Overview of Terminal Evaluation Survey Results

1. Outline of the Project

Country：Republic of Kenya		**Project title**： Infection and Parasite Control and Research Project (May 2001 to March 2003), Kenya Medical Research Institute (KEMRI) Infection Research and Control Project (April 2003 to April 2006)
Issue/Sector：Healthcare		**Cooperation scheme**：Technical cooperation
Division in charge：JICA Human Development Dept., Infection Control Team		**Total cost (at evaluation)**：1,036 million JPY[1]
Period of Cooperation	**(R/D):** May 1, 2001 to April 30, 2006	**Partner Country's Implementing Organization**：Ministry of Health, Kenya Medical Research Institute (KEMRI)
		Supporting Organization in Japan： Osaka University, Nagasaki Medical Center, Kyorin University

Related Cooperation：

[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 (1996-2001), Third Country Training on Blood Safety (1998-2001) (2003-2007)

[Grant aid]

KEMRI Construction Project (1982-1983), KEMRI Improvement Project (1997), Infection and Parasite Control Facility Improvement Project (2004)

1-1 Background of the Project

The Kenya Medical Research Institute (KEMRI) is a core medical institute of the Republic of Kenya (hereinafter referred to as Kenya). Japan has provided assistance to improve research capacity to combat infectious diseases (viruses, bacteria, parasites, hepatitis, diarrhea, HIV/AIDS, and acute respiratory infections, a major cause of death of children cooperation) since 1979.

The Infection and Parasite Control and Research Project was conducted for five years from May 2001 as a project to enhance capacity of the KEMRI in order to (1) establish diagnosis systems for HIV/AIDS and viral hepatitis (and other blood-derived infections) with blood safety by developing and

[1] Cost for cooperation between May 2001 and March 2003 under the name of the Infection and Parasite Research and Control Project was divided into cost for the Infection Research and Control Project at the Kenya Medical Research Institute (KEMRI) and cost for the International Parasite Control Project. The cost for dispatching long-term experts (chief advisor and operational coordinator) involved in the entire project was posted in duplicate as cost for each project.

manufacturing blood screening kits whose quality is guaranteed by the KEMRI and through their widespread use in Kenya, and (2) establish diagnosis, prevention and treatment methods of opportunistic infections among HIV-positive or AIDS-infected adults and children. Parasite control was part of the International Parasite Control Initiative (Hashimoto Initiative) within the project until March 2003. However, it was divided into two projects--the Infection Research and Control Project and the International Parasite Control Project—in April 2003 for more efficient cooperation.

1-2 Project Overview

(1) Project Purpose

To improve KEMRI's 1) research capacity, 2) production capacity, 3) human resources development capacity, and 4) personnel and information network in collaboration with concerned organizations including the National Public Health Laboratory Service (NPHLS) in order to enhance effective measures to combat HIV/AIDS, viral hepatitis, and opportunistic infections in Kenya.

(2) Overall Goal

To enhance infection control and research programs in Kenya through improvement of research capacity and human resources development capacity at the KEMRI and concerned organizations including the NPHLS.

(3) Outputs

1) Output 1

Establishment of diagnosis systems for HIV/AIDS and viral hepatitis (and other blood-derived infections) with blood safety through widespread use of quality-guaranteed blood screening kits

1)-(1) Production accuracy and product quality control of hepatitis B S-antigen screening kit (HEPCELL II) and HIV 1-antibody screening kit (PA-1)

1)-(2) Production of hepatitis B S-antibody (HBsAb) test kit

1)-(3) Test production of hepatitis B e-antibody (HBeAg) test kit

1)-(4) Establishment of technical ability for synthetic peptide formation of HIV-1 and HIV-2 at the KEMRI

1)-(5) Development of HIV-1 and HIV-2 antigen combined hemagglutination screening kit

1)-(6) Advice for distribution of blood screening kits through such organizations and the Ministry of Health and the AMREF

1)-(7) Formulation of national training curriculum for blood safety and provision of training by utilizing training programs for mid-level technicians and on-site national training schemes.

