division, the infection rate of STH was declined from 18.7% (2004) to 0.2% (2007), and infection rate of schistosomiasis was from 47.9% (2004) to 5.4% (2007). Also, in the Kwale Division, the infection rate of filariasis decreased from 10.5% (2003) to 0.9% (2009).

As mentioned above, it can be said that the overall goal of the Project was almost achieved.

3.3.2 Other Impacts

Apart from the overall goal, four impacts are identified: 1. Impact on implementation of training courses by the Grant Aid project; 2. Impact on the model site (Mwea Division); 3. Impact on other areas in Kenya; and 4.Other impacts.

First, impact on implementation of training courses by the Japanese Grant Aid project is reduction in training fees and income earned through the rental fees for the training center. The training center was constructed by Japanese Grant Aid, and is used by ESACIPAC to hold its own training courses or workshops. According to an interview with the Executing Agency, the training center is utilized by another center in KEMRI and international organizations. Some organizations need to pay a rent fee, and the income enables ESACIPAC to maintain and improve the facility of the training center. Thus, two positive impacts are identified: one is reduction in training fees (ESACIPAC need not to pay for a training place); and the other is income earned by rental fees (used for maintaining and improving the training center).

Table 2: Training Center Usage

Currency: Kenyan shilling

	2006	2007	2008	2009
Days per year	149	105.5	82	84.5
Income by rental fee	1,955,193	3,182,380	1,990,080	791,300

Reference: Document made by ESACIPAC at the ex-post evaluation

Second, impact on the model site (Mwea Division) has been identified since the terminal evaluation. Health staff and teachers in Mwea Division mentioned some positive impacts on health status and behavioral change in the community. These impacts are follows:

- Sustaining the low prevalence of parasitic diseases and increasing parents consulting health workers about treatment for parasitic diseases.
- Decreasing absence rate and improved academic and sports performance among school children

- Wearing shoes when they go outside and washing their hands before eating and after using the toilet
- Declining rate of parasitic diseases among school children due to implementation of the national de-worming program

Third, impact on other areas in Kenya is the implementation of the national de-worming program. The de-worming activity in Mwea Division is utilized for other areas in Kenya. Along the national worm control guideline approved in 2004, the Kenyan Government implemented a de-worming activity for 350 million children in five prefectures in 2009, and this activity will be carried out in 2010 (at the ex-post evaluation in May 2010). In addition, an international NGO, "De-worm the World", made a documentary film in Mwea Division, which is used for promoting parasite control in other countries.

Last, other impact is contribution to international society by activities based on GPCI, including ESACIPAC activities. According to interviews with people concerned with the Project, the commitment to control of parasite diseases including malaria was very low before the Initiative. At the summit mentioned above, a few representatives understood the importance of parasite control because HIV/AIDS was considered to be a more urgent issue. Under this condition, GPCI commenced, and international society committed itself to GPCI. For example, the World Health Organization established a section entitled "Neglected Tropical Diseases: NTDs", and performs an important role in parasite control in Kenya.

Accordingly, some positive impacts have been identified in addition to the achievement of the overall goal. No negative impact has been reported.

3.4 Efficiency (Rating: b)

3.4.1 Input

Inputs	Plan	Actual Performance
(1) Experts	N/A	Six for Long term Twelve for short term
(2) Trainees in Japan	N/A	5 trainees Parasitology, information networking and GIS
(3) Third Country Training Programme	N/A	
(4) Equipment	N/A	Computers, vehicles, equipments for the laboratory
Total Cooperation Cost	N/A	43.3 million Japanese yen
Total Local Cost	N/A	Almost 2.6 million Japanese yen

3.4.1.1 Elements of Inputs

According to Project documents, Japanese long-term experts were engaged in the Project as planned. There were six Japanese long-term experts: one chief advisor, one coordinator, two experts in parasite control, one expert in public health and one expert in school health. The chief advisor and the coordinator worked for whole period of the Project. The two experts in parasite

control were replaced to an expert in public health and an expert in school health at the middle of the Project. The number of short-term experts was 12, and they were in charge of facilitating the training course in 2003 and in 2004, field research in Mwea and Kwale and Project management in 2005. The number of short-term experts was lower than the plan except the year of 2005.

The questionnaire says that procured equipment appropriate in terms of quantity and quality. However, Project documents mention that there were some cases where the timing of procurement was not appropriate. For example, some equipment for a laboratory had not been used for a long time because equipment had been procured earlier than completion of the Grant Aid project. Furthermore, other equipment was the same as that procured by the Grant Aid project.

Trainees in Japan needed some improvements. The Project document mentions that one of five trainees was never involved in the Project after his training in Japan because he went to another country as an overseas student.

As the improvement of project input with equipment and trainees in Japan was desired for good efficiency, it can be said that some parts of elements of Inputs were inappropriate.

3.4.1.2 Project Cost

In total, Japan provided Kenya 44.3 million Japanese yen for the Project (from 2003 to 2006). As information on the planned Project cost is not available, it is difficult to compare this amount with that of the project plan. With this report, the financial situation will be analyzed with project documents and interviews.

According to project documents and interviews, it might cost much to implement de-worming activities, one of three components of school based parasite control, in Mwea Division. The Project in Kenya implemented de-worming activities with all elementary schools in Mwea Division (while other two international parasite control projects did only with some elementary schools in model sites). The Project documents indicate that cost of de-worming activities in Mwea was almost same as that of the international training course. And, one report by a long-term expert mentions that cost of de-worming activities could be reduced if the way of some activities was improved. For example, teachers are trained in various places in order to cut down transportation fees and allowances and stool examinations are implemented in all schools, but de-worming activities are implemented in schools where over 10% of children are infected by parasitic diseases. Especially, the report states that the training fee for teachers could be reduced by one-sixth if the way was improved. Hence, it is possible that de-worming activities are implemented with lower cost.

As it is possible to achieve the same output with lower cost for some activities, it is considered that the Project could be implemented effectively with less project cost.

3.4.1.3 Period of Cooperation

The Project was implemented from April 2003 to April 2006 without extension of the Project. However, the Executing Agency pointed out that the duration was too short to eradicate parasitic diseases since it took many years to combat parasitic diseases in Japan. The aim of the Project was not eradication of parasitic diseases but human recourse development for parasite control. Although three years are too short to eradicate all parasitic diseases, it is appropriate to implement technical cooperation for human resource development.

Some of the inputs (elements of inputs and period of cooperation) are appropriate for producing outputs and achieving the project objective, therefore efficiency of the Project is fair.

3.5 Sustainability (Rating: a)

3.5.1 Related Policy towards the Project

Sustainability of related policy towards the Project is quite high.

National school health policy and national school health guideline were enforced in 2009. Both policies include school based parasite control. Also, National Health Sector Strategic Plan II (2005-2010) mentions that parasite control is important component for school-aged children. National Education Sector Support Program (2005-2010) includes the de-worming program in schools, and this program was implemented for about 350 million children in 2009. Additionally, the Kenyan prime minister introduced the de-worming program as a national program at the World Economic Conference in Davos in 2009. Teachers are trained in order to implement de-worming activities, and guidelines developed by ESACIPAC (National Worm Control in School-age Children) are utilized. Also, these guidelines are specified in national school health policies, and according to a Japanese expert in school health, guidelines were reprinted at the beginning of 2010.

As school based parasite control is included in the national policies and program and the guidelines developed by ESACIPAC are utilized, sustainability of related policy towards the Project is high.

3.5.2 Institutional and Operational Aspects of the Executing Agency

Although ESACIPAC needed to improve its own management at completion of the Project, two remarkable points can be recognized at the ex-post evaluation research. The first is the establishment of a steering committee. At present, the steering committee has 14 members, and it is held regularly (almost once a month). The second is the increase in ESACIPAC personnel. Full-time staff have been assigned (10 for research activities, 15 for training courses and four for information network), and ESACIPAC has about 40 staff including administrative officers (such as secretaries and drivers). There are no written terms of reference; and each officer has his/her own appointment letter signed by KEMRI instead. A case of resignation is rare, and only two officers including the retiring officer have left their position since completion of the Project.

A steering committee was established and the number of ESACIPAC staff was increased, therefore institutional and operational sustainability is high.

3.5.3 Technical Aspect of the Executing Agency

Technical sustainability of the Executing Agency is high.

ESACIPAC has three technical abilities (training course, research activities and information network), which important to perform as a regional center for parasite control.

After completion of the Project, ESACIPAC organized both international and in-country training courses. First, there are two types of international course: one is TCTP by JICA; and the other is the training courses with PCD. The theme of TCTP was school based parasite control, and the PCD training course was a comprehensive approach to school health (FRESH framework). The PCD training course has been joined by WACIPAC since 2009. According to interviews with ESACIPAC staffs, this training course was held at WACIPAC, and in 2011, it will be at ESACIPAC. Two types of in-country training courses were held: one is how to implement a de-worming program for teachers and personnel of health sector at the district level, and this training course has been held once a year since 2006; and the other is the theme of "a health promoting school" for teachers in Mwea Division (2006).

ESACIPAC has also technical ability on research activities. Four researches activities are being conducted at the present. And from now own, nine articles are being published in some academic journals.

As for information network, although it needs some improvements, ESACIPAC has information on ex-participants of training courses. Improvement points are in the website and newsletters. The website of ESACIPAC developed by the Project was closed because KEMRI revised its website. ESACIPAC has pages within the KEMRI website, but the last update was in 2006. Also, newsletters have been published since completion of the Project; however, there is no newsletter in 2010 (a communication officer of ESACIPAC mentioned that one issue would be seen in 2010).

Almost all procured equipment is utilized. This equipment comprises personal computers, copy machines, vehicles and microscopes. Microscopes are managed by technologists. These microscopes are used in training courses, and people from outside ESACIPAC can use them with the permission of an ESACIPAC director.

Three technical abilities are identified and procured equipment has been managed continuously; therefore technical sustainability of the Executing Agency is high.

3.5.4 Financial Aspect of the Executing Agency

ESACIPAC's revenue is budget from KEMRI and financial support from international organizations. Since completion of the Project, KEMRI has allocated budget for personnel, field research activities (if the proposal is accepted), and others. In case training courses are planned (for example TCTP), KEMRI allocates the budget. The budget for 2010-2011 had been

reviewed by KEMRI in the second field research of the ex-post evaluation (May, 2010). Table 3 indicates expenditure of ESACIPAC since completion of the Project.

Table 3: Financial Information on ESACIPAC

Currency: Kenyan shilling

	2006/2007	2007/2008	2008/2009	2009/2010
Personnel	17,098,392.30	189,420,872.60	23,002,909.90	20,750,462.40
Training course	1,591,800	1,409,420	1,875,580	-
Field research	710,000	718,000	580,000	630,000
Others	812,000	475,000	674,000	614,000

Reference: The questionnaire at the ex-post evaluation

ESACIPAC can obtain stable budget from KEMRI; however, it still needs financial aid from international organizations in order to implement training courses and research activities. Fortunately, ESACIPAC has collaborated with these organizations since the Project period. In particular, it costs much to hold international training courses because traveling fees, allowance, and tuition for the course should be arranged. Therefore, international training courses with PCD require that all participants pay their training fees and traveling fees. Almost all of the participants have to look for sponsorship from ministries and international organizations. There are some international organizations which became sponsorship, such as the United Nations Children's Fund (UNICEF), the World Food Program (WFP), and Save the Children, and these organizations.

As KEMRI allocates necessary budgets; furthermore some organizations support ESACIPAC financially, financial sustainability of the Executing Agency is high.

3.5.5 Continuity of Effectiveness/Impact

ESACIPAC can be seen as a regional center for parasite control after the Project from technical aspect of the Executing Agency such as human resource development, research activities and information network.

First, training courses have been implemented once a year after completion of the Project. From 2006 to 2009 two training courses (including TCTP by JICA) have been held each year, and the theme of the training courses was school health and parasite control. The sustainability of training courses is high because ESACIPAC collaborates with international organizations and WACIPAC. And, as described in the previous section, some international organizations become sponsors for training courses. In-country training courses targeted ministry- and district-level officers, and theirs theme was de-worming activities and health education.

Second, although information network is limited, some of them are available. The ESACIPAC website developed by the Project was closed when KEMRI started to take charge of all Internet issues, and the KEMRI official website has a page for ESACIPAC. Additionally,

there are more than 400 people in the human recourse database, including ex-participants of the training courses, and they exchange information through e-mail.

Third, research activities have been conducted since completion of the Project. And nine articles have been published in some academic journals.

Last, according to the questionnaire and interviews ESACIPAC is considered as a regional center for parasite control. After completion of the Project, ESACIPAC has increased its personnel gradually, and continues to implement training courses and research activities. In addition, ESACIPAC has the will to carry on international training courses of parasite control through school health in the future. ESACIPAC recognizes that it is important to make a strategic plan for funding in order to maintain ESACIPAC as an international center. However, there are two weaknesses: one is weak information network; and the other is the lack of follow-up for participants.

As ESACIPAC starts to perform a role of regional center for parasite control through human resource development, information network, and research activities, it can be concluded that the effect of the Project is sustainable.

No major problems have been observed in the policy background, the structural, technical, financial aspects of the executing agency; therefore sustainability of the Project effect is high.

4. Conclusion, Lessons Learned and Recommendation

4.1 Conclusion

This Project aimed at human resource development in the health sector and parasitic control, which were relevance with Development Plan and needs of Kenya and with Japan's ODA policy. While efficiency of the Project needed some improvements, ESACIPAC, the center for human resource development and information network, did its best to institutionalize the center, implement training courses, conduct research activities and establish information network. Moreover, not only a great impact on national policy in Kenya and international society but also the sustainability of ESACIPAC is identified.

In light of the above, this Project is evaluated to be (A) highly satisfactory.

4.2 Recommendation to the Executing Agency

It is recommended that ESACIPAC make a strategic plan for funding in order to implement training courses and research activities. Additionally, it is desirable for ESACIPAC to share and discuss this strategic plan with governmental organizations and international organizations in order to execute this plan.

4.3 Lessons Learned

The ex-post evaluation leads to two lessons learned for people involved in similar projects in the future.

① PDM for technical cooperation projects that require outputs in participating countries.

In case of the Project, there is a difference between opinions about impact on participating countries among people involved in the Project. This fact results from no specific activities and/or indicators mentioned in PDM. Therefore, it is useful to mention concrete activities and/or indicators in PDM if outputs and/or an overall goal are required in participating countries.

② Collaboration with donor organizations during implementing projects.

ESACIPAC has continued its activities with technical and financial support from donor organizations since completion of the Project. It is considered that collaboration with donor organizations during projects is beneficial for an Executing Agency in order to sustain its activities.

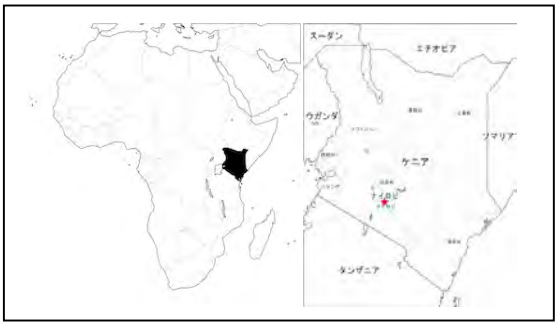
Republic of Kenya

Ex-Post Evaluation of Japanese Technical Cooperation Project

"The Research and Control of Infectious Diseases Project in the Republic of Kenya"

Hirofumi Tsuruta, Binko International Ltd.

1. Project Description



1.1 Background

The Kenya Medical Research Institute (KEMRI), the organization implementing the Project, is a state corporation established through the Science and Technology (Amendment) Act of 1979, as the national body responsible for carrying out health research in Kenya. In 1979 the first technical cooperation, "the Communicable Diseases Research and Control Project", started, and in 1985 Japan's Grant Aid project built the facilities of the KEMRI headquarters (including the laboratory, administration, animal experimentation, etc.). Technical cooperation had continued in five phases in total for the purpose of strengthening the research capacity of KEMRI for infectious diseases (viruses, bacteria, parasites, diarrhea, HIV/AIDS, acute respiratory disease, etc.), utilizing the facilities.

The fifth phase, which is the target of this evaluation, started in May 2001. In the fifth phase, the Project started targeting blood safety regarding HIV/AIDS and viral hepatitis, opportunistic infection, health education and parasite control as part of international parasite control initiatives (Hashimoto Initiative). Then, in April 2003, this project split into two projects, "the Research and Control of Infectious Diseases Project" and "the International Parasite Control Project" in order to increase the efficiency of project management.

Viral hepatitis, HIV/AIDS and opportunistic infections that the Project targeted were issues inherited from previous phases. Technical cooperation for viral hepatitis started in 1985 and testing kits were developed. In the fourth phase that started in 1996, HIV testing kits were developed through HIV/AIDS research while the P3 laboratory was constructed by Japan's Grant Aid (1999). In addition, research on opportunistic infections also started with improvement of technology for diagnosis, prevention, and treatment.

1.2 Project Outline

Overall Goal	To strengthen research and control programs of infectious diseases in Kenya through capacity building of research activities and human resource development at KEMRI and related institutions, such as the National Public Health Laboratory Services (hereinafter referred to as NPHLS)
Project Objective	To develop research and production capacity, human resources, and human/information networking at KEMRI, in collaboration with other institutions in Kenya such as NPHLS, in order to strengthen effective control of targeted diseases (HIV/AIDS, viral hepatitis, and opportunistic infections)
Outputs	An HIV/AIDS and viral hepatitis diagnosis system, also including other blood-borne infections, for blood safety (testing and confirmation) is established with widespread utilization of quality-assured blood-screening kits.
	Methods for diagnosis, prevention, and treatment of opportunistic infections in both adults and children with HIV/AIDS are established.
Inputs*	[Japanese Side] (After the split to the end) 1. Experts 159 MM - 8 For Long-term (139 MM) - 30 for Short-term (20 MM) 2. 13 Trainees received (for virology and molecular epidemiology, cultivation and molecular epidemiological monitoring of HIV, blood transfusion system and blood screening system, etc.) 3. 1 Trainee for Third-Country Training Programs (HIV/AIDS/ Philippines) 4. Equipment 77.8 million yen 5. Local Cost 104.8 million yen 6. Others (Participants in technical exchange): 3 persons (Thailand) [Kenyan Side] (After the split to the end) 1. 15 Counterpart 2. Equipment: N/A 3. Land and Facilities, Project Offices, Utilities 4. Local cost: 277.8 million yen, Counterpart Salary, Seminars
Total Cost	489.2 million Japanese yen (after the split of the Project in 2003)
Period of Cooperation	April 2003 – March 2006 (After the split) *May 2001- March 2003 (Before the split)
Executing Agency	Ministry of Health (currently the Ministry of Public Health and Sanitation)
Cooperation Agency in Japan	University of Osaka, National Hospital Organization Nagasaki Medical Center, Kyorin University
Relevant Project	[Technical Cooperation] Communicable Diseases Research and Control Project (1979-84), Project of the Kenya Medical Research Institute (1985-90), Project on Research and Control of Infectious Diseases (1990-96), Research and Control of Infectious Diseases Project II (1996-2001), Third Country Training Programme on Blood Safety (1998-2001, 2003-2007), International Parasite Control Project (2001-2006) [Grant Aid] Project for Construction of the Kenya Medical Research Institute (1982-83), Project for Improvement of the Kenya Medical Research Institute (1999), Project for Improvement of Facilities for Control of Infectious and Parasitic Diseases at the Kenya Medical Research Institute (2004)

*There were input (dispatch of experts, training, equipment, etc.) even before the split in April 2003, which contributed to the outputs.

1.3 Outline of the Terminal Evaluation

1.3.1 Achievements of Overall Goal

According to the terminal evaluation report, although there were some contributions to the development of policy and/or guidelines for the health programs of Kenya among the outcomes of the Project (research findings), its impacts were limited in practice. The report partially explained this by the weak Project design, as well as weak interest of both the KEMRI and Ministry of Health (MoH) sides to strengthen its ties.

1.3.2 Achievements of Project Objective

According to the terminal evaluation, the Project made major contributions to enhancing KEMRI in research capacity, production capacity, human resources and human/information networking, which held the potential to strengthen effective control of the targeted diseases, that is, HIV/AIDS, viral hepatitis, and opportunistic infections.

1.3.3 Recommendations

The terminal evaluation made recommendations for MoH, KEMRI and the Project.

MoH:	Commitment and promotion to use the test kits developed by KEMRI
KEMRI:	Development of capacity to obtain research funds, retention of trained staff, and maintenance of a collaborative network to continue research activities and promotion of diagnostic skills/knowledge in public hospitals
Project:	Discussion on effective management strategy for the production unit of test kits, sharing research findings with MoH, training researchers in basic computer skills, and technical assistance for the production of test kits

2. Outline of the Evaluation Study

2.1 External Evaluator

Hirofumi Tsuruta, Consultant, Binko International Ltd.

2.2 Duration of Evaluation Study

Duration of the Study:	December, 2009 - November, 2010
Duration of the Field Study:	March 15, 2010 - March 27, 2010
	May 23, 2010 - May 29, 2010

2.3 Constraints during the Evaluation Study

Some of the core stakeholders in the Project were unavailable during the survey. This may have caused in limitation of information on the Project, particularly on management decisions. However, this was made up for by the full cooperation of KEMRI and reviews of various Project documents.

3. Results of the Evaluation (Overall Rating: B)

3.1 Relevance (Rating: a)

3.1.1 Relevance with the Development Policy of Kenya

The relevance of the Project to the development policy of Kenya is high in regard to the target diseases and area from the beginning to the end of the Project. In the Economic Recovery Strategy for Wealth and Employment Creation 2003-2007, health is one of the equity and social-economic agenda items. In addition, in the National Health Sector Strategic Plan 1999-2004 (NHSSP I), HIV/AIDS is prioritized. Even in the Kenya National HIV/AIDS Strategic Plan 2000-2005 (KNASP I), blood safety (HIV/AIDS, hepatitis B, hepatitis C, and syphilis), and opportunistic infections (treatment and support) are priority areas.

3.1.2 Relevance with the Development Needs of Kenya

There were health needs for the Project because HIV/AIDS, viral hepatitis and opportunistic infections that the Project targeted were issues to be solved at the time of the Project. HIV/AIDS and viral hepatitis were at the stage needing intervention (HIV prevalence: 6.1%[5] (adults, 2004); hepatitis B: over 8%[6] (2006); hepatitis C: 0.9%[7] (2006)). In addition, regarding blood safety that is the focus of intervention of the Project, the screening rate on blood transfusion did not reach 100% (75.5%[8] (2002)), and there was a risk of transmission through blood transfusion. Moreover, as for opportunistic infections[9] related to HIV infections, there was a need to strengthen diagnostic skills and treatment measures in the severe situation where the number of AIDS-related deaths is very high, 120,000[10] per year (2003). Thus, the relevance of the Project with the health needs had been high from the start to the end of the Project.

3.1.3 Relevance with Japan's ODA Policy

The relevance of the Project to Japanese ODA policies is high regarding cooperation for research, development of treatment and diagnostics measures, and blood safety around HIV/AIDS from the beginning to the end of the Project.

Japan's Global Health Policy (The Okinawa Infectious Diseases Initiative (2000) and Health and Development Initiatives (2005)) that had been implemented during the Project period showed commitment to tackling HIV/AIDS. Although viral hepatitis and opportunistic infections were not mentioned significantly in bilateral cooperation, they were related to efforts for HIV/AIDS (blood safety, treatment, etc.)

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[5] The Republic of Kenya, Country Report for United Nations General Assembly Special Session on HIV/AIDS 2006
[6] World Health Organization (WHO), Introduction of Hepatitis B Vaccine into Child Immunization Services (2001)
[7] Parents of Kids with Infectious Diseases, Hepatitis C - Global Infection Rates - Reviewed 2006
[8] Japan International Cooperation Agency (JICA) /Nihon Sekkei Ltd., Basic Design Study Report - Project for Improvement of Facilities for Control of Infectious and Parasitic Diseases at Kenya Medical Research Institute in the Republic of Kenya (2004)
[9] An opportunistic infection is an infection caused by pathogens that usually do not cause disease in a healthy host
[10] Ibid (3)

On the other hand, in Japan's Country Assistance Program for Kenya, health was prioritized, and approaches to HIV/AIDS were particularly described as follows: "With treatments yet to be established for HIV/AIDS, it will be vital support research toward treatment development, as well as education and informing of the public of HIV/AIDS prevention measures, supply of contraceptive devices, and establishment of testing for early detection." In addition, in a consultative meeting between the Japanese ODA taskforce and the Government of Kenya held in August 2004, the promotion of aid for infectious disease control including blood safety was confirmed.

For the reasons mentioned above from 3.1.1 - 3.1.3, the Project has been highly relevant with the Kenya's development policy, development needs, as well as Japan's ODA policy, therefore its relevance is high.

3.2 Effectiveness (Rating: b[11])

Effectiveness was evaluated from the achievements of the Project objective, under the condition where the Project objectives and output were seemingly independent of each other. While the Project objective aimed at the capacity development of KEMRI, the outputs focused on the strengthening of infectious disease programs in Kenya. Thus, it is not very clear that the Project objective and the output were related each other and the logic of the Project design seems weak.

3.2.1 Project Outputs

3.2.1.1 Output 1

Output 1 "An HIV/AIDS and viral hepatitis diagnosis system, also including other blood-borne infections, for blood safety (testing and confirmation) is established with widespread utilization of quality-assured blood-screening kits" was not fully achieved. This is because opportunities for the use of the HIV test kits developed by the Project was not established. At first, the Project developed the test kits for HIV and hepatitis B and sought their use route in Kenya. As results, the test kits for hepatitis B were widely used in Kenya at the end of the Project, but the test kits for HIV were not achieved to be used during the Project period.

In this background there were policy changes made to their specifications of the HIV test kits to be used in public facilities in Kenya, which resulted in delayed development. HIV is sub-categorized into HIV-1 type and HIV-2 type in virology. In the Project, studies on test kits that can detect only HIV-1 proceeded. However, after the policy change, test kits that can detect both subtype HIV-1 and HIV-2 were required to be developed. Then, the specifications and characteristics of the test kits had to be changed. The development of HIV test kits only for HIV-1 was canceled during the process of the Project and replaced by the test kits for HIV-1

[11] Rating includes the evaluation on 3.3 Impact.

and HIV-2. Efforts towards the development of test kits for HIV-1 and HIV-2 continued, but governmental authorization on their use in Kenya was not in time for the end of the Project.

As for the test kits for hepatitis B, MoH authorized the test kit for use in Kenya in 2000 before the Project started. In parallel with progress of the Project, the use was expanded. For example, the test kits were purchased by the MoH, training for the public facilities was conducted, and they were used widely in national blood transfusion centers and public hospitals.

3.2.1.2 Output 2

Output 2, "The methods for diagnosis, prevention, and treatment of opportunistic infections in both adults and children with HIV/AIDS are established," was nearly achieved by the end of the Project. Through the Project, equipment for experimentation was prepared and research activities were promoted. As a result, diagnostics skills and research capacity in regard to the identification of pathogens causing opportunistic infections and extraction of natural compounds from plants for management of diseases were raised. In addition, on the basis of these researches, several treatment measures were created as practical output. For example, in the Project, anti-viral effects in vitro for the herpes simplex virus (HSV) were confirmed in 14 kinds of medical plant, anti-viral effects both in vitro and in vivo were confirmed in five kinds of plant, and three kinds of medicine for HSV were developed.

3.2.2 Achievements of the Project Objectives

The Project objectives, "To develop 1) research and 2) production capacity, 3) human resources, and 4) human/information networking at KEMRI, in collaboration with other institutions in Kenya such as NPHLS, in order to strengthen effective control of targeted diseases (HIV/AIDS, viral hepatitis, and opportunistic infections)," was nearly achieved as follows.

3.2.2.1 Research Capacity

The research capacity was improved by the Project, comprehensively evaluating from the following; 1) continuous publishing of research findings of the area cooperated by the project, 2) improvement of research infrastructure such as facilities and equipment by the Project input, and 3) activation and increasing impacts of research work of overall KEMRI beyond unit and center cooperated by the Project.

Table 1. Number of papers published in the cooperation area of the Project

Year	2002	2003	2004	2005	2006	2007*	2008*	2009*
Papers	2	1	1	1	3	-	-	2
Abstracts	6	5	2	5	3	4	5	1
Presentations at Conferences	5	-	-	4	3	4	3	1
Protocols	89	93	97	128	153	130	211	214

Source: Information from KEMRI for the ex-post evaluation
(The number of protocols is the number for the whole of KEMRI.)
*Refer to discussion in 3.5 Sustainabilit

As shown in Table 1, research papers and abstracts were continuously published in the area in which the Project cooperated during the Project period. It implies that an enabling environment where KEMRI could conduct international standardized research was created. This is due to cooperation contributing to soft components such as human capacity development conducted by Japanese experts as well as to hard components such as the creation of a research environment basis through procurement of equipment.

In addition, because the number of protocols (Table 1), papers and citations per paper (Table 2) of the whole of KEMRI also increased significantly during the Project period, the research activities of the whole of KEMRI became proactive during the period, and the findings were published and utilized across the world. Although the direct impact of the Project on the whole of KEMRI is not clearly found, the contribution of the Project may be high because Japan was one of main partners of KEMRI and the activities of the Project were related to eight of the ten centers of KEMRI (as of 2002).

Table 2. Number of papers published in the whole of KEMRI (total of five years)

Year	2000 - 2004	2001 - 2005	2002 - 2006	2003- 2007	2003- 2007	2004 - 2008	2005 - 2009	2006 -2010
Papers	383	405	444	499	499	513	499	518
Citations	2,654	2,971	3,166	3,566	3,566	3,704	3,637	4,295
Citations per Paper	6.93	7.34	7.13	7.15	7.15	7.22	7.29	8.28

Source: ISI Web of Knowledge Essential Science Indicators (accessed May 2010)

Therefore, it is implied that the Project increased the research capacity of KEMRI. Even in interviews with ex-counterparts of KEMRI and Japanese experts, similar opinions such as “Technical skills were raised through the Project,” “The level of research reached international standard,” etc. were collected.

3.2.2.2 Production Capacity

It is highly possible that the production capacity of KEMRI regarding the test kits improved in quality through the Project, although the effect on quantity was not very clear.

As shown in Table 3, the number of test kits produced tended to increase. However, because the amount of production can be influenced by the demand for test kits, it is difficult to determine whether it was an increase in capacity or not. Information on the expected maximum amount of production was not collected in this ex-post evaluation.

Table 3. Number of test kits produced

Test Kits	2002	2003	2004	2005	2006	2007*	2008*	2009*
HIV**	60	100	100	100	75	36	0	0
Hepatitis B	600	1120	1450	320	1500	0	0	0

Source: Information from KEMRI for the ex-post evaluation

*Refer to discussion in 3.5 Sustainability

**The number includes both test kits that detect only the HIV-1 subtype and test kits that detect the HIV-1/-2 subtype.

On the other hand, as for the quality of production capacity, it can be recognized that the Kenyan counterparts acquired the knowledge, skills and experience needed for production of HIV test kits, by referring the Project reports and responses to interviews with KEMRI at the time of this ex-post evaluation. In practice, most of activities for Output 1 were for development and precision control of the test kits, as well as quality control of production, which could influence strengthening of production capacity. In addition, according to the Project report, activities were implemented to promote sound improvement with consideration given to self-reliant production processes by reducing the commitment of the Japanese experts gradually, in order to reflect the progress of the Kenyan counterparts.

3.2.2.3 Human Resources

Through the Project, the human resources of KEMRI were enriched, and the capacity of human resource development inside and outside of KEMRI was strengthened in collaboration with education organizations.

As shown in Table 4, because the number and proportion of degree holders increased, it is significant that the educational background of KEMRI as an organization became higher and the development of human resources for research was advanced. KEMRI, as a reflection of a research institute with an organizational mission, continued to develop human resources and enabling environment for the research activities of KEMRI. While there were already staff who had master and/or doctor degrees during incumbency, the Project supported the staff to acquire these degrees through training opportunities in Japan or grant schemes of the Japanese Ministry of Education, Culture, Sports, Science and Technology as well as promoted acceptance of KEMRI staff by the departments of universities to which the Japanese experts belonged.

In addition, even for human resources outside KEMRI, KEMRI acquired the function of providing training to public organizations through the Project. As shown in the example of the establishment of the Institute of Tropical Medicine and Infectious Diseases (hereinafter referred to as ITROMID) in 2001, through collaboration between KEMRI and Jomo-Kenyatta University of Agriculture and Technology, KEMRI became an educational institute for master and degree programs. Thus, it is said that KEMRI made a basis for human resource development for research internally.

Table 4. Number of Degree Holders

Final Degree	2002	2005	2009*
Doctor Degree	33 (3.6)	43 (4.1)	59 (5.3)
Master Degree	71 (7.7)	107 (10.1)	106 (9.5)
Bachelor Degree	250 (27.1)	318 (30.2)	395 (35.7)
Total KEMRI Staff	921 (100)	1053 (100)	1107 (100)

Source: Information from KEMRI for the ex-post evaluation
()…Proportion of degree holders among total KEMRI staff (%)
* Refer to discussion in 3.5 Sustainability

3.2.2.4 Human/Information Networking

The human and information networking of KEMRI with domestic and international research organizations was expanded. As shown Table 5, the number of partner organizations increased between pre- (2002) and post- (2005) Project. The Project functioned as a bridge between Japanese research organization to which the Japanese experts belonged and KEMRI. In addition, various research cooperation and the Third Country Training Programme could promote the expansion of opportunities of networking with different institutes.

Table 5. Number of partner organizations with KEMRI

	2002[*1]	2005[*2]	Present[*3]
Domestic Ministries and Hospitals	N.A.[*]	3	3
Domestic Universities		10	7
International Institutes	16	18	13
Regional Institutes	10	10	8

Sources: 1. Annual Report and Financial Statements for the year ended 30th June 2003
2. Annual Report and Financial Statements for the year ended 30th June 2006
3. KEMRI website http://www.kemri.org (accessed May 30, 2010)/ Refer to discussion in 3.5 Sustainability
*Impossible to calculate because it included not only specific individual organization but also generic name such as "relevant ministry," "national university," etc.

In summary, as mentioned in 3.2.1 and 3.2.2, while a part of the Project objective and outputs were not achieved, certain outcomes were recognized as expected. Therefore, with consideration on the impact mentioned below in 3.4 Impact, the Project has somewhat achieved its objective, therefore its effectiveness is fair.

3.3 Impact

3.3.1 Achievement of Overall Goal

The overall goal, "To strengthen research and control programs of infectious diseases in Kenya through capacity building of research activities and human resource development at KEMRI and related institutions, such as the National Public Health Laboratory Services," is achieved to some extent. However, KEMRI as a research institute has continued to produce scientific findings that can contribute to strengthening health and research programs.

At first, the influence of output on the overall goal was not observed significantly. Because both test kits (HIV and hepatitis B) developed by the Project were not used in Kenya after the end of the Project, it is difficult to say that there was a contribution to health programs regarding infectious diseases. In addition, it is not fully recognized that the research with which the Project cooperated had a significant impact on policy and/or guidelines of Kenya.

However, in order to make the outputs and research findings contribute to health policies and programs, KEMRI needed cooperation with other policy stakeholders such as the National AIDS Control Committee (NACC), the National AIDS/STI Control Programme (NASCOP) and the National Public Health Laboratory Services (NPHLS), although cooperation and relationships with relevant authorities were not always controllable by the Project.

In addition, even though the impact on the overall goal is small, KEMRI has continued to contribute to infectious disease control and programs through its research activities. It is possible that these activities were supported by the research capacity that was strengthened by the Project. As shown in Tables 1 and 2, the number of papers published also tends to be increasing, and the contribution through research activities can be recognized. In addition, in the second National HIV/AIDS Strategic Plan 2005-2010 (KNASP II), KEMRI was appointed as the responsible and prime cooperation organization in the strategic area of research.

As in most countries, research results can generally make impact on health policies and programs with steady efforts and accumulation of outputs.

3.3.2 Other Impacts

3.3.2.1 Synergistic Effects with the Japanese Grant Aid Project

Synergistic effects with the Project for Improvement of Facilities for Control of Infectious and Parasitic Diseases at the Kenya Medical Research Institute, the Japanese Grant Aid project (2005), were not significantly recognized.

In the Grant Aid project, the test kits developed by this technical cooperation Project expected to be massively produced in the facility constructed. However, after the end of the Project and at present, neither of the test kits has been produced because of the lack of routes or opportunities for utilization. Currently, KEMRI has sought development and sale of other production, and has been on the way to success. Thus, there was no synergistic effect with the Grant Aid project.

3.3.2.2 Impacts of Long-term Cooperation

Both positive and negative impacts of long-term cooperation were observed. Positive impacts are human capital accumulation for health research through long-term cooperation including construction and maintenance of facilities by the Grant Aid and human capacity development by technical cooperation. According to the responses to interviews with Japanese experts, there was the opinion that long-term cooperation could change the awareness of KEMRI researchers of research or of its own role, and then could raise KEMRI to be a global standardized organization.

On the other hand, a negative impact is that long-term cooperation inhibited self-reliance of research somewhat because collaboration between Japanese and Kenya became usual.

3.3.2.3 Impact on Neighboring Countries

Through the publishing of research findings as well as the Third Country Training Programme on Blood Safety (ending in 2007), KEMRI has contributed intellectually to surrounding countries and the world, and has impacted on research capacity, skills, and knowledge in the area in which the Project cooperated.

3.3.2.4 Impact of Collaboration with Universities

The Project played the role of a bridge between Japanese universities and KEMRI or between Japanese experts and Kenyan researchers, and it was the case that research and/or activities were expanded. Among Japanese experts, some started collaborative research, accepted staff for master or doctor degrees, or built NGO activities for AIDS orphans in Kenya with staff.

3.4 Efficiency (Rating: b)

3.4.1 Elements of Inputs

Inputs are summarized in Table 6. There were some insufficiencies such as in the dispatch of Japanese experts.

Table 6. Inputs

Input	Plan[*1]	Results[*2]
(1) Experts	Long-Term (MM not planned) Chief advisor, Project coordinator, HIV/AIDS, viral hepatitis, opportunistic infections, etc. Short term (MM not planned) HIV/AIDS, blood safety, viral hepatitis, opportunistic infections, traditional medicine, etc.	8 For Long-Term (139 MM) Chief advisor, Project coordinator, HIV/AIDS, viral hepatitis, opportunistic infections, etc. 30 for Short-Term (20 MM) HIV/AIDS, blood safety, viral hepatitis, opportunistic infections, traditional medicine, etc.
(2) Trainees received	Fields of training Unidentified	Fields of training Virology and molecular epidemiology, cultivation & molecular epidemiological monitoring of HIV, blood transfusion system & blood screening system, molecular diagnosis of hepatitis viruses, research on opportunistic infections, etc.
(3)Third Country Training Progarms	Fields of training Unidentified	Fields of training HIV/AIDS (Philippines)
(4) Equipment	Equipment related to issues of blood screening, research on opportunistic infections, etc.	Vehicles, deep freezer, high-performance liquid chromatograph, autoclave, safety cabinet, PCR, etc.
Total Project Cost	Unidentified	Total 489.2 thousand Japanese yen
Total Local Cost	Unidentified	Total 104.8 million yen

Source: Japan International Cooperation Agency, Report on the Implementation Study on the Research and Control of Infectious and Parasitic Disease Project (2001)
2: Project documents, etc.

As for the dispatch of Japanese experts, the input was partially inefficient. For example, there was no chief advisor in the first two years. In addition, it was reported that there was a gap between the content of activities and the expertise of the experts. However, they were a seemingly essential presence for the Project activities because KEMRI highly appraised them at the time of the ex-post evaluation. Even during the absent period of chief advisor, members of the Advisory Committee of the Project timely visited the Project

As for training in Japan, it was efficient input because it was regarded as leading to skill building as well as viewpoint expanding, according to the responses at the time of the ex-post evaluation. The training had not been determined at the time of the implementation study before the Project due to difficulties of ensuring budget, although there was request from Kenya. However, in practice, thirteen people were accepted within three years for training in Japan, with 6.0 MM per person (minimum 2.6 MM, maximum 9.9 MM, and medium 6.1 MM).

As for equipment, its input was regarded as efficient. According to the responses in the interview with the Japanese expert at the time of the ex-post evaluation, utilization of equipment procured in this phase was high during the Project period, and the types of equipment procured also matched the Project activities. Because equipment was selected carefully by the Japanese experts after their appointment, possibility of utilization might have been raised for skills-transfer by the expert and for training in Japan through the Project period.

3.4.2 Project Cost

Regarding the Project cost, more efficient input was possible because some inputs did not contribute to achieve output and also potentially, there could be cheaper alternatives.

For example, development and production of test kits that can detect only HIV-1 subtype were canceled. In addition, even the successor HIV test kits that can detect the HIV-1 and HIV-2 subtype were not in time to be authorized by MoH, and opportunities or routes of utilization of the kits were not established at the end of the Project. It means that the input did not accomplish output. Moreover, the expert reported in a relevant document that there was a possibility that cheaper equipment or reagents could be procured.

Finally, it should be noted that there are also cases at the time of the ex-post evaluation whose validity of continuation or cancellation is difficult to judge. For example, it is easier to imagine that it was difficult to decide which equipment to procure because the trends of health programs and technical innovations were always changed in, particularly where trends are swinging in the case of newly infectious diseases such as HIV/AIDS.

3.4.3 Period of Cooperation

Some outputs were not achieved during the Project period (including the development of the HIV testing kits), although some activities were followed by a Japanese expert even after the end of the Project though e-mail, etc. This implies that the Project period might have been too short, but it was also due to inadequate planning of the Project. In practice, activities in each Project research area (HIV/AIDS, viral hepatitis, and opportunistic infections) had been implemented until the end of the Project, because each activity was independent, and milestones and indicators of each activity were not clear in Project design.

In summary, as mentioned in 3.4.1-3.4.3, some of inputs (some elements) are appropriate for producing outputs and achieving the project objective, therefore efficiency of the project is fair.

3.5 Sustainability (Rating: a)

3.5.1 Related Policy towards the Project

Targeted health needs (HIV/AIDS, viral hepatitis, and opportunistic infections) are still prioritized issues in the policies of Kenya. HIV/AIDS is still regarded as one of the important themes in the second National Health Sector Strategic Plan 2005-2010 (NHSSP II), and concrete measures have been determined in the Kenya National AIDS Strategic Plan 2009-2012 (KNASP III). As for viral hepatitis, relevant blood safety measures have been mentioned in KNASP III. In addition, as for opportunistic infections, their prevention has been addressed and treatment, which is regarded as essential in HIV/AIDS policy.

On the other hand, the governmental position of KEMRI has also remained unshaken by law. In 1979, KEMRI was established through the Science and Technology (Amendment) Act of 1979, as the national body responsible for carrying out health research in Kenya. At present, KEMRI has grown from its humble beginnings 27 years ago to become a leader in human health research in Kenya.

3.5.2 Institutional and Operational Aspects of the Executing Agency

The organizational stability of KEMRI is high because KEMRI has been institutionalized, and the staff are well retained in the organization. At present, KEMRI is run by the managing Board of Management as an independent administrative institution under the Ministry of Public Health and Sanitation. In addition, there are currently four standing committees of the Board, namely: 1) Scientific Programmes Committee; 2) Staff and Finance Committee; 3) Audit Committee; and 4) Infrastructure and Development Committee. The organizational structure has not been changed since the Project period, although there have been some personnel changes.

Table 7. Number and retention of KEMRI staff

	2002	2005	2009
Staff (Person)	941	1,053	1,107
Retention Rate (%)	96.4	96.6	93.8

Source: Information from KEMRI for the ex-post evaluation

In addition, the number of staff is more than one thousand and it is tending to increase as shown in Table 7 and the unemployment rate is also low. Therefore, it is possible that the staff who are involved directly and indirectly in the Project has been retained, and that an enabling environment in which the capacity, skill, and knowledge that the Project supported has been sustained. As of the ex-post evaluation, the prime counterparts of KEMRI in the research area in which the Project cooperated has been still in position.

3.5.3 Technical Aspects of the Executing Agency

Technical training and guidance for research capacity has been institutionalized and a system for continuous education and skills buildings has been developed. Among the tasks of the

Scientific Steering Committee are 1) presenting regular reports and updates to the Scientific Programme Committee on matters affecting the total effective scientific performance of the various research centers, including recommendations on staff and equipment, and 2) developing and promoting continuing education programs for all the staff.

3.5.4 Financial Aspects of the Executing Agency

There are fewer problems on financial sustainability because the overall budget of KEMRI and the one of the Ministry of Public Health, the supervising ministry, has been increased (data not shown). As for the international aid, it (85% from the U.S.) was about 2.8 times own budget, but the troubles such as sudden cancellation have not been happened in the last 10 years.

Table 14. KEMRI's budget and international aid

(million KSh)

	2005	2006	2007	2008
Budget from GoK*	879.4	926.5	926.4	1,028.3
International Aid	1,852.1	2,095.3	2,238.4	2,848.0
KEMRI Total Budget	2,731.5	3,021.8	3,164.8	3,876.3

*GoK: Government of Kenya
Source: Information submitted by KEMRI for the ex-post evaluation

However, the high dependency on international aid should be noted because it can create vulnerability of finance. The dependency on the aid can make inhibit the self-decision and sustainability of aid-recipient country or organization because the policy of aid-donor country can impact on the choice and/or continuation of research activities. This problem has been recognized among African countries[12]. Even in this project, some counterparts reported that their research activities cooperated by the Project became stagnant due to the difficulties of funding after the end of the Project, according to the interview during the field survey.

Director of KEMRI has similar opinion on dependency on the international aid, has concern that the research theme and direction can be changed in accordance with the change of the source of international aid, and has recognized the importance of efforts to increase the ratio of owner's equity. It implies that KEMRI has paid attention for the influence of international aid on the financial vulnerability and sustainability.

3.5.5 Continuity of Effectiveness / Impact

As follows, 1) research capacity, 2) production capacity, 3) human resources, and 4) human/information networking of KEMRI has been sustained.

3.5.5.1 Research Capacity

As shown in Tables 1 and 2 above, because the number of papers published, etc. has been maintained and/or increased, KEMRI has continued or expanded its research activities in the

[12] Nording L. African Nations Vow to Support Science, Nature 2010 Jun 20: 465 (7301): 994-5

area of the Project. These researches has not been only independent ones but also those supported by the U.S. CDC, and U.K. Wellcome Trust, or those through cooperation with international research institutes such as the University of Nagasaki. Thus, KEMRI has promoted its research capacity as an institute that can accept various international development partners or research organizations.

3.5.5.2 Production Capacity

The sustainability of the production capacity of KEMRI for test kits is uncertain. As shown in Table 3 above, the test kits technically supported by the Project have not been produced, so there are no indicators or situations regarding whether KEMRI has production capacity or not.

However, the high retention rate, etc. implies that the production capacity has been sustained. For example, skills of membrane coating of the test device for the rapid test kits that are successors to the kits developed by the Project, which have been transferred to KEMRI by the Project, are expected to be used in the future by KEMRI itself. Currently, the rapid test kits have been produced through the importation of coating membrane from a foreign country and put into plastic cassettes.

3.5.5.3 Human Resources

As mentioned above, the retention rate of KEMRI staff is high and the prime counterparts, who have transferred skills, are still working in KEMRI. Thus, knowledge and ability gained through the Project are transferred to other researchers. In addition, as shown in Table 4, the educational background of KEMRI is becoming high and the organizational color is deepening as a researchers' group. Human resource development has been sustained.

3.5.5.4 Human/information Networking

The human and information network in the research area focused on by the Project has been maintained even after the end of the Project. Even though the number of cooperation partners of KEMRI seems to be a little reduced, KEMRI has still collaborated with more than 20 foreign research institutes. It means that KEMRI is maintaining a wide network in the world. In addition, cooperation partners not in the list are confirmed, according to responses in this ex-post evaluation study (e.g., Kanazawa University that has accepted students from KEMRI for master programs, etc.)

In summary, as mentioned in 3.5.1 - 3.5.6, although there are some concern on finance, almost no problems have been observed in the policy background nor structural, technical, financial aspects of the executing agency and the continuity of the project effects are high.

4. Conclusion, Lessons Learned and Recommendations

4.1 Conclusion

The Project aimed at the development of research capacity and human resources of KEMRI, which has been the central research institute in Kenya. It was relevant to the health needs of Kenya (HIV/AIDS, viral hepatitis, and opportunistic infections) and health policy as well as to Japanese ODA policies. Through the Project, KEMRI could fairly complete its strengthening of research ability and technical foundation, and its sustainability of outcomes was observed, although the planned effectiveness and efficiency of the input was a little insufficient. Thus, in light of the above, this project is evaluated to be satisfactory.

4.2 Recommendations

1. The further strengthening of research capacity of KEMRI can lead to raise the international competitiveness, which promote the self-reliant development of KEMRI. For that purpose, KEMRI needs continuing efforts to develop and ensure quality researchers, to appropriately select and expand research areas, and to invest in research equipment and facilities. That is, KEMRI must reinforce its organization and management even in the future.

2. KEMRI has high dependency on international aid, which can inhibit self-decision in organizational management and/or research activities. Therefore, KEMRI should increase the portion of self-budget in its total research expenses in order to ensure sustainability and self-decision.

3. It is also important for the sustainability of KEMRI to expand opportunities to produce research outcomes. As one of measures to expand research opportunities, collaboration with many different research organizations can be recognized. For the collaboration, it is desirable to strengthen the networks of KEMRI. In addition, it is essential for KEMRI to show off current situation, activities and achievements of KEMRI domestically and internationally.

4.3 Lessons Learned

1. Because the research outcomes are not easily achieved as expected, the research activities may not be suitable for the Project with a defined period. Therefore, when cooperation to research organizations or project with research activities is planned, setting up research results as project outcomes, and/or milestone should be considered carefully.

2. In order to secure the sustainability of specific research activities, it is necessary to promote the self-reliance of KEMRI through participatory planning for projects that can reflect the views and the needs of practical-level researchers. In addition, it is also necessary to clarify an exit plan of project including selection of research topics that can be independent in a defined project period and establishment of a mechanism of acquiring research funds.

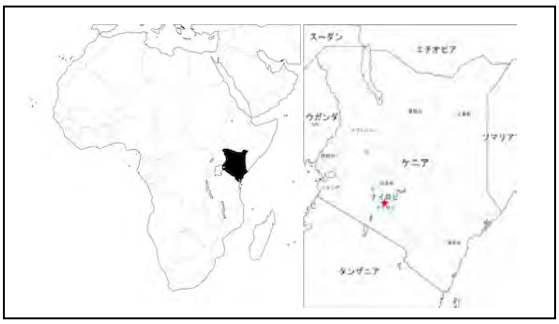
Republic of Kenya

Ex-Post Evaluation of Japanese Grant Aid Project

"The Project for Improvement of Facilities for Control of Infectious and Parasitic Diseases at Kenya Medical Research Institute in the Republic of Kenya"

Hirofumi tsuruta hirofumi, Binko International Ltd.

1. Project Description



1.1 Background

The Kenya Medical Research Institute (KEMRI), the organization implementing the Project, is a state corporation established through the Science and Technology (Amendment) Act of 1979, as the national body responsible for carrying out health research in Kenya. In 1979 the first Japan's technical cooperation, "the Communicable Diseases Research and Control Project", started, and in 1985 Japan's Grant Aid project built the facilities of the KEMRI headquarters (including the laboratory, administration, animal experimentation, etc.). Technical cooperation had continued in five phases in total for the purpose of strengthening the research capacity of KEMRI for infectious diseases (viruses, bacteria, parasites, diarrhea, HIV/AIDS, acute respiratory disease, etc.), utilizing the facilities.

As for viral hepatitis, technical cooperation had been implemented since 1985 and the test kit for Hepatitis B in blood was developed in Phase 3 and Phase 4. In addition, in Phase 4, the P3 laboratory (high-level bio-safety laboratory) was constructed through Japan's Grant Aid (1999) and test kits for HIV in blood were also developed in the laboratory through the applied research activities. After this progress, manufacturing and establishing of stable supplies of these test kits were planned in order to reduce the prevalence of Hepatitis B and HIV. As for parasitic diseases that had been cooperated since Phase 1, the activities led to the creation of a regional hub center of human resource development and of communication networks of researchers in Phase 5. Then, the project was recognized as one of component of Japan's Global Parasite Control Initiatives.

As Phase 5 of technical cooperation, "the Infectious and Parasitic Disease Control Project" (which was split into "the Research and Control of Infectious Diseases Project" and "the International Parasite Control Project") had implemented the following cooperation.

- Blood safety related to HIV/AIDS and viral hepatitis

- Applied development of treatment measures and traditional medicine for opportunistic infections associated with HIV/AIDS
- Human resource development and networking of researchers for parasitic disease control

In order to efficiently implement the cooperation mentioned above, the Government of Kenya planned the construction of facilities (a production unit for the test kit and a training unit) and the procurement of equipment. However, because of the lack of financial resources, the Government of Kenya requested Grant Aid from the Government of Japan.

The basic design studies were implemented twice, and this ex-post evaluation was based on the second basic design study. After the first basic design study (2002), the Government of Kenya changed the policy for production of the testing kit reflecting the recommendation on the use of HIV test kits by the World Health Organization (WHO). Accordingly, re-study of the demand of test kits production was required. A preparatory study was again implemented in May 2003, and the second basic design study was implemented in August 2003.

1.2 Project Outline

The objective of the Project is to establish the manufacturing system of blood test kits and to improve the training functions by developing and expanding the manufacturing facility of blood test kits and the facilities for infectious and parasitic diseases in the premises of KEMRI and in addition, to strengthen the measures to parasitic and infectious diseases in Kenya and surrounding countries, linked with technical cooperation project.

Table 1. Project outline

Grant Limit/ Actual Grant Amount	1072 million yen / 955 million yen
Exchange of Notes Date	February, 2004 (for detailed design study) August, 2004 (for construction)
Implementing Agency	Ministry of Health (MoH) (currently the Ministry of Public Health and Sanitation)
Project Completion Date	November, 2005
Main Contractor	Sumitomo Mitsui Construction Co., Ltd. (Construction) Mitsubishi Corporation (Equipment)
Main Consultant	Nihon Sekkei Co. Ltd.
Basic Design	"Basic design study on the project for improvement of facilities for control of infectious and parasitic diseases at Kenya Medical Research Institute in the Republic of Kenya" Japan International Cooperation Agency (JICA) and Nihon Sekkei Co. Ltd., August – September 2003
Detailed Design	February, 2004 - July, 2004
Relevant Project	[Japanese Technical Cooperation] Japan International Cooperation Agency (JICA) "Communicable Diseases Research and Control Project" (1979-84), JICA "Project of the Kenya Medical Research Institute" (1985-90), JICA "Project on Research and Control of Infectious Diseases" (1990-96), JICA "Research and Control of Infectious Diseases Project II" (1996-2001), JICA "Third Country Training Programme on Blood Safety" (1998-2001, 2003-

	2007), JICA “Research and Control of Infectious Diseases Project” (2001-2006), JICA “International Parasite Control Project” (2001-2006) [Japanese Grant Aid] MoH “Project for the Construction of the Kenya Medical Research Institute” (1982-83), MoH “Project for Improvement of the Kenya Medical Research Institute” (1999), MoH “Project for Improvement of Facilities for Control of Infectious and Parasitic Diseases at the Kenya Medical Research Institute” (2005)

2. Outline of the Evaluation Study

2.1 External Evaluator

Hirofumi Tsuruta, Consultant, Binko International Ltd.

2.2 Duration of Evaluation Study

Duration of the Study: December, 2009 – November, 2010

Duration of the Field Study: March 15, 2010 - March 27, 2010

May 23, 2010 - May 29, 2010

2.3 Constraints during the Evaluation Study

Some of the core stakeholders in the Project were unavailable during the survey because of their retirement, personnel changes or illness. This may have caused in limitation of information on the Project, particularly of the information of management decisions. However, this was made up for by the full cooperation of KEMRI and reviews of various documents.

3. Results of the Evaluation (Overall Rating: C)

This evaluation equally weighted the production unit and the training unit because the construction and equipment cost for each was almost equal (production unit: 51.6%, training unit: 48.4%) as shown in Table 2.

Table 2 Cost of the amount of each unit at the time of the basic design study

(Thousand Japanese yen)

Facility	Construction and Equipment Cost	Proportion (%)
Production Unit	385,000	43.5
Animal Unit	72,000	8.1
Training Unit	429,000	48.4
Total	886,000	100.0

Source: JICA, Basic Design Study Report on the Project for Improvement of Facilities for Control of Infectious and Parasitic Diseases at Kenya Medical Research Institute in the Republic of Kenya (2003)

3.1 Relevance (Rating: b)

3.1.1 Relevance with the Development Policy of Kenya

At the time of the basic design study and the ex-post evaluation, the relevance of the Project purpose with the development policy of Kenya was/is high in regard to the diseases and area targeted as follows.

In the basic design study, health issues comprised one of the social development agenda items in the Economic Recovery Strategy for Wealth and Employment Creation 2003-2007. In addition, even in the National Health Sector Strategic Plan 1999-2004 (NHSSP I) there was a shift from curative to preventive and to primary health care services, which was consistent with the Project purpose focusing on preventative approaches including blood safety and parasitic disease control.

As diseases targeted by the Project, HIV/AIDS and hepatitis were regarded as the ones requiring blood screening in the National Blood Safety Policy 2002. In addition, the blood safety itself was one of the prevention components in the Kenya National HIV/AIDS Strategic Plan 2000-2005 (KNASP I). On the other hand, as for parasitic diseases, it was the targets of the NHSSP I that the prevalence and mortality rate of parasitic disease of children under five years old would be reduced from 70% to 40%, and malaria prevalence and mortality rate would be reduced by 30%.

Even at the time of ex-post evaluation, health issues are placed as a social pillar in the first Medium-term Plan of Kenya Vision 2030, and it aims at restructuring its health system in order to shift its emphasis mentioned above, from curative to promotive and preventive health care. This concept is similarly noted even in the National Health Sector Strategic Plan 2005-2010 (NHSSP II).

In addition, HIV/AIDS and Hepatitis B are still targets of blood screening in the National Blood Safety Policy 2002, and the statement on blood safety in the Kenya National HIV/AIDS Strategic Plan 2009-2012 (KNSAP III) has not been changed. As for parasitic diseases, although they were not emphasized in the NHSSP II, there are policy concerns regarding treatment of parasitic diseases for children under twelve years old and a school health program that included de-worming activities.

3.1.2 Relevance with the Development Needs of Kenya

Table 3 shows the health situation at the time of the basic design study and of the ex-post evaluation. It shows that there were/are the crucial needs of intervention to the health problems of Kenya in the planning period. Even at present, it is significant although some have been improved in these five years.

As shown in Table 3, at the time of the basic design study, because the screening rate of blood for transfusion had not achieved 100%, and because epidemics of HIV/AIDS and hepatitis were reported, countermeasures were urgent needs. Even regarding parasitic diseases, because coverage of preventative activities was low, Kenya government had to increase them.

Five years after, at the time of ex-post evaluation, there are still needs. The screening rates of blood have achieved 100%, but it must be sustained even in the future. Epidemics of HIV/AIDS and hepatitis have improved but the situation is still serious. Similarly, the coverage of preventive measures has been partly improved but there is still risk of transmission.

Table 3 Health situation at the time of the basic design study and the ex-post evaluation

	Basic Design Study	Ex-post Evaluation
Blood Safety	Screening rate of blood for transfusion: 75.5%[*1] (2002)	Screening rate of blood for transfusion: 100%[*2] (2009)
HIV/AIDS	Adult prevalence: 6.1%[*3] (2004) Prevalence in blood for transfusion: 5-7%[*5] (2001) Mother-to-child transmission: 35%[*3] (2005)	Adult prevalence: 6.2%[*4] (2009) Prevalence in blood for transfusion: 1%[*2] (2009) Mother-to-child transmission: 27%[*4] (2009)
Hepatitis B	Prevalence: more than 8%[*6] (2001) Prevalence in blood for transfusion: 2-4%[*5] (2001)	Prevalence: more than 8%[*7] (2008) Prevalence in blood for transfusion: more than 34%[*2] (2009)
Parasitic Disease		
Malaria	Population receiving indoor residual spraying: 300,000[*8] (2004) Prevalence among outpatients: 1/3[*1]	Population receiving indoor residual spraying: 3,061,966[*8] (2008) Prevalence among outpatients: 1/3[*9]
Soil transmitted helminthes	Population of school-aged children (5 to 15 years old) requiring preventive chemotherapy: 4.31%[*10] (2003)	Population of school-aged children (5 to 15 years old) requiring preventive chemotherapy: 6.32[*10] (2008)
Schistosomiasis	Prevalence among 5 to 12-year-old schoolchildren in Nyanza Province: 31.6%[*12] (2001)	Population requiring preventive chemotherapy: 30,839,766[*10] (2008)
Fillariasis	Population requiring preventive chemotherapy: 16.1%[*10] (2002)	Population requiring preventive chemotherapy: 36.0%[*10] (2008)

Sources: 1 JICA, Basic Design Study Report on the Project for Improvement of Facilities for Control of Infectious and Parasitic Diseases at Kenya Medical Research Institute in the Republic of Kenya (2003)
2. Information submitted by KEMRI for the ex-post evaluation
3. The Government of Kenya, Country Report for UN General Assembly Special Session on HIV/AIDS 2006
4. The Government of Kenya, Country Report for UN General Assembly Special Session on HIV/AIDS 2010
5. Family Health International, Implementation of the New Blood Safety Policy – Proceedings of a Consultative Technical Meeting – April 29-30, 2002 Nairobi, Kenya (2002)
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http://www.who.int/neglected_diseases/preventive_chemotherapy/sth/en/
11. T. Handezel et al., Geographic Distribution of Schistosomiasis and Soil-transmitted Helminths in Western Kenya: Implications for Anthelmintic Mass Treatment, Am. J. Trop. Med. Hyg. 69(3) pp. 318-323
12. F. W Thiong'o et al., Intestinal Helminths and Schistosomiasis among School Children in Rural District in Kenya, East African Medical Journal 78(6), pp.279-282

3.1.3 Relevance with Japan's ODA Policy

The relevance of the Project with Japanese ODA policy was high, because the Project was designed to contribute to blood safety and parasitic disease control that are targeted by the Okinawa Infectious Disease Initiatives and Country Assistance Plan for Kenya.

In 2000, Japan launched the Okinawa Infectious Disease Control Initiative and represented the importance of efforts against infectious diseases. In this initiative, HIV/AIDS, tuberculosis, malarial/parasitic diseases, and polio were targeted as the primary diseases, and particularly in the HIV/AIDS area, the contribution of blood safety was included.

In addition, in the Country Assistance Plan for Kenya (2000), health issues were one of the important areas. In particular, HIV/AIDS was described as follows: "With treatments yet to be established for HIV/AIDS, it will be vital to support research toward treatment development, as well as education and informing of the public of HIV/AIDS prevention measures, supply of contraceptive devices, and establishment of testing for early detection." On the other hand, parasitic diseases control was regarded as the target of follow-up of south-to-south and regional cooperation.

These targets were confirmed in the policy discussion implemented between the Kenyan Government and Japanese ODA taskforces in Kenya in August 2004 after the Project started. Considering the outcomes of cooperation with KEMRI, promotion of infectious disease control including blood safety, and promotion of parasitic disease control as a regional center in eastern and southern Africa based on the initiatives were confirmed.

3.1.4 Adequacy of Measures

The construction of the production and training facility was planned as a measure for stable supply and procurement of the test kits and creation of opportunity of training. However, as mentioned below, the construction of the production facility might have been partially in adequate in comparison to alternative measures.

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(Production Facilities)

Domestic manufacturing as aimed in the Project was lack of certainty as a measure of stable supply and procurement, and it is unclear whether the construction of a production facility was the most appropriate for that purposes. The brand of the test kits used in Kenya could be changed by policy decision, and any brand had the risk of losing opportunities and routes for use and/or sale.

Another measure to supply and procure test kits was the import of products of foreign manufacturers, besides domestic production. Even at the time of the basic design study, distribution of foreign-brand test kits had already started in Kenya and these foreign-brand test kits were competitors of the KEMRI test kits. In addition, because there were various uncertainties such as technical innovation, the influence of other development partners, and entry into the market with which KEMRI had little experience, it seems to have been difficult to make a definite promise that the test kits would be used. Even though the KEMRI test kits were superior to the other foreign brands at the basic design study, there was the risk to make the situation worse.

Even though, construction of production facilities lacked certainty as a measure for stable supply of test kits, it had a potentially bigger impact because of the possibility of establishing

sustainable domestic production and utilization if all conditions were favorable. Thus, it seems that the Project takes high-risk/high-return approach.

(Training Facility)

The construction of a training facility was almost adequate as a measure for efficient management of training. According to the basic design study, the training facility would be a center to conduct training for parasitologists, clinical technologists and medical students of Kenya and neighboring countries. This will contribute greatly to human resource development in this region, and hence reduction of infection rates of parasitic diseases.

If we focus only on the creation of training opportunities, the Project might lack adequacy because other existing facilities of other educational and/or training organizations in Nairobi could be options as training places. They existed even at the time of the basic design study.

However, borrowing the facilities of other organizations means that KEMRI could be influenced by the decisions, etc. from the other organizations. Reflecting the responsibility of KEMRI as a regional center of Eastern and Southern Africa, it may have been necessary to increase the efficiency of training management. This is why it was considered fairly appropriate for KEMRI to construct its own training facility.

As mentioned in 3.1.1-3.14, the Project was partly irrelevant with the adequacy of measures, although it was relevant to development policy and health needs of Kenya, and Japan's ODA policy, therefore its relevance is fair.

3.2 Efficiency (Rating: a)

3.2.1 Project Outputs

Table 4. Outputs

【Planned】 Basic Design Study[*1]	【Actual】 Implementation[*2]
Construction and improvement of the production unit for test kits, animal unit, and training unit for infectious and parasitic disease control, and procurement of equipment - Production facility (new construction): Preparation and manufacturing room (HIV/HEPCELL), office, mechanical room, water supply facility, etc. - Animal facility (improvement): Rabbit room, guinea pig room, inoculation room, etc. - Training unit (new construction): Parasitic laboratory, infectious disease laboratory, library, lecture room, office, etc. - Equipment: Lyophilizer, refrigerator, refrigerated centrifuge, refrigerator, safety cabinet, etc. (total: 91 items, 555 devices)	Construction and improvement of the production unit for test kits, animal unit, and training unit for infectious and parasitic disease control, and procurement of equipment - Production facility (new construction): Preparation and manufacturing room (HIV/HEPCELL), office, mechanical room, water supply facility, etc. - Animal facility (improvement): Rabbit room, guinea pig room, inoculation room, etc. - Training unit (new construction): Parasitic laboratory, infectious disease laboratory, library, lecture room, office, etc. - Equipment: Lyophilizer, refrigerator, refrigerated centrifuge, refrigerator, safety cabinet, etc. (total: 91 items, 555 devices)

Sources 1. JICA, Basic Design Study Report on the Project for Improvement of Facilities for Control of Infectious and Parasitic Diseases at Kenya Medical Research Institute in the Republic of Kenya (November 2003)
2. Documents at completion of the Project (2005)

As shown in Table 3, there was no big gap between planning and implementation. There was only minor change from the basic design study, which was displacement of the mechanical room (moved 11.7 m west from the plan) in order to secure a sufficient loading area due to the construction of a research facility by the U.S. Center for Infectious Disease Control (CDC), which was not related to the outputs of this Project.

3.2.2 Project Inputs

3.2.2.1 Project Period

As shown in Table 5, the implementation period of the Project was exceeded by about three months in comparison to the 18 months in the plan. It seems that this was due to unexpected issues such as political instability in Kenya and/or needs to secure safety (e.g., pirates in Somalia). In practice, the Project was completed without any extension of contract or E/N, and there were no reports of additional costs or problems due to the delay, and no problems with the implementation period were found. Thus, the Project period was mostly adequate as planned.

Table 5. Comparison of period between plan and implementation

	Plan	Implementation
Detailed Design	4 months	5 months (E/N (detailed design study) 2004.2.20 – end of contract 2004.7.22)
Tender	3 months	4 months（E/N (construction) 2004.8.4 - contract with contractor 2004.12.6)
Construction	11 months	11.5 months (contract with contractor 2004.12.6 - handing over 2004.11.24)
Total	18 months	20.5 months

Source: Documents at completion of the Project (2005)

3.2.2.2 Project Cost

As shown in Table 6, the overall implemented Project cost was 95.9% of the overall Project cost estimate in the basic design study, and there was no excess. In addition, all of the supervision cost, construction cost and equipment cost were also below the cost estimates in the basic design study. This was seemingly due to 1) cooperative efforts of consultants, constructors, and suppliers and 2) currency exchange rate. Thus, the Project cost was lower than planned.

Table 6. Comparison between planned and actual cost

(Thousand yen)

	Planned Cost[*1]	Actual Cost[*2]	Ratio（%）
Supervision	196,000	194,132[*3]	99.1
Construction	699,000	659,500	94.3
Equipment	187,000	183,732	98.3
Total	1,082,000	1,037,364	95.9

Sources: 1. JICA, Basic Design Study Report on the Project for Improvement of Facilities for Control of Infectious and Parasitic Diseases at Kenya Medical Research Institute in the Republic of Kenya (2003)
2. Documents at completion of the Project (2005)
3. Total amount of E/N (82 million Japanese yen) and amount of supervision cost of construction and equipment

In summary, as mentioned 3.1 and 3.2, both project period and project cost were mostly as planned. Therefore efficiency of the project is high.

3.3 Effectiveness (Rating: b)

3.3.1 Quantitative Effects

3.3.1.1 Results from Operation Indicators

(Production Facility)

As shown in Table 7, because the production of HIV test kits had been decreased since 2006 and terminated in 2008, and the production of the Hepatitis B test kits was also terminated after 2006, the goal set by the basic design study was not achieved. In addition, although the completion of the Project was the end of November 2005, and production of test kits by the facilities constructed by the Project was started in 2006, the number of test kits' product did not increase very much before and after the Project. According to the observation and interviews in the field survey for this evaluation, the facilities for the production have not been much operated at present.

There is a reason that the expected utilization route of test kits could not be established. As mentioned above in 3.1 Relevance, there was competition with other test kits produced by foreign manufacturer, which have been used widely in Kenya unlike the KEMRI HIV test kits.

Table 7. Number of test kits produced

Test Kits for	Target (2010)	2002	2003	2004	2005	2006	2007	2008	2009
HIV*	1,200	60	100	100	100	75	36	0	0
Hepatitis B	2,000	600	1120	1450	320	1500	0	0	0

Source: Information submitted by KEMRI for the ex-post evaluation

*The number includes both the test kit that can detect only the HIV-1 subtype and the test kit that can detect both the HIV-1 and HIV-2 subtype, developed by technical cooperation with the Infectious Disease Research and Control Project.

As for HIV test kits, the expected number of kits that could be self-chosen by KEMRI for its use was only 15.8% of the total projection, including use for "the Third Country Training Programme" (JICA's program for blood safety, implemented by KEMRI) and use for "quality control and research in KEMRI". Other uses in the public sector in Kenya including "training for laboratory technicians in Kenya" and "provision and training for public hospitals" were depended on Kenyan policy. That is, the most demand for the KEMRI test kits could not be generated without governmental determination on the brand to use for the diagnosis in public facilities, although the basic design study report mentioned that the expected use was changed from the diagnosis to research. Therefore, in the situation where there was also competition with other brands of test kit, the projected demand was not ensured.

As for the test kits of hepatitis B, it was promised that the test kits would be purchased by MoH as mentioned in the Minutes of the Discussion at the basic design study. However, in practice, 2006 was the last year for the purchase. After that, other test kits manufactured by foreign manufactures came to be used widely in Kenya, and accordingly, the test kits planned in the study has not been produced in the facility.

Table 8. Use of HIV test kits in the basic design

Use	Number of Kits (Number of test*) (Percentage of total)
Third Country Training Programme	20 (4,000) (9.3%)
Training for laboratory technicians in Kenya	79 (15,800) (36.7%)
Provision and training for public hospitals	102 (20,400) (47.4%)
Quality control and research in KEMRI	14 (2,800) (6.5%)
Total	215 (43,000) (100%)

Source: JICA, Basic Design Study Report on the Project for Improvement of Facilities for Control of Infectious and Parasitic Diseases at Kenya Medical Research Institute in the Republic of Kenya (2003)
*200 tests / kit

As for the marketing of these KEMRI test kits, KEMRI made self-efforts such as employment of a marketing manager experienced in a private company in December 2005, after completion of the Project, as well as seeking utilization and sale routes in neighboring countries. However, it has not been successful yet. If succeeded, the constructed facility and procured equipment could be utilized more.

At present, although KEMRI has not continued to look for ways to produce or sell these test kits planned in the basic design study, KEMRI has proceeded with the development of new products with diversification of its own products, and has a business plan to improve the operation rate of facilities.

For example, as for the test kits, the rapid test kit for HIV, Hepatitis B, and Hepatitis C was developed and stated to sell. These test kits were manufactured with the coating membrane imported from a foreign country. KEMRI purchased a coating machine with its own budget and expects to coat antigen on the membrane by itself in the future. In addition, KEMRI has started to produce the panel sera first ordered by WHO Somalia, disinfection for tuberculosis, and Taq polymerase for PCR. In addition, KEMRI has started to collaborate with the U.S. Center for Infectious Disease Control (CDC) and international NGOs. Thus, compared to the situation at the time of the basic design study, the KEMRI production unit has significantly expanded its scope of business.

(Training Facility)

As shown in Table 9, the training facility has been highly utilized from completion to the present with achievements of the target indicator. As reasons, there has been implementation of not only the Third Country Training Programme (on blood safety, school health, parasitic disease control, etc.) for sub-Saharan African countries, but also collaborative training with international NGOs. This implies that there were potential needs for training and utilization of the facility.

However, if we look at the trend of the overall number of days and participants of training, they have been decreasing year by year. The reason is not clear, but the presidential election in 2007 or the split of the Ministry might have resulted in a confusing situation.

Table 9. Utilization of the training facility

	Target (2010)	2006	2007	2008	2009
Total days of training (days)	N.A.	149	106	83	72
Total domestic participants (person)	300	1402	1036	1161	897
Total international participants (person)	100				

Source: Information submitted by KEMRI for the ex-post evaluation

3.3.1.2 Utilization of Facilities and Equipment

The operation rate of production facilities is low because the test kits planned in the basic design study have not been manufactured. However, the maintenance condition of the facilities and equipment is good as mentioned below in 3.5.2 with, for example, the implementation of periodical cleaning and checking. This is why comprehensive rating in Table 10, based on the two aspects of operation rate and maintenance condition of procured equipment by the ex-evaluator, is relatively high.

As for the training facility, the operation rate is high. However, focusing only on the equipment, some of them are not used very much. Although equipment for educational purposes was procured through the Project, the high-price experimental equipment was allocated to the experimental room, which is not always used in the training conducted in the facility because some training can be conducted in the lesson room.

Table 10. Utilization and maintenance of equipment

Facility	Equipment procured costing more than one million Japanese yen	Equipment with rating >3 by the ex-evaluator
Total	41	51.3%
Production Unit	25	44.0%
Training Unit	16	64.3%

Source: Results of observation by the ex-evaluator at the ex-post evaluation
*Rating (judged from 1) utilization and 2) maintenance condition)
5: 1) Used as planned 2) well maintained
4: 1) Used as planned 2) partly maintained, or 1) used periodically but not as planned 2) well maintained
3: 1) Used periodically but not as planned 2) partly maintained, or 1) sometimes used 2) well maintained
2: 1) Sometimes used 2) not maintained
1: 1) Not used 2) not maintained

Summarizing from the results in 3.3.1.1 and 3.3.1.2, utilization of the production facilities is poor because the test kits expected in the plan were not produced. On the other hand, the utilization of the training facility is good because operation has exceeded the target since completion, although it should be noted that the number of participants has decreased recently.

3.3.2 Qualitative Effects

3.3.2.1 Synergy with Technical Cooperation

Although there was the relationship between the Project and two technical cooperation; the "Research and Control of Infectious Diseases Project" (April 2003 – April 2006) and the "International Parasite Control Project" (April 2003 – April 2006), the synergies were limited.

In the design stage of the Project, the basic design study had discussion and ideas to gain synergistic effects between the Grant Aid project and technical cooperation. For example, the chief of the National Cooperation Committee for the Research and Control of Infectious Diseases Project participated in the basic design study as a leader of study team. The basic design made the plan that the test kits developed through the Research and Control of Infectious Disease Project were manufactured by the facility constructed by the Grant Aid project. As for the training facility, the Grant Aid project played the role of providing a facility for utilization of the training function established by the International Parasite Control Project.

However, in practice, completion of facilities and procurement of equipment took place in November 2005 and completion of technical cooperation took place in April 2006. Thus, there were only four months between them.

Regarding the production facilities, although the report of the basic design study mentioned that "technology transfer by technical cooperation projects is greatly desired" for management of test kit production, process, quality control, etc., there was an insufficient time for technical cooperation to do so. In addition, because routes of utilization and/or sale could not been established even after the end of the Project, and because the operation status of the facility is not good, there has had no environment where synergy was generated.

On the other hand, according to the terminal evaluation report on the International Parasite Control Project, it was recognized that the effects of technical transfer of management and training implementation to counterparts of the Eastern and Southern Africa Center of International Parasite Control (ESACIPAC) were limited. Thus, the handing over of the facility and equipment of the Project seemed to be implemented in a situation where capability and experience for facility management was not sufficiently strong and where activities to raise synergy were limited.

In summary, as mentioned in 3.3.1 and 3.3.2, the production facility is partially not operated and overall synergy with technical cooperation is not sufficient. However, the operation of the training facility exceeds the target indicator and the training facility is well utilized. Therefore, the Project has somewhat achieved its objectives, therefore its effectiveness is fair.

3.4 Impact

3.4.1 Intended Effects

3.4.1.1 Screening rate of blood for transfusion

In the basic design study, the screening rates of blood for transfusion were set as an indicator because the stable supply of test kits would become possible with expansion of the amount of the stock. As shown in Table 11, the screening rate was improved. However, it was not related to the Project because test kits planned to be manufactured by the facility constructed by the Project were not used in Kenya after completion of the Project.

Table 11. Screening rate of blood for transfusion in Kenya

	Baseline (2002)	Target (2010)	Achievement (2009)
Screening rate[*1]	75.5%[*2]	95%	100%[*3]

*1 Number of tests/ units of blood for transfusion x100
Source: 2. JICA, Basic Design Study Report on the Project for Improvement of Facilities for Control of Infectious and Parasitic Diseases at the Kenya Medical Research Institute in the Republic of Kenya (2003)
3. Information submitted by KEMRI for the ex-post evaluation

3.4.1.2 Mother-to-Child Transmission of HIV and Prevalence of Parasitic Diseases

(Mother-to-Child Transmission)

As well as the blood-screening rate, the mother-to-child transmission was an indicator to measure the decline in the incidence due to an increase in testing through the stable supply of test kits. This was defined by the basic design study. As for this indicator, although a decline can be observed, it is not due to the production facility constructed by the Project.

However, because training related to HIV transmission (blood safety (JICA Third Country Training Programme, domestic training), HIV awareness seminars (Kenya Commercial Bank), and other HIV-related programs (CDC)) were conducted in the training facility, there might be a somewhat contribution to reduction in mother-to-child transmission.

(Prevalence of Parasitic Disease Infections)

Prevalence of parasitic disease infections was an indicator to measure effects of training conducted in the training facilities. However, there are/were no comparable national data of Kenya before and after the Project. The coverage of preventive measures is indicated in Table 2. Some improvement could be observed. Thus, it is possible that there are contributions of the Project as side support for the improvement because the training facility has became the center of training for parasitic disease control used by various partners and trainees.

3.4.1.3 Research Outcomes by Use of the Test Kits

Research papers using the KEMRI test kits have been reported as mentioned in Table 12. Thus, it seemed that the test kits produced by the production facility made a scientific contribution. However, because the development and the production of small numbers of test kits had already been achieved in the technical cooperation project before the Grant Aid Project, these research outcomes could be realized even without the production facility. Thus, it might not be clear there is a causal relationship between the Project and research outcomes.

Table 12. Examples of researches using the test kits

- M. K. Kiptoo, Z. W. Ng'ang'a, S. S. Mpoke, S. Osman, A. Mwangi, E. M. Songkok, "Indirect Immunofluorescence Assay, Particle Agglutination and ELISA for the Detection of HIV Type 1" (2009), International Journal of Integrative Biology vol. 5. no. 1.9
- R. Yamada, T. Sasagawa, L. W. Kirumbi, A. Kingoro, D. K. Karanja, M. Kiptoo, G. W. Nakitare, H. Ichimura, M. Inoue, "Human Papillomavirus Infection and Cervical Abnormalities in Nairobi, Kenya, an Area with a High Prevalence of Human Immunodeficiency Virus Infection (2008), Journal of Medical Virology vol. 80:847-755

3.4.2 Other Impacts

(Impact on Natural Environment)

The impact of the Project on nature is small. There have been no reports of air pollution, inadequate sewage management or waste pollution. However, the Project procured equipment using hydrofluorocarbon (HFC) gas as a refrigerant that is regarded as problematic for global warming. While it might be said that there is a potential negative impact for the future, it might be a low negative impact if we look at the efforts of KEMRI to preserve the natural environment and the fact that there have been no reports of gas leakage.

Generally speaking, KEMRI is a proactive organization for the natural environment. In 1998, KEMRI opened the first Waste Disposal Advisory Committee (later becoming the Bio-safety Advisory Committee, and then the Health Safety Environment Advisory Committee) and has had a health, safety and environment policy as an organizational policy, to make clear the requirements for risk management in order to protect the environment, persons, and the community from hazardous materials, which include microorganisms and/or recombinant DNA technologies, chemicals (radioactive or non radioactive), and animal or plant materials.

(Land Acquisition and Resettlement)

Because the Project was implemented on KEMRI's land, there was no need to displace the inhabitants to other places. According to a Project document and interview with KEMRI staff, there have been no complaints from neighboring inhabitants during the Project period or now. Thus, there is no negative impact by displacement or land acquisition for the Project.

In summary, as mentioned in 3.4.1 and 3.4.2, the training facility made a possible contribution to alleviating the epidemic, while the production facility had no positive impact due to low operation rates at the present. In addition, overall, no negative impact of the Project was observed.

3.5 Sustainability (Rating: b)

3.5.1 Structural Aspects of Operation and Maintenance

There is no problem regarding structural sustainability because the management structure of KEMRI is institutionalized.

Currently, KEMRI is one of two independent administrative cooperates under the Ministry of Public Health and Sanitation (MoPHS), which appoints the director of KEMRI. The KEMRI secretariat is under three deputy directors (research and development, research and training, and administration and finance). KEMRI is governed by a Board of Management, which consists of a chairman, six appointed members, and representatives from various government ministries, departments, and agencies. In addition, besides the Board of Management, there are three standing committees of the Board; the Scientific Programmes Committee, Staff and Finance Committee, and Audit Committee. In this organizational structure, there have been no big changes since the basic design study, although there have been some personnel changes.

3.5.2 Technical Aspects of Operation and Maintenance

The techniques of operation and maintenance for the facilities and equipment are well organized. Currently, the maintenance unit is responsible for maintenance of the facility and equipment with corrective maintenance and preventive maintenance.

As for corrective maintenance, there are sufficient technical staffs as shown in Table 13. However, in the case that new equipment is procured and/or introduced, staff training will be necessary. According to the interview, when the staff cannot manage problems, they contact the supplier or manufacturer agency.

As for preventive maintenance, the staffs implement it once a quarter. In addition, the attitude of researchers and technicians to "use clean" also can be observed. Although the researchers and technicians in laboratories do not have enough knowledge of preventive maintenance, they seem to have awareness of contamination prevention, etc. However, according to the interview, the staff aimed at WHO standard[13] and considered that it is ideal to implement maintenance once a month. If KEMRI can ensure or increase the budget for maintenance, this might be feasible.

Table 13. Staff of maintenance unit

Technical Background of Staff	Number
Staff who have a degree in medical equipment or technology	4
Staff who have no degree in medical equipment or technology, but a degree in electricity, engineering, etc.	10
Staff who have no degree but experience	8
Other (secretary, messenger, etc.)	2
Total	24

Source: Information submitted by KEMRI for the ex-post evaluation

3.5.3 Financial Aspects of Operation and Maintenance

There are fewer problems on financial sustainability of KEMRI because the overall budget of KEMRI and the one of the Ministry of Public Health, the supervising ministry (data not shown), has been increased. As for the international aid, the troubles such as sudden cancellation have not been happened in the last 10 years.

Table 14. KEMRI's budget and international aid

(million KSh)

	2005	2006	2007	2008
Budget from GoK*	879.4	926.5	926.4	1,028.3
International Aid	1,852.1	2,095.3	2,238.4	2,848.0
KEMRI Total Budget	2,731.5	3,021.8	3,164.8	3,876.3

*GoK: Government of Kenya

Source: Information submitted by KEMRI for the ex-post evaluation

[13] There are WHO standards for maintenance of facilities and equipment such as Medical Device Regulations – Global Overview and Guiding Principles (2003)

However, it should be noted that KEMRI has faced the situation of high-dependency on international aid where the amount of budget from international organizations (85% is from the U.S.) was 2.8 times KEMRI's own budget (in 2008). In these days the stagnancy of the overall international aid has started to be argued and the international aid flow to the health sector of Kenya has not been increased as shown in Table 15. If the international aid to KEMRI would be declined in the future, its impact might be big. Thus, KEMRI has certain financial vulnerability to the change of the trend international aid. As for this dependency on international aid, the Director of KEMRI has also similar concerns, and has recognized the importance of efforts to increase the ratio of owner's equity.

Table 15. International aid to health sector of Kenya

(million USD)

	2005	2006	2007	2008
International Aid	70.11	59.11	70.69	51.43

Source: OECD International Development Statistics (Access in September 2010)

In addition, both of production facility and training facility has the aspects of debts that continuously make negative cash flow such as maintenance cost, etc. Thus, in the case if the facility has not produced expected outputs, such facility might oppress the finance or reduce the financial sustainability.

3.5.4 Current Status of Operation and Maintenance

The current situation of maintenance of facility and equipment is good, according to the observation and interview in the field survey. Not only is the organizational structure of KEMRI institutionalized as mentioned above, but KEMRI has also made plans to acquire ISO certification, which make KEMRI have high awareness of appropriate maintenance.

However, some inhibitors in improving the situation of maintenance have been recognized. For example, it is difficult to dispose of damaged equipment because there are complex procedures. In addition, it is difficult to procure the equipment consumables and accessories due to cost and/or difficulties.

In summary, as mentioned in 3.5.1-3.5.4, some problems have been observed in terms of financial vulnerability and current status (dependency on international aid, and disposal of equipment and procurement of consumables, etc.), therefore sustainability of the Project is fair.

4. Conclusion, Lessons Learned and Recommendations

4.1 Conclusion

In KEMRI, the production facility and training facilities were constructed by this project. It was implemented efficiently, but the relevance was partly insufficient from the viewpoint of

adequacy of measures aiming at the stable supply of test kits, the effectiveness is also limited because the facility is partly not operated, and sustainability is concern on finance because of the high dependency on international aid, etc. However, the training facility has been utilized more than expected in the basic design study and KEMRI have continued to make further efforts for production facilities to improve the current situation. In addition, maintenance of the facilities is also good. In light of the above, the Project is evaluated to be fairly satisfactory.

4.2 Recommendations

1. KEMRI should recognize the need to re-confirm its own value and role as a public-sector entity and should continuously conduct analysis of organization and marketing at its own production and training facility, in order to increase the sustainability of production and training facilities by distinguishing from other organizations and institutions. In this process, collaboration with governmental organizations such as the Ministry of Public Health and Sanitation and the Ministry of Medical Services is particularly important to increase the uniqueness of KEMRI as public institution.

2. KEMRI has high dependency on international aid, which makes its finance vulnerable. In order to overcome the vulnerability, KEMRI for example should strengthen the collaboration with ministries, enhance its organizational capacity, and increase the portion of self-budge in its total expenses.

4.3 Lessons Learned

1. The implementation period of the Grant Aid project and technical cooperation need to be examined and coordinated carefully and comprehensively, considering synergy among the projects as well as burdens of implementing organization.

2. As for measures for procurement of health commodities such as HIV test kits in developing countries, the adequacy of measures needs to be examined with considering the risk of change in the policies of other development partners and of the recipient country for procurement.