

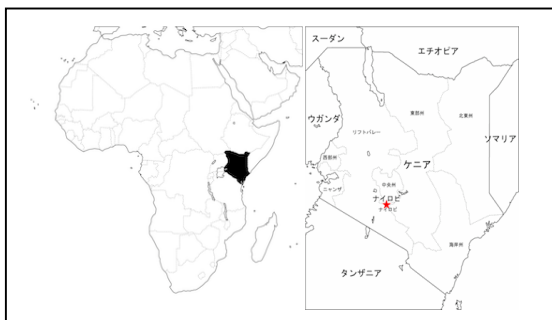
Republic of Kenya

Ex-Post Evaluation of Japanese Technical Cooperation Project

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

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## 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%<sup>5</sup> (adults, 2004); hepatitis B: over 8%<sup>6</sup> (2006); hepatitis C: 0.9%<sup>7</sup> (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%<sup>8</sup> (2002)), and there was a risk of transmission through blood transfusion. Moreover, as for opportunistic infections<sup>9</sup> 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<sup>10</sup> 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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<sup>5</sup> The Republic of Kenya, Country Report for United Nations General Assembly Special Session on HIV/AIDS 2006

<sup>6</sup> World Health Organization (WHO), Introduction of Hepatitis B Vaccine into Child Immunization Services (2001)

<sup>7</sup> Parents of Kids with Infectious Diseases, Hepatitis C - Global Infection Rates - Reviewed 2006

<sup>8</sup> 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)

<sup>9</sup> An opportunistic infection is an infection caused by pathogens that usually do not cause disease in a healthy host

<sup>10</sup> 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<sup>11</sup>)**

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

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<sup>11</sup> 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 Sustainability

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 <sup>*1</sup>	2005 <sup>*2</sup>	Present <sup>*3</sup>
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 (NAS COP) 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* <sup>1</sup>	Results* <sup>2</sup>
(1) Experts	<u>Long-Term (MM not planned)</u> Chief advisor, Project coordinator, HIV/AIDS, viral hepatitis, opportunistic infections, etc.  <u>Short term (MM not planned)</u> HIV/AIDS, blood safety, viral hepatitis, opportunistic infections, traditional medicine, etc.	<u>8 For Long-Term (139 MM)</u> Chief advisor, Project coordinator, HIV/AIDS, viral hepatitis, opportunistic infections, etc.  <u>30 for Short-Term (20 MM)</u> HIV/AIDS, blood safety, viral hepatitis, opportunistic infections, traditional medicine, etc.
(2) Trainees received	<u>Fields of training</u> Unidentified	<u>Fields of training</u> 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 Programs	<u>Fields of training</u> Unidentified	<u>Fields of training</u> 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
<b>KEMRI Total Budget</b>	<b>2,731.5</b>	<b>3,021.8</b>	<b>3,164.8</b>	<b>3,876.3</b>

\*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<sup>12</sup>. 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

<sup>12</sup> 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.