1)-(8) Establishment of panel positive serum bank for HIV and hepatitis B

1)-(9) Monitoring of blood donated during the window period to improve quality of transfused blood

1)-(10) Application of immunofluorescence assays (IFA) to test HIV-serum positive or negative
1)-(11) Enhancement of technical abilities for HIV separation and HIV antigen test
1)-(12) Monitoring of HIV epidemic strain
1)-(13) Monitoring of prevalence rate and infection rate of hepatitis C virus
1)-(14) Establishment of gene diagnosis laboratory for known HIV and viral hepatitis
1)-(15) Monitoring of other blood-derived infections
1)-(16) Provision of CHW training in West Kenya for community-based health education (e.g. HIV/AIDS seminar for changing behaviors toward mother-to-child transmission of HIV and hepatitis B virus)

2) Output 2

Establishment of diagnosis, prevention and treatment methods of opportunistic infections among HIV-positive or AIDS-infected adults and children

2)-(1) Formulation of proper research proposal on opportunistic infections for HIV-positive or AIDS-infected adults and children in Nairobi and West Kenya
2)-(2) Establishment of HIV-positive patient cohort
2)-(3) Regular clinical monitoring of AIDS patients to check opportunistic infections
2)-(4) Designing of preventive measures and nutrition-intervention to assess impact on the prevalence rate of opportunistic infections
2)-(5) Enhancement of capacity of research laboratories to diagnose opportunistic infections
2)-(6) Establishment of diagnosis and treatment methods of opportunistic infections for groups of HIV-positive and AIDS-infected children and HIV-negative and non-infected children
2)-(7) Development and application of traditional medicine to treat opportunistic infections

(4) Inputs (at evaluation)

Japanese side：

Long-term Expert: 11 **Equipment:** 171.88 million JPY
Short-term Expert: 33 **Local cost:** 144.22 million JPY
Trainees received: 16 **Technical exchange participants:** 3 (Thailand)

Kenyan Side：

Counterpart: 15 **Equipment:** N/A
Land and Facilities: Office, research and training facility
Local Cost: 277.80 million JPY

2. Evaluation Team

Members of Evaluation	(1) Supervisor/Leader, HIV/AIDS: Takashi Kurimura, chairman, domestic assistance committee, professor emeritus, Osaka University

Team	(2) Viral hepatitis: Michitani Yano, domestic assistance committee member, honorary director, Nagasaki Medical Center (3) Opportunistic infection: Shigeru Kamiya, professor, Kyorin University (4) Evaluation planning: Saeda Makimoto, Infection Control Team, Human Development Dept., JICA (5) Evaluation analysis: Yoko Ogawa, researcher, Social Development Dept., Global Link Management Inc.	
Period of Evaluation	Oct. 15, 2005 to Nov. 14, 2005	**Type of Evaluation：** Terminal

3. Results of Evaluation

3-1 Verification of Outputs

(1) Achievement of Outputs

1) Output 1

The blood screening kit, HEPCELL II, to diagnose hepatitis B, developed in the Infection Research and Control Project Phase II, was bought out by the Ministry of Health. Training for laboratory technicians was offered in the project for its effective use at blood transfusion centers (BTCs) and public hospitals in the country. The PA-1 kit to diagnose HIV-1 developed in the project is also used at some public hospitals.

In this project, KEMCOM, a blood screening kit to diagnose both HIV-1 and HIV-2, was developed and test produced. It has been applied for approval by the Ministry of Health. Through these efforts, the diagnosis of HIV and viral hepatitis is improving in Kenya and thus it is fair to say that Output 1 is almost accomplished. Personnel and technical capacity necessary for providing community-based health education was established at two KEMRI centers in West Kenya. Signs of changes in the behaviors of the residents in the target sites are also observed. Thus, it is fair to say that the Output of health education reached a level to satisfy the target level.

2) Output 2

Assistance for research on opportunistic infections helped improve test equipment for the infections (bacteria and fungi, in particular) as well as diagnosis techniques and research capacity. It is vital capacity to understand the bacterial strain of pathogens that causes opportunistic infections and their control measures and management methods. It is also essential for the development of botanical extracts effective for pathogen management. The techniques necessary for the development of prescription of traditional medicine (plant) effective for treatment of the infections were also enhanced. Thus, diagnosis methods for opportunistic infections are mostly established and research on prevention and treatment methods need to be continued.

(2) Achievement of Project Purpose

The project made remarkable contribution to functional enhancement of the KEMRI to enhance measures to combat HIV/AIDS, viral hepatitis and opportunistic infections in the following aspects:

1) capacity to conduct laboratory-based research, 2) techniques to produce stable blood screening kits and capacity to ensure its appropriate use, 3) human resources development, and 4) personnel and information network. It is shown by such indicators that: 1) the KEMRI nurtured capacity to conduct research and production to enhance programs to combat target infections by itself (hepatitis B S antibody screening kit (HEPSAB) and HIV-1 and HIV-2 kit (KEMCOM), and 2) 100 pieces of abstracts and research papers were submitted to international conferences and international medical journals and research proposals to KEMRI's Scientific Steering Committee (SSC) were significantly increased.

(3) Contribution to Overall Goal

The KEMRI made valuable contribution to blood safety through the production of quality blood screening kits at a fair price and promotion of its proper use. The decision on whether blood transfusion centers continue to use HEPCELL II or they choose the ELISA approach that relies on external funds for procurement mostly depends on governmental organizations. Blood transfusion accounts for about five percent of new HIV infection cases in Kenya, with the remaining 95 percent caused by sexual intercourse and vertical infection (mother-to-child). Thus, it is necessary to tackle other infection routes to further contribute to prevention of HIV infection.

In research, the theme the project assisted is highly likely to contribute to the overall goal because it is very effective for the formulation of various policies and guidelines and improved provision of health services. The KEMRI is designated as an agency that promotes HIV/AIDS research in the HIV/AIDS national strategic plan (June 2005 to October 2009) and its further contribution is expected.

(4) Project Design Change and Implementation Process

1) Project Design Change

When the master plan was formulated, the focuses of the project was the continuation of research that was conducted in the previous phase and the integration of Hashimoto Initiative in the project. As a result, the project was formulated in a management system that covers two components of (1) establishment of international parasite center and (2) KEMRI's capacity development for infection control and research. Two years after the project was launched, the two components were developed into two independent projects. This is because the properness of managing two different components under one system was questioned as the objective and details of assistance of (2) became clear. The decision was reasonable as it was made unanimously among the involved members. Concurrently with the change, the project design matrix (PDM) was also reviewed to add and consolidate research activities.

2) Implementation Process

Although the project progress was behind in the early stage, there was little delay when the evaluation was conducted. The delay in the beginning was due to absence of the chief advisor for about two years after the separation from the parasite component and partial absence of long-term

experts in viral hepatitis and opportunistic infections. Although survey teams of the chairman of the domestic committee were frequently dispatched from Japan to make up for the absence of the chief advisor, many strongly expressed their opinion that the chief advisor should have been assigned fulltime on site in order to maintain the momentum of the project and monitor the overall performance.

The Joint Coordination Committee met only twice, once at the signing of the Record of Discussions (R/D) and once at project change (March 2003), executing organizations had meeting regularly to check the progress from October 2003, and thus it is fair to say that the project was properly monitored and managed in general.

3-2 Summary of Evaluation Results

(1) Relevance

The focuses of the project were blood safety, research on HIV and opportunistic infections and community-based HIV/AIDS health education. These match Kenyan needs because HIV/AIDS control that includes these elements are its priority development issues in Kenyan national healthcare sector. The Japanese government also places importance on infection control, HIV/AIDS control, in particular, as expressed in the Okinawa Infection Control Initiative and TICAD III. Thus, infection control and research is one of the pillars of Japan's assistance strategy for Kenya. It is fair to conclude that the project is highly relevant.

(2) Effectiveness

The project was effective for yielding various valuable outputs to enhance KEMRI's organizational capacity related to HIV, viral infections and opportunistic infections. The KEMRI integrated various efforts for blood safety for a common purpose in an attempt to spread diagnosis techniques among laboratory technicians at home and overseas through cooperation with concerned organizations. Creation of collaborative relations with service providers and research agencies led to mutual influence of enhancing KEMRI's research capacity. As a result, the KEMRI's advancement was recognized by the Ministry of Health, academic circle in Africa and external research cooperation organizations.

The accumulated outputs in individuals and sections of the KEMRI are expected to be consolidated and integrated further so they will take root as solid organizational force. Outputs and activities in the PDM are mixed although they are independent from each other. The planning format had room for improvement as it was difficult to consolidate and understand the effects in the evaluation.

(3) Efficiency

Most inputs were used for accomplishing the outputs and they are all achieved to a certain degree. Most of the equipment provided in the project are working properly and used regularly or everyday. Long- and short-term experts were essential for smooth project implementation for securing research funds, procurement necessary for research and academic instructions. The combination of short-term

experts and counterparts were same in on-site technical training and training in Japan (hereinafter referred to as "coupling"). This was effective for ensuring that counterparts acquire expertise knowledge and skills as it allows customization of training that meets the research needs of each counterpart and enables formulation of training plans from a long-term perspective. This was well received by counterparts. The KEMRI conducted the third country training on blood screening in the project. Collaboration of two schemes helped counterparts in the technical cooperation project widely spread the outputs accomplished through cooperation through the training.

(5) Sustainability

The KEMRI was established under the Kenyan science and technology ordinance (additional article) in 1979. It is widely recognized as an organization that takes a leadership role in healthcare and medical research in Africa and it is a stable organization. The result of group consultation of major counterparts shows that KEMRI management and employees think that it has a sufficient technical base as a research, production and training organization. Financially, budget allocated by the Kenyan government has increased for the last five years and sustenance of the organization is not an issue. However, most of the research funds come from JICA and other external funds. The KEMRI has a plan to set up a section responsible for research fundraising and enhance production and sales sections in order to increase its own financial resources. It is fair to conclude that the financial conditions are the key to sustaining project outcomes and independent development of the KEMRI.

3-3 Factors that Promoted Realization of Effects

Capital investment in the KEMRI and cooperation in human resources development provided by the Japanese government over a long period are the major factors that promoted realization of effects. Following factors related to the project management system and method and the environment surrounding the project also promoted the effects for its smooth progress.

(1) The creation of a system to support the management and funds of the project (The project was included as an item in KEMRI's budget items and a coordinator responsible for the project was assigned.) helped swift fundraising and smooth communication and decision-making.

(2) The overall role of Japanese experts is to assist components necessary for research, which includes instructions on scientific research methods, securing budget (for equipment, reagents and expendables), and coordination between the KEMRI and project office.

(3) The establishment of good relationship and network among concerned organizations including Japanese universities and other laboratories at home and overseas and Kenyan clinical service providers and blood transfusion centers generated synergy effects for capacity empowerment.

(4) Coupling of JICA's experts and counterparts promoted effects of technical support and commitment to the project, which enabled focused quality research.

(5) Collaboration with other schemes that include JICA's long-term training programs and scholarship programs offered by the Ministry of Education, Culture, Sports, Science and Technology provided opportunities for counterparts to earn a degree in their research field as well as an environment necessary for more advanced research.

(6) The needs-oriented approach based on the understanding and analysis of traditional values and behavioral patterns through the baseline survey was effective in health education provided for changing behaviors.

(7) Strong interest in HIV/AIDS at the global level and increased access to AIDS treatment promoted involvement of counterparts in research and energized the project.

3-4 Factors that Impeded Realization of Effects

The following are elements related to project design, management of the KEMRI which includes personnel and remuneration schemes, management of project itself which includes properness of inputs and transparency of decision-making, and such external elements as activities of other assistance organizations that impeded effects and progress of the project:

(1) Valuable research results were not fully utilized for the improvement of policy and health systems. The KEMRI should have given information actively to the Ministry of Health.

(2) Because the KEMRI does not have sufficient promotion and remuneration schemes and the decision-makers on research themes, direction and changes are not clear enough, it was difficult to keep counterparts motivated.

(3) Because experts and counterparts were absent for some periods, dispatch of short-term experts was too short, and experts and counterparts had difficulty communicating in some cases, technical transfer was not smooth in some cases.

(4) Fragile administrative and healthcare systems, which include an insufficient address registry system of the administration and limited access to the voluntary counseling and testing centers (VCT) had impact on security of project research quality.

(5) Because donor countries and organizations provide incentives in different ways, local residents and counterparts expected JICA to provide incentives similar to the ones offered by other organizations.

As a result, it was not easy to get support for JICA projects that place importance on self-reliant efforts and appropriate contribution of the recipient governments.

(6) Such external factors that foreign blood screening kits are obtained with external aid and product standard raised by the WHO affected demand for products the KEMRI developed and manufactured.

3-5 Conclusion

Generally speaking, the project contributed to successfully enhancing KEMRI's capacity and the KEMRI came to be widely known as an efficient organization in research on blood safety, HIV, viral infections and opportunistic infections. The organizational growth of the institute is a strategic move for JICA to work in cooperation with it in the future and it is expected to further grow from an assistance recipient to become JICA's partner organization.

The evaluation team recommended the institute consider sustainability and conduct activities in accordance with a plan to complete ongoing activities by the end of the project.

3-6 Recommendations

Under the leadership of the Ministry of Health, concerned organizations are expected to further promote their efforts to ensure blood safety and for further advancement of diagnosis, prevention and treatment techniques for opportunistic infections. The health ministry is recommended to utilize KEMRI's expertise skills and knowledge in its infection control programs and make further efforts and the KEMRI is recommended to make further efforts to contribute substantially to the improvement of the policy and healthcare system.

The evaluation team makes suggestions for early realization of the following among concerned organizations:

(1) Recommendations to Ministry of Health

1) To provide assistance for continued use of HEPCELL II at blood transfusion centers and other healthcare facilities and assure its commitment to purchasing it.
2) To encourage the use of other blood screening kits the KEMRI produces when it approves them.

(2) Recommendations to KEMRI (excerpt)

1) To enhance group capacity to secure research funds under project assistance.
2) To secure fund and reagents for production and prevalence of HEPCELL II, determination of HIV molecular structure, monitoring of opportunistic infections, and continuation of efforts of community-based health promotion.
3) To implement appropriate measures to secure efficient counterparts for the continuation of

existing important research and production.

4) To maintain cooperative relationship with the health ministry and hospitals and research institutes involved in research to utilize it to improve research activities.
5) To promote further improvement of diagnosis techniques and knowledge at public hospitals.

(3) Recommendations to Project

1) To give advice to and consult with the KIMRI on effective management strategy of the blood screening kit production section.
2) To share collected research results timely with the health ministry to utilize them for their policy and measures.
3) To promote the enhancement of capacity to analyze collected data through basic computer training for researchers
4) To provide technical training related to production of KEMCOM (HIV-1 and HIV-2 diagnosis kit) and peptide formation of HIV-1 and HIV-2 before the end of the project.

3-7 Lessons Learned

Main good practice and lessons learned from the project are as follows:

(1) Good Practice

1) Counterparts and experts participated in joint progress review of and compilation of regular reports. It was effective to nurture a sense of ownership of the project and secure transparency of its management.
2) Coupling of short-term experts and counterparts was effective to ensure that counterparts obtained expertise knowledge and skills. This was also well received by counterparts. The combination of short-term experts and counterparts were same in on-site technical training and training in Japan. This was effective for ensuring that counterparts acquire expertise knowledge and skills as it allows customization of training that meets the research needs of each counterpart and enables formulation of training plans from a long-term perspective.
3) The domestic assistance committee had contact with KEMRI management and health ministry officials frequently to encourage shared understanding of the standing of the project in the healthcare sector.
4) The timing of the KEMRI launching the third country training on blood screen was appropriate. The collaboration of the two schemes enabled counterparts of technical cooperation projects to widely spread the outputs among concerned parties through the third country training.

(2) Lessons

1) Selection of short-term experts and compilation of Terms of Reference (TOR) require review of sustainability of existing activities and examination expertise knowledge and skills that satisfy local needs and project contents. To do so, it is important to submit a project report

swiftly so that overseas office and JICA head office will be able to understand the needs correctly.

2) Technical assistance for basic research tends to be self-contained by individual research theme. It is important to set a consistent goal, make a target-oriented plan and monitor the project in order to enhance effectiveness and efficiency as cooperation per project.
3) Long-term assistance was effective for the development of organizational capacity for research. On the other hand, long-term assistance involves a risk of damaging the clarity of the strategy of capacity building and dependence of counterparts and recipient organizations increases. Thus the cooperation strategy needs to be carefully formulated.
4) Counterparts in Japan should be conducted strategically timewise in conjunction with the plan of the entire project. For example, core training for counterparts should be completed before on-site project is conducted in full scale so that knowledge and skills acquired in the training in Japan can be fully utilized in the on-site training.
5) In JICA's research projects, agreements on clear guidelines for ownership of collected data and requirements for publications need to be made.
6) Promotion of full understanding of the difference in assistance approach between JICA and other assistance organizations among counterparts is effective to maintain their motivation.