Study on Human Resources Development Projects in African Countries

Final Report

January 2013

Japan International Cooperation Agency (JICA)

International Development Center of Japan, Inc.
The International Development Journal Co., Ltd.

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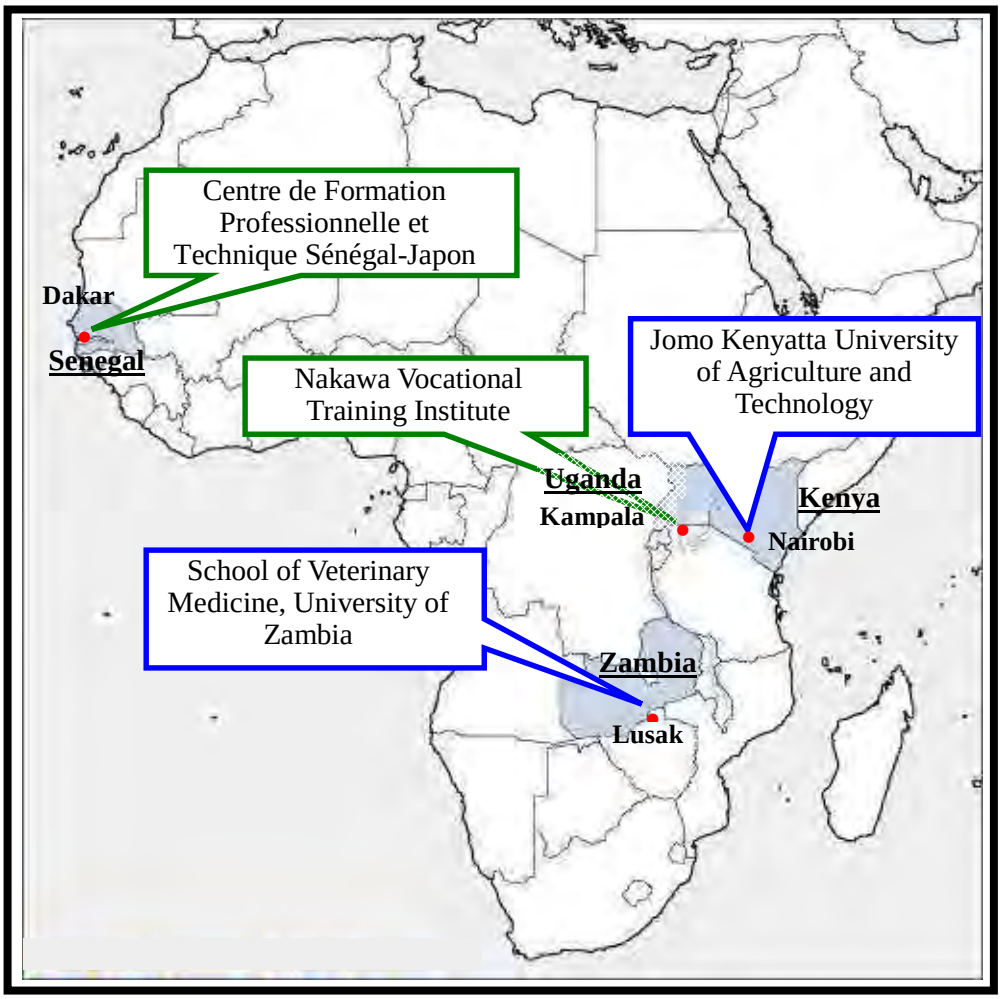

Case Study Country

Capital

Higher Education Sub-sector

Vocational Training Sub-sector

LOCATION MAP OF THE CASE STUDY PROJECTS

ABBREVIATIONS

AFD:	Agence Française de Developpement
AfDB:	African Development Bank
AICAD:	African Institute for Capacity Development
APC:	l'approche par les compétences
AU:	African Union
BCEAO:	Banque Centrale des États de l' Afrique de l'Ouest
BMZ:	German Federal Ministry for Economic Cooperation and Development
BTI:	Brevet de Technician en Industrie
BTS:	Brevets de Technicien Supérieur
BTVET:	Business, Technical, Vocational Education and Training
CD:	Capacity Development
CEVEST:	The Center for Vocational and Extension Service Training
CFA:	franc cfa
CFPT:	Centre de Formation Professionnelle et Technique Sénégal-Japon
CIDA:	Canadian International Development Agency
CIEA:	Central Institute for Experimental Animals
CNN:	Cable News Network
CNQP:	Centre national de qualification professionnelle
COE:	Center of Excellence
COMESA:	Common Market for Eastern and Southern Africa
C/P:	Counterpart
CSR:	Cooperate Social Responsibility
CVTI:	Certificate in Vocational Training Instruction
DAC:	Development Assistance Committee
DANIDA:	Danish International Development Assistance
DED:	German Development Service
DFID:	Department for International Development
DIT:	Directorate of Industrial training, Ministry of Education and Sports
DNA:	deoxyribonucleic acid
DSRP:	Document de Stratégie de Réduction de la Pauvreté
DTIM:	Diploma in Training Institution Management
DVC:	Deputy Vice Chancellor
DVD:	Digital Versatile Disc
DVTI:	Diploma in Vocational Training Instruction
EFA:	Education for All
ESIP:	the Education Strategic Investment Plan
FAO:	Food and Agriculture Organization
FIFA:	Fédération Internationale de Football Association

GDI:	Gross Domestic Income
GDP:	Gross Domestic Product
GIZ:	Deutsche Gesellschaft fur Internationale Zusammenarbeit
GNI:	Gross National Income
GTZ:	German Organization for Technical Cooperation
HELB:	Higher Education Loans Board
HIPC:	Heavily Indebted Poor Country Initiative
HIV/AIDS:	Human Immuno-deficiency Virus and Acquired Immune
HRD:	Human Resources Development
HUCZCZ:	Hokudai Centre for Zoonosis Control in Zambia
ICP:	Indicative Cooperation Programme
ICT:	Information and Communication Technology
IDCJ:	International Development Center of Japan
IDJ:	The International Development Journal Co., Ltd.
ILO:	International Labour Organization
IMF:	International Monetary Fund
JICA:	Japan International Cooperation Agency
JITCO	Japan International Training Cooperation Organization
JKUAT:	Jomo Kenyatta University of Agriculture and Technology
JOCV:	Japan Overseas Cooperation Volunteers
JST:	Japan Science and Technology Agency
JVMA:	Japan Veterinary Medical Association
KANU:	Kenya African National Union
KfW:	German Development Bank
KJAS:	Kenya Joint Assistance Strategy
KOICA:	Korean International Cooperation Agency
Ksh:	Kenya Shilling
LED:	Light Emitting Diode
LRA:	LRA: Lord’s Resistance Army
MACO:	Ministry of Agriculture and Cooperatives
MAL:	Ministry of Agriculture and Livestock
MDGs:	Millennium Development Goals
MEXT:	Ministry of Education, Culture, Sports, Science and Technology
MFDC:	Movement of Democratic Forces of Casamance
MMD:	Movement for Multiparty Democracy
MOFA:	Ministry of Foreign Affairs
MPLA:	People’s Movement for the Liberation of Angola
MTAC:	Management Training Advisory Center
MTC:	Multi-Service Training Center
NARC:	National Rainbow Coalition

NGO:	Non-Government Organization
NRM	National Resistance Movement
NVTI:	Nakawa Vocational Training Institute
OAU:	Organization of African Unity
ODA:	Official Development Assistance
OECD:	Organisation for Economic Co-operation and Development
OIE:	L'Office international des epizooties (International Epizootic Office)
OJT:	On-the-Job Training
ONFP:	Office National de Formation Professionnelle
OTCA:	Overseas Technical Cooperation Agency
OVOP:	One Village One Product
OVTA:	Overseas Vocational Training Association
PAU:	Pan African University
PDM:	Project Design Matrix
PEAP:	Poverty Eradication Action Plan
PF:	Patriot Front
PKO:	Peace Keeping Operation
PROTS:	PROgressive Training System for Instructor (Instructor training system developed by OVTA)
PRSP:	Poverty Reduction Strategy Paper
R&D:	Research and Development
SADC:	Southern African Development Community
SAP :	Structural Adjustment Program
SATREPS:	Science and Technology Research Partnership for Sustainable Development
SAVOT:	The Project for Improvement of Basic Skills and Vocational Training
SDF:	Staff Development Fellow
SMEs:	Small and Medium Enterprises
SVM:	School of Veterinary Medicine
SWAps:	Sector Wide Approaches
TICAD V:	The Fifth Tokyo International Conference on African Development
TIET:	Department of Teacher Instructor Education
ToT:	Training of Trainers
UBTEB:	Uganda Business Technical Examination Board
UGAPRIV:	Uganda Association of Private Vocational Institute
UMA:	Uganda Manufacturer Association
UNDP:	United Nations Development Programme
UNEB:	Uganda National Examination Bureau
UNESCO:	United Nations Educational, Scientific and Cultural Organization
UNICEF:	United Nations Children’s Fund
UNIP:	United National Independence Party

UNZA:	University of Zambia
USAID:	United States Agency for International Development
U.Shs.:	Uganda Shilling
UVQF:	Uganda Vocational Qualification Framework
VI:	Vocational Institute
WHO:	World Health Organization
WWII:	World War II
YMCA:	Young Men's Christian Association
ZAWA:	Zambia Wildlife Authority
ZIAH:	Zambia Institute of Animal Health

Executive Summary

1. Outline of the Study

Human resources development (HRD) or *Hito-zukuri* in Japanese is the key to nation building and to socio-economic development. This has long been the creed of Japan's Official Development Assistance (ODA) since its start in 1954, based on Japan's own experiences in nation building and socio-economic development after World War II as evidenced by the socio-economic growth of Asian countries in the past few decades. Based on this basic policy, Japan International Cooperation Agency (JICA), in its technical cooperation, has placed priority on HRD in developing countries aimed at enabling people to challenge and resolve various problems through their own efforts.

Some of JICA's HRD cooperation projects have continued for more than 10 to 20 years and produced various assets by bringing changes in the attitude and values of the people, and built network and personal relationships between Japan and recipient countries. In these projects, Japanese experts stayed in the relevant countries for longer periods of time and counterparts were able to work and learn together with the experts. However, these assets have not yet been grasped or assessed appropriately by a systematic review nor have the lessons and recommendations that should have been obtained from the review utilized.

Based on the above-mentioned background, this Study aims at examining the outcome of JICA's HRD cooperation for Africa in the past and drawing on the lessons learned for mid and long-term HRD cooperation strategy for the future.

Recommendations of this Study will be utilized when preparing JICA's policy paper on its future direction, examining the approach to HRD cooperation; and planning HRD cooperation strategies for African countries at TICAD V in 2013.

In reviewing past Japanese HRD cooperation, what is meant by *Hito-zukuri* in Japan's ODA is something more than what is generally defined as "HRD" in English. It is not only about "developing human resources with technology and skills", but also "fostering human resources who bear the responsibility of rural/agricultural development, energy development and industrialization of the country by working out appropriate solutions." Moreover, *Hito-zukuri* includes improving the social context in which human resources play their roles such as development of appropriate technology and institutional/system development needed for training/dissemination of such technology. Thus, the term *Hito-zukuri* is somewhat equivalent to "Capacity Development" (CD), which includes both HRD and institutional/system development in international society.

The Study targeted "technical cooperation projects aimed at industrial human resources development," which has supported African economic growth in JICA's HRD cooperation

projects. Four (4) projects were selected as case studies to examine concrete lessons learned and recommendations by analyzing the impact, issues and assets produced by long-term "HRD cooperation" as shown below.

Four (4) Projects Selected as Case Studies

(1)	Kenya:	Jomo Kenyatta University of Agriculture and Technology (JKUAT)
(2)	Zambia:	School of Veterinary Medicine, University of Zambia (SVM-UNZA)
(3)	Senegal:	Center for Technical and Vocational Training Senegal - Japan (CFPT)
(4)	Uganda:	Nakawa Vocational Training Institute (NVTI)

2. Japan's HRD Cooperation for Industrial Human Resources Development in Africa

In developing industrial human resources, higher education contributes to fostering administrators, top management and core engineers at private enterprises, and to R&D activities in appropriate technologies. On the other hand, vocational training contributes to producing workers skilled in practical techniques needed in the private sector. Thus, both sub-sectors play an important role in developing industrial human resources.

In the higher education sub-sector, Japan has been actively cooperating in the medical field such as fostering medical personnel and strengthening research on disease control. However, in the industrial field, only small-scale projects existed in Eritrea and Ghana excluding projects related to JKUAT in Kenya and UNZA in Zambia. It can be said that cooperation for JKUAT and UNZA are representative among Japan's "HRD cooperation" projects in Africa.

In the vocational training sub-sector, Japan fragmentally implemented a few projects in Zambia and Kenya after 2000. Continuous HRD cooperation was only implemented in Uganda (NVTI) and Senegal (CFPT). Since mid-2000, Japan has implemented vocational training projects for former combatants in Eritrea and Rwanda, and vocational training projects in South Sudan, North Sudan, Ghana, Angola, and the Democratic Republic of Congo. However, cooperation for NVTI and CFPT is much larger in terms of both cooperation period and quantity of input.

Besides sub-sectors in higher education and vocational training, long-term "HRD cooperation" was implemented in technical development/dissemination in rice farming, irrigation, and fisheries. In recent years, projects for private sector promotion are conducted in many African countries, such as OVOP projects and Kaizen (productivity improvement) projects.

3. Kenya: Jomo Kenyatta University of Agriculture and Technology (JKUAT)

In 1977, the Government of Kenya requested the Government of Japan to cooperate in establishing a new college of agriculture and technology, having recognized the importance of HRD for industrialization. The Project was launched, aimed at developing human resources with practical skills in agriculture and industry.

The cooperation for JKUAT was extended in two phases of technical cooperation, three grant aid programs and eight courses of Third Country Training Program in the 23 years from 1978 to 2000. During the 23 years of cooperation, JKCAT became JKUCAT as University College in 1989 and upgraded into JKUAT as full-fledged university in 1994. JICA assisted JKUAT starting with its establishment under a grant aid project. The grant aid project was conducted in collaboration with technical cooperation to set up and strengthen the management structure of the university and its human resources.

The first grant aid project in the establishment of the college constructed the campus building and the basic infrastructure of JKUAT. Following this project, technical cooperation phase I was conducted to develop a college system to foster the technician and diploma-level education. The main focus of the activities was to develop the educational setting and to develop and enhance education and management capacity in each of the three departments of the two faculties of agriculture and engineering. In the second phase of the technical cooperation, the target was upgraded to the bachelor-level education to cope with increased demand for higher education in Kenya. The grant aid project in the Expansion Program was conducted prior to the second technical cooperation in order to fill the gap in facilities and equipment for higher-level education.

The Third Country Training courses started in 1992 after the number of the Kenyan teaching staffs increased and their capacity in teaching and school management was developed. The program included 8 courses from Faculty of Engineering and Faculty of Agriculture.

4. Zambia: School of Veterinary Medicine, University of Zambia (SVM-UNZA)

Cooperation started in 1983 when there were only a few Zambian veterinarians in this vast country although the Government of Zambia had implemented a policy to promote stock farming. Veterinary doctors and sanitation technicians were urgently needed in order to prevent diseases of livestock and improvement of the productivity of animals. Under these circumstances, the Zambian government requested the Japanese government to provide support to establish a veterinary school in UNZA.

The grant aid project, "Construction of UNZA Veterinary School", starting from 1983, provided major facilities and equipment. Technical cooperation projects (Phase I and II) started after the implementation of the grant aid project. These projects continued 12 years up to 1997, supplemented by dispatching volunteers and Third Country Training Program. In the Phase I of the technical cooperation, curricula, syllabus, and lecture notes were developed for the newly established School. At this stage, Japanese experts directly give lectures. In the second phase, activities were shifted from providing lectures into supporting research activities and postgraduate education as well as developing Zambian teaching staff. In 2005, a new technical cooperation project, "Improvement of Animal Health and Production Delivery through Extension Services" that focused on extension to improve animal health and technology of

production to the farmers was launched. A new research project was adopted as a Science and Technology Research Partnership for Sustainable Development (SATREPS) Program in 2009 named, "Establishment of Rapid Diagnostic Tools for Tuberculosis and Trypanosomiasis and Screening of Candidate Compounds for Trypanosomiasis." Another new SATREPS Program, "Surveillance of Viral Zoonosis in Africa," was also adopted in 2012.

5. Senegal: Center for Technical and Vocational Training Senegal - Japan (CFPT)

In 1980, the Senegalese economy, which was dependent on peanuts, was highly vulnerable to fluctuations in the international price and the weather. The Government of Senegal was keenly aware of the need to develop the foundation of other industries, notably promoting the import-substitution industry. One of the major obstacles in the development of modern industry was insufficient intermediate and junior level technical workers. Due to these circumstances, the government of Senegal requested the Japanese government for grant aid and technical cooperation to establish a vocational training center.

CFPT was established in 1984 with a grant aid and technical cooperation from Japan. In line with the construction of schools and procurement of machinery and equipment from 1982 through 1984, the project-type technical cooperation supported CFPT in its work of formulating and starting vocational training programs and strengthening its management system. The first technical cooperation project “The Senegal-Japan Vocational Training Center” focused on a three-year degree program for industrial technicians (BTI) for junior-high school graduates. There were five courses in three areas of electrical technology, electronic engineering and machinery. The second technical cooperation project “The Senegal-Japan Vocational Training Center Expansion Project” focused on BTS course, a two-year program at the junior college level whose coursework included information processing, automobile engineering and electronic machinery.

Following these measures, CFPT opened two new BTS courses from October 2012 for “maintenance of heavy equipment“ and “maintenance of construction equipment”, by reorganizing the existing two BTI auto mechanic and electronic courses. The Japanese government has been supporting the maintenance and installation of training equipment for the newly establishing 2 sections from 2011 through 2013. In addition to that, from 2011 to 2015, the Japanese government has implemented a technical cooperation project, “Project for Reinforcement of CFPT Senegal Japan,” to support new courses and management.

Furthermore, CFPT diversified the activities to provide night classes for employees of private companies that would help meet the demands of the industrial sector and generate adequate income for CFPT itself. CFPT also provides technical cooperation to instructors of vocational training institutes in neighboring countries as well.

6. Uganda: Nakawa Vocational Training Institute (NVTI)

In Uganda, industrialization was progressing around the time of its independence in 1962. However, after a period of political turmoil, industrial production stagnated. Against this background, in 1965, the government of Uganda requested cooperation to Japan to establish Nakawa Vocational Training Institute (NVTI) to train skilled workers needed for reconstruction of small and medium-sized enterprises (SMEs) in Uganda. The Japanese government provided grant aid and technical cooperation, and NVTI started operation in 1971. The Project was aimed at enhancing the skills of instructors in seven fields (machining, electricity, welding, sheet metal, motor vehicles, electronics, and carpentry) and providing guidance and advice for course content and management. The original courses consisted of 5 courses: upgrade, basic craft, apprentice ship, crash training and airforce training. The first phase of technical cooperation ended in 1974 during the Amin administration.

After 20 years of political and social turmoil during the civil war, the government of Uganda requested the government of Japan to rehabilitate and restart NVTI, and technical cooperation resumed in 1994. As shown in Figure 4, although there was a break of 20 years due to the political and social unrest after the start of 1968, support for NVTI has been carried out without interruption since it was resumed in 1994 until now by utilizing various cooperation schemes.

NVTI strengthened its own capacity through the two phases of technical cooperation. Then, it expanded the range of activities incrementally as follows: i) basic training (training for fresh graduates), ii) training of trainers, iii) training to neighboring countries, iv) involvement in the formulation of government policy such as certificate criteria.

7. Impacts and Assets of Japanese *Hito-zukuri* Cooperation

Based on the socio-economic analysis and collected information focusing on human networks developed through four case study projects, impacts and assets of Japanese *Hito-zukuri* cooperation are described below.

Higher Education

JKUAT and SVM-UNZA was established from ground zero. These organizations achieved education for Africans by Africans, producing graduates who were active in the field. They are also recognized as a research and education center by neighboring countries. Impacts on individual and organization levels were seen as high because sustainable operation of JKUAT and SVM-UNZA for research and education was achieved. They have been expanding on their own and they also enhanced links between other universities and industrial sectors.

Meanwhile, the Governments of Kenya and Zambia supported JKUAT and SVM-UNZA by receiving the graduates. The graduates performed well utilizing their skills and expertise gained at JKUAT and SVM-UNZA, and they have had an impact on government and industrial sectors. However, the study team did not find any results that showed that this successful human

resources development affected the policy and system of the country.

In both projects, the organizations, JKUAT and SVM-UNZA per se, are the invaluable assets. Furthermore, the management personnel and teaching staff that understand the Japanese spirit of *Hito-zukuri* and *Mono-zukur*, and the relationship of mutual trust are precious assets for Japan, Kenya and Zambia.

Vocational Training

As in the case of higher education institutions mentioned above, two cases from vocational training namely, CFPT and NVTI were established from scratch and achieved autonomous management by counterparts in Senegal and Uganda, respectively. They produced graduates who work successfully in society and provided training to vocational training instructors of neighboring countries. They have developed the institutions into Centers of Excellence with high reputations.

The impacts of Japan's cooperation to these vocational training institutes are specifically high in the case of individuals and institutions. Counterparts in these countries and Japanese experts have made great effort to apply the experience gained by establishing vocational training institutes from scratch in Japan to these countries with appropriate modifications to enable the system to take root in the respective societies. Through this process, counterparts have gradually come to understand the spirit of *Mono-zukuri* and a strong trust with Japanese experts was built. This helped them operate, manage, educate and train students of the institutes autonomously. These institutes have generated income by organizing seminars targeting private companies and conducting training for workers in the informal sector.

Since these institutes are highly reputed as the Centers of Excellence, the experiences shared with these institutes have exerted a strong influence on government policy on vocational training and on the industrial sector. In the vocational training subsector, both projects have successfully generated assets such as CFPT and NVTI per se, management members and instructors that fully understand the spirit of *Mono-zukuri*, as well as practical skills lessons and a strong trust between the counterparts and Japanese experts. This is a precious asset of Japan's *Hito-zukuri* cooperation.

8. Lessons Learned from Case Studies

Higher Education

(1) Importance of establishment of intellectual basis and continuous relations

JKUAT and SVM-UNZA have developed the capacity to implement cooperation in their field of expertise for other institutions in the country as well as in neighboring countries. Counterparts who were fostered in the long-term technical cooperation are now engaged in the management of universities. They are the supporters of the Japanese *Hito-zukuri* cooperation and trust Japan.

They can be said to be an asset achieved and fostered not by simple technical cooperation, but by sincere and long-term relations.

About ten years has passed since the completion of technical cooperation for both projects. The next generation of leaders capable of utilizing the asset and sustain relations with Japan were not fostered, though some research collaboration projects have been conducted.

(2) Important role of the Advisory Committee

Advisory Committees were formed and organizing universities were pointed out in both projects. Chairmen of the Advisory Committees served in the projects for long-term periods, and members, who attended monitoring and evaluation, provided advice from the academic and long-term viewpoint. Main members of the Advisory Committees were appointed from the organizing universities, and experts were recommended through the network of universities. There were cases cooperation was achieved through Ministry of Education and veterinary medical association with the coordination of the organizing university. The Advisory Committees played an important role to help projects perform well in their area of expertise in addition to ensuring the quality and a variety of activities. Some of the organizing universities and cooperating universities concluded an academic exchange agreement with JKUAT or SVM-UNZA and participated in research collaboration.

(3) Needs for project operation from a long-term perspective

It takes long time for human resources development. The experts engaged in both projects did not have a clear long-term vision, although they understood that it was important. It was not clear “what should be achieved by the established schools over the long term”, “how they will contribute to industrial promotion in the country” and “what kind of role Japan should play. ”Both projects started constructing facilities without sharing any views on industrial needs, educational content, existence of teaching staff and their availability, and an exit strategy for the graduates. Technical cooperation was planned and conducted later

As mentioned earlier, the experts understood the importance of continuous cooperation, and strove to continue the activities even though projects were divided into several phases. The Advisory Committees contributed to project continuity and output through long-term engagement and advice. Nevertheless stakeholders in JICA changed within two or three years. *Hito-zukuri* cooperation should be operated based on a long-term perspective, although it seems impossible to conduct a large-scale project with long span like JKUAT.

(4) Capacity development in conducting countermeasures for depreciated facilities

Universities and governments of both countries strove to secure a budget to cover operation costs including personnel costs. However, the facilities and equipment introduced were depreciated after more than twenty years of use. They did not have enough financial capacity to replace them. As a result this remains as a challenge.

Through the technical assistance, it is necessary to develop capacity of universities in planning and taking actions for the countermeasures for the obsolete facilities: such as marketing and promoting advocacy to the government and donors to get subsidies or supports or developing the collaborative relationship with the private sector.

(5) Approach to bear impacts from HRD cooperation

For HRD cooperation to have an impact, the trained human resources need to contribute to the society. In the cooperation for JKUAT and SVN-UNZA, impact was not seen in some sectors. One of the reasons is because the industry in that sector had a structural problem which could not be overcome by the human resource development project. As a result, there were no employment opportunities for graduates in that sector.

It seemed possible to create a link between the development of human resources and development of the industry itself during the cooperation period. For example, both of the universities created a system to reflect the needs of the industrial sector and private companies in their curricula. However, the career paths of graduates were not analyzed and career guidance was inadequate. The alumni network is effective in identifying needs of the industry and enhancing links as well as obtaining information from overseas and entrepreneurs. It might be also effective for providing employment opportunities for graduates. However, there were graduates where their careers were not developed although the alumni network. In addition to the cooperation in research and education, a career guidance system and alumni network might be taken into account in future cooperation.

(6) Support for networking

ICT revolution brought about easy acquisition of knowledge and further division of labor. This revolution might also change education and research style in the near future.

In the case study projects, research networks (publication of science journal and establishment of academic societies) and networking with industrial sectors were seen. Further networking would be beneficial for effective management and greater impact. Some examples of networking are as following.

1) Research Network
2) Inter- regional Network (Asia and Africa)
3) Network for similar sectors
4) Network for similar type of organizations
5) Network of organizations and people supported by JICA
6) Alumni Network
7) Network of higher education institutions

Vocational Training

Six aspects of vocational training were discussed in the POVNET task team on Employment and Labor Markets of OECD during 2007 and 2008.[1] They are:

1) Vocational training should respond to the needs of the informal economy and be inclusive because in developing countries people work and trade predominantly in the informal economy.
2) Links between education and vocational training from employment point of view should be strengthened.
3) Vocational training should include all relevant stakeholders.
4) Mechanisms need to be designed that are sustainable, tailored to each situation and ensure shared responsibility between stakeholders (households, employees, enterprises and the State).
5) Vocational training should be part of a strategy to put countries on the paths of sustainable development.
6) Vocational training systems are generally inadequate in size and inadequately relevant to the needs of the labor markets in poor countries. Recently, Technical and Vocational Education and Training (TVET) reforms are conducted in small-scale. The challenge is to scale-up after the pilot phases.

Taking these aspects into consideration, we summarized the expected roles and needed improvement in Japan's human resources development cooperation in the field of vocational training as follows.

(1) Responding to the needs of an informal economy

Most vocational training institutes have mainly responded to the needs of the formal economy and have not adequately met the needs of the informal economy. The informal sector accounted for 50 percent of the GDP, and 90 percent of the total employment, covering all the industries from first, second to third. Therefore, demand for HRD in the field of vocational training targeted at informal sectors is high. Japan has provided vocational training to people working in the informal sector through agriculture development projects and CFPT's informal sector training utilizing ONFP. However, the number of beneficiaries is limited. In Uganda, vocational training has mainly been provided to people working in the formal sector. Although, the number is still limited, some instructors who received management training at NVTI established private vocational training institutes for the informal sector. Recognizing the high demand, Japan needs to consider the feasibility of providing vocational training targeted at the informal sectors with the current endowment of resources.

[1] Armand Rioust de Largentaye, "Vocational Training and the Informal Economy ", OCED, "Promoting Pro-Poor Growth: Employment", 2009.

(2) Strengthened links between education and vocational training from an employment point of view

Both the governments of Senegal and Uganda intend to strengthen the link between technical education and vocational training. CFPT and NVTI are now strengthening links with technical universities so that they can utilize the latest machinery and equipment that they have and provide practical skills lessons to students. However, normally technical education and vocational training have different final goals students should aim for and vocational training institutes are normally supervised by the Ministry of Labor or Ministry of Industry. In such circumstances, when vocational training institutes are supervised by the Ministry of Education, or jointly supervised by Ministries of education and labor/vocational training, theories and degrees tend to be prioritized, which are considered to superior to practical skills. While both CFPT and NVTI are transforming themselves into higher education institutions, it is critically important to carefully observe whether these institutes will keep providing human resources with practical skills based on theories.

(3) Vocational training should include all relevant stakeholders

JICA projects have actively encouraged strengthening the link between vocational training institutes and the industrial sector. Since both CFPT and NVTI are endowed with limited staff members, how to actively publicize the institutes so that they will attract more talented students and industries where CFPT and NVTI could send students as interns, and providing customized seminars for private companies and promoting the employment of graduates, are other issues to be considered further.

(4) Mechanisms need to be designed that are sustainable, tailored to each situation and ensure shared responsibility between stakeholders (households, employees, enterprises and the State)

The Japanese experts and counterparts have learned by trial and error and modified the Japanese system of establishing vocational training institutes based on the context of recipient countries to help vocational training institutes to take root in society. While hard-type technology such as practical skills is easily transferred, soft-type technology such as “5S”, hygiene and safety controls, work ethics at the workplace are not easily transferable because they are closely related to the culture, practices and customs of recipient countries. In particular, to what extent will soft-type technology take root in personnel without any experience of training in Japan or collaborating with Japanese experts, is the big challenge. This is an issue Japan’s human resources development cooperation needs to consider.

In order to provide training of skills needed in a dynamic economy, vocational training institutes need to regularly replace the obsolete machinery and teach new technology. However, vocational training institutes in developing countries are faced with financial constraints associated with limited government budgets when purchasing expensive machinery. Japan has regularly monitored CFPT and NVTI and provided the necessary machinery and equipment.

The thorough support from Japan has enabled these institutes to gain a high reputation among industrial sectors that they have fostered a highly skilled labor force. However, such thorough support would threaten the independence of these institutes and make them even more dependent on Japan's assistance. Without Japanese cooperation, these institutes would not be able to operate over the long run. The expected roles of vocational training institutes have gradually changed in accordance with the historical changes in the economic and social situation, changes the industrial structure and the impact of globalization. Countries like Senegal and Uganda where new technology has rapidly developed urgently require human resources that can deal with the new technology, rather than those who can produce something made in Senegal or Uganda based on the spirit of *Mono-zukuri.*

Taking into account the expected roles vocational training institutes should play in the country, Japan needs to consider how to renew machinery and procure consumable supplies in a sustainable manner during the cooperation period. Cooperation from other donors and the private sector can be taken into consideration, as well as follow-up cooperation plans by Japan.

(5) Vocational training should be part of a strategy to put countries on the paths of sustainable development

Prior to or at the beginning of the projects, neither CFPT nor NVTI had a clear long-term prospectus and entrance and exit policy. Both institutes are now recognized to be leading vocational training institutes in their respective country; and their outputs and experience have been reflected in government vocational training strategies. Although vocational training is now included in the national industrial promotion strategies of these countries, it is necessary to clarify the appropriateness of vocational training in the industrial promotion strategy to allow needed human resources to be defined concretely, i.e. in which sectors and at what level. Only then will it become possible to develop a concrete training courses and curriculum that meet the demand for human resources in the areas and levels where they are needed.

(6) Vocational training systems are generally inadequate in size and inadequately relevant to the needs of the labor markets in poor countries. The challenge is in scale-up after the pilot phases.

Instructor training conducted by NVTI was first initiated by JICA projects. After recognizing the impacts of the pilot activities, the Ugandan government allocated budgets and it is now expanding the activities to cover the whole nation. CFPT has developed a curriculum within the framework of a competence-based approach, which is commonly shared by other vocational training institutes. With limited endowed human resources, neither CFPT nor NVTI could expand the pilot phase; therefore, the governments need to cope with as the problem of allocating more human resources. JICA needs not only to support technical transfers and institutional building for a targeted institute, but also to consider "advocacy cooperation" which will enhance the use of existing cooperation assets and scenario formulation to further expand the pilot phases to enable the government and other donors to share ideas.

9. Lessons Learned from the Seminar on HRD development in Africa

In this Study, a "Seminar on Human Resources Development in Africa" was held in Dakar, Senegal on September 27-28, 2012. In total, 52 stakeholders from 11 African countries, two (2) Asian countries and JICA participated[2].

Through presentations and discussions among the participants from the African and Asian countries, we were able to understand 1) what they had learned from Japan's HRD collaboration, 2) what kind of outputs and outcomes were produced, 3) how they had utilized them, and 4) what type of problems they had faced. Some features of Japan's HRD, which the Japanese side had not realized, were pointed out by the participants.

The participants agreed that, in order to utilize the assets, effective partnership rather than full-scale support would be needed between African and Asian countries and Japan.

The following are the major suggestions provided during the Seminar.

(1) Japan's technology transfer in capacity development of industries appears to be similar to Germany's. Both provide technical assistance in the field; however, there are a few differences. Japan gives priority to capacity development as a team, while Germany tries to enhance the individual's capacity.

(2) It is necessary to develop some mechanism to share and to relay what the counterparts learned from Japanese technical assistance to the next generation.

(3) This seminar provided the first opportunity for African government officers and academic persons to gather and share the knowledge and experience in vocational training and higher education, which should be continued to strengthen the network.

(4) How to establish the mechanism to utilize and improve the output and the outcome produced by the past human resource development should be considered, as well as how to collaborate during actual implementation of the mechanism.

(5) Promote collaborative studies and research to develop and disseminate proper technologies among the relevant academic, research and government establishments in Japan and African and Asian countries.

(6) Further Japanese collaboration is desirable in order to further improve school management and business ethics in higher education and vocational training. Joining in the training in Japan is the most effective way to learn from soft-type technology transfer.

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[2] Senegal, Cameroon, Cote d'Ivoire, Kenya, Mauritius, Nigeria, Rwanda, South Africa, Tanzania, Uganda, and Zambia were 11 African countries. Thailand and Indonesia were 2 Asian countries. Representatives from JICA Offices of Cameroon, Cote d'Ivoire, Kenya, Madagascar, Nigeria, and South Africa also participated.

Many lessons were learned from the presentations of Thailand and Indonesia. The Electronics Engineering Polytechnic Institute of Surabaya, Indonesia, has promoted effective collaboration with the companies owned fully or partly by Japanese nationals through the use of a good human network and relationships created by JICA's human resources development cooperation. This collaboration has contributed to improving quality education and research and increased f job opportunities for graduates, which greatly impressed the participants from the African countries.

Some of the participants from Uganda, Indonesia and Nigeria visited CFPT and had discussions with Principal Gueye and the teachers after the Seminar ended. All of the visitors were interested in the facilities, equipment, maintenance system, curriculum and school management of CFPT and they were eager to ask questions and take notes.

The "human resource development network", which was established at this Seminar, between the participants from the African and the Asian countries, should be further strengthened by sharing information through the Internet as we move towards TICAD V that will be held in June 2013.

In the wrap-up session, the participants arrived at a consensus on the synthesis communiqué[3] for TICAD V. In the communiqué, the following four (4) points were mentioned about the lessons learned from the case studies in this Study.

1) HRD for the African by the African was a key issue in JICA's approach.
2) HRD in collaboration with JICA put strong emphasis on practical skills, which is an important strong point of Japanese cooperation.
3) Assets of JICA's HRD projects could not be produced without the mutual trust of the Africans and the Japanese.
4) To produce further outcomes from the assets of JICA's HRD projects, keeping and upgrading the relevance of education in industrial development are necessary by strengthening collaboration with the private sector. For higher education, research and development (R&D) between Africa and Japan was proposed, thus strengthening the inter-university network. For vocational training, JICA's cooperation assets need to be integrated into the entire vocational training system by promoting regional centers of excellence.

10. Recommendations on *Hito-zukuri* cooperation in Africa

Based on the results of the Study, the Study team created the following recommendations from the comprehensive and cross-cutting viewpoints.

(1) JICA needs to understand that it takes a longer time to produce substantial outcome and

[3] Appendix 7 is the synthesis communiqué of the seminar.

impact through human resources development (HRD) collaboration in higher education and vocational training sub-sectors. When starting HRD cooperation, it is desirable for JICA to be well prepared for long-term cooperation with a vision of what the target institution would be like in 20 years.

(2) It is desirable for a HRD cooperation project to have a supporting organization in Japan such as a university, research/training institute, which provides human resources with proper technical backgrounds and advanced technical information, and various assistance for the project and functions as “a home port” for the Japanese experts in Japan.

(3) The Study saw that there had been various “physical and spiritual assets,” produced through Japan’s past HRD projects. These assets include educational establishments; research facilities and equipment, teaching and management staff members, students, graduates and their human networks. These assets have contributed to creating the basic foundation of human resources development for socio-economic growth in each country, which Japan should be proud of. Furthermore, Japan needs to have a strong sense of leadership to utilize and bridge these assets for further socio-economic development in the African as well as Asian countries.

(4) When Japan promotes the utilization and the networking of these assets produced through HRD projects, it is expected that Japan will play the role of coordinator and/or facilitator. In order to make the link between assets more effective, Japan needs to make the effort to invite more stakeholders to its HRD collaborative network, especially stakeholders from the private sector in Japan as well as in the African countries.

(5) When formulating and designing a HRD cooperation project, it is necessary to consider how to strengthen the capacity of the education establishments in marketing their graduates to the private sectors and/or to the relevant sectors. Through establishing collaborative relationship with the private sectors, the education institutes can provide technical education and vocational training more effectively with showing the students their concrete directions and targets of what they should learn and obtain knowledge and skills of.

(6) Science technology has improved rapidly, which higher education and vocational training organizations need to cope with. However, it is difficult for these institutions to maintain and update their equipment to keep up with ever-progressing technology. When conducting a HRD cooperation project, it is necessary for JICA to develop the capacity of the education institutions in preparing a long-term facility/equipment updating and maintenance plan, in promoting advocacy activities to gain subsidies and support from the government and donors, and in establishing collaborative relationship with the private sectors.

(7) Follow-up and/or aftercare activities for the graduates of higher education and/or the vocational training institutions, established/enhanced through Japan’s HRD collaboration,

should be provided by Japan with proper information, consultations for scholarships and introductions to private companies through the HRD collaborative network.

(8) In order to make optimum use of “the experiences of the recipient countries” for emerging ASEAN donors, it is desirable for Japan to strengthen the collaborative relationship with these emerging donors and to assist the bridge between the African countries and emerging donors.

(9) It is necessary to evaluate properly the value of the assets produced by Japan’s HRD collaboration, which developed “the Technical and Academic Human Network Corridor” in higher education and vocational training between Japan and the African countries and promoted intangible national interests for Japan.

STUDY ON HUMAN RESOURCES DEVELOPMENT PROJECTS IN AFRICAN COUNTRIES

FINAL REPORT

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CHAPTER 1: OUTLINE OF THE STUDY

1.1 Background

Human resources development (HRD) or *Hito-zukuri* in Japanese is the key to nation building and to socio-economic development. This has long been the creed of Japan's Official Development Assistance (ODA) since its start in 1954, based on Japan's own experiences in nation building and socio-economic development after World War II as evidenced by the socio-economic growth of Asian countries in the past few decades. Japan has worked actively to develop human resources that would contribute to nation building in many developing countries.

Under its former ODA Charter, Japan held up the basic policy to support "diverse HRD aimed at encouraging the self-help efforts of developing countries for economic take-off." This emphasis on HRD was continued under the current ODA Charter. Its basic policy clearly states that "the most important philosophy of Japan's ODA is to support the self-help efforts of developing countries based on good governance, by extending cooperation for their human resources development, institution building including development of legal systems, and economic and social infrastructure building, which constitute the basis for these countries' development. Accordingly, Japan respects the ownership by developing countries, and places priorities on their own development strategies."

Based on this basic policy, Japan International Cooperation Agency (JICA), in its technical cooperation, has placed priority on HRD in developing countries aimed at enabling people to challenge and resolve various problems through their own efforts.

Some of JICA's HRD cooperation projects have continued for more than 10 to 20 years and produced various assets by bringing changes in the attitude and values of the people, and built network and personal relationships between Japan and recipient countries. In these projects, Japanese experts stayed in the relevant countries for longer periods of time and counterparts were able to work and learn together with the experts. However, these assets have not yet been grasped or assessed appropriately by a systematic review nor have the lessons and recommendations that should have been obtained from the review utilized.

In recent years, many international development partners have attached importance to investment promotion and private sector strengthening in development cooperation for African countries. It is necessary for JICA, whose focus has long been on HRD, to assess its contribution to African development thus far and to consider its future assistance strategy. Backed by the results of this assessment, JICA is expected to send out its message about the importance of HRD that has contributed to building the basic foundation of sustainable economic growth in Africa.

1.2 Objective

Based on the above-mentioned background, this Study aims at examining the outcome of JICA's HRD cooperation for Africa in the past and drawing on the lessons learned for mid and long-term HRD cooperation strategy for the future.

Recommendations of this Study will be utilized when preparing JICA's policy paper on its future direction, examining the approach to HRD cooperation; and planning HRD cooperation strategies for African countries at TICAD V in 2013.

1.3 Definition of HRD Cooperation

"HRD", or *Hito-zukuri* in Japanese, is one of the important pillars of Japanese ODA as stated in its ODA Charter and mid-term policy. In reviewing past Japanese HRD cooperation, what is meant by *Hito-zukuri* in Japan's ODA is something more than what is generally defined as "HRD" in English.

It is not only about "developing human resources with technology and skills", but also "fostering human resources who bear the responsibility of rural/agricultural development, energy development and industrialization of the country by working out appropriate solutions." Moreover, *Hito-zukuri* includes improving the social context in which human resources play their roles such as development of appropriate technology and institutional/system development needed for training/dissemination of such technology.

Thus, the term *Hito-zukuri* is somewhat equivalent to "Capacity Development" (CD), which includes both HRD and institutional/system development in international society.

1.4 Target Sector and Projects

The Study targeted "technical cooperation projects aimed at industrial human resources development," which has supported African economic growth in JICA's HRD cooperation projects.

The sectors for industrial human resources development include: i) the higher education sub-sector and ii) the vocational training sub-sector in the education sector; iii) private sector development (small and medium enterprise promotion, One Village One Product (OVOP) movement, Kaizen, etc); iv) agriculture, forestry and fisheries/livestock sector; and v) mining and manufacturing/energy sector[4].

The Study selected four (4) projects as case studies to examine concrete lessons learned and recommendations by analyzing the impact, issues and assets produced by long-term "HRD cooperation." The selected projects are two (2) projects in the higher education sub-sector and

[4] Appendix 1 is the list of JICA projects in targeted sectors implemented in African countries.

two (2) projects in the vocational training sub-sector.

Table 1-1: Four (4) Projects Selected as Case Studies

(5)	Kenya:	Jomo Kenyatta University of Agriculture and Technology (JKUAT)
(6)	Zambia:	School of Veterinary Medicine, University of Zambia (UNZA)
(7)	Senegal:	Center for Technical and Vocational Training Senegal – Japan (CFPT)
(8)	Uganda:	Nakawa Vocational Training Institute (NVTI)

1.5 Study Method, Steps, and Schedule

Study method, steps and schedule (written inside the parenthesis of each step) are as follows. In each step of the Study, the study team discussed and obtained advice from the relevant department/groups of JICA, namely, the Africa Department, the advisory group for the Study, Human Development Department, and the JICA offices of case study countries.

(1) Grasp an overview of "HRD cooperation" (March, 2012): To gain an overview of Japan's HRD cooperation for industrial human resources development, information gathering and analysis were conducted by reviewing the JICA website and literature.

(2) Socio-economic analysis on case study projects (April-June, 2012): The study team analyzed the outcome and impact of four (4) case study projects. Information such as background, outline and issues and countermeasures taken during project implementation were gathered and examined based on literature review and interviews[5] with stakeholders in Japan and the country of project implementation. UNDP (United Nations Development Programme)'s multi-layered model of CD was used in the analysis. According to this model, there are individual, institutional, and social levels of CD. The study team tried to analyze how actors at each level, namely the management, lecturers/instructors, and graduates of targeted educational institutions and government, were affected by the project in its development process of i) capacity development, ii) ownership (self-help efforts), and iii) customization (application, appropriation, and dissemination).

(3) Preparation of the "HRD Story" on case study projects (April-June, 2012): In this step, the study team collected information on hardships derived from differences in culture and values, process of establishing mutual trust, support between Japan and the recipient country, changes in stakeholders and institution, establishment of personal connections in the two countries, impact on the society of the recipient country, and creation of new values by harmonizing Japanese and recipient country's values through literature review and interviews with Japanese experts, counterpart (C/P), and former managements of the

[5] Appendix 2 is the list of interviews conducted in Japan, and Appendix 3 is the field study schedule including the names of interviewees and organizations visited.

targeted institutions[6]. By connecting the fragmentary information, the study team prepared "HRD Stories" with a documentary-like touch, which differs from socio-economic analysis. The stories examined the characteristics of Japanese "HRD cooperation", assets and contributing/impediment factors in producing outcomes from a journalistic viewpoint.

(4) Preparation of publicity materials (April-December, 2012): DVD (Digital Versatile Disc) and brochures on JICA's "HRD cooperation" contributions to African development were prepared. Much of the content was based on case study projects. These publicity materials will be mainly used at TICAD V.

(5) Preparation of the Interim Report (July-September, 2012): The Interim Report on the results of the socio-economic analysis and HRD stories was prepared. It examined the characteristics and issues of Japan's "HRD cooperation", assets produced by the projects and how they were utilized, and contributing/impediment factors in producing outcomes.

(6) Seminar on Human Resources Development in Africa (September, 27-28, 2012): The Seminar on Human Resources Development in Africa was held in Dakar, Senegal where the stakeholders of "HRD cooperation" projects from Africa and Asia were invited. The experiences of "HRD cooperation" projects in each country and the Preliminary Study results were shared at the seminar.

(7) Comprehensive analysis and preparation of recommendations on "HRD cooperation" (October-November, 2012): Based on the results of the above-mentioned analysis and seminar, the study team examined the roles and contributions of Japan's "HRD cooperation" in Africa, and the advantages and issues of Japanese cooperation by sub-sectors. Recommendations on Japan's future "HRD cooperation" with cross-cutting viewpoints were then prepared.

(8) Preparation of the final outcome of the Study (December, 2012-January, 2013): The study team finalized the Final Report and the publicity materials.

(9) Reporting to Japanese stakeholders and the African diplomatic corps in Tokyo (January, 2013): The study team reported the results of the Study and exchanged opinions.

1.6 Operation Structure

JICA commissioned the Study as a two-company joint-venture between the International Development Center of Japan, Inc. (IDCJ) and the International Development Journal Co., Ltd. (IDJ). Production of the DVD was sub-contracted to Ortus Japan.

The members of the study team and their responsibilities are shown in Table 1-2.

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[6] Ditto

Table 1-2: The Study Team Members and their Responsibilities

Works in Charge	Name (Organization)	Countries in charge
Team leader/ Socioeconomic analysis 1	Yoko Ishida (IDCJ)	Senegal, Kenya, Uganda, Zambia
HRD Story Team		
Human resources development strategy 1	Mitsuya Araki (IDJ)	Senegal, Kenya
Human resources development strategy 2	Mitsue Tamagake (IDJ)	Senegal
Human resources development strategy 3/ Socioeconomic analysis 2	Takashi Kaneko (IDJ (individual consultant))	Kenya
Human resources development strategy 4	Aiko Furuta (IDJ)	Zambia
Human resources development strategy 5	Hiroaki Nakatsubo (IDJ)	Uganda
Human resources development strategy 6	Ryuichi Izumi（IDJ）	(works in Japan, only)
Socio-Economic Analysis Team		
Higher Education	Jun Kuwabara (IDCJ)	Kenya, Zambia
Technical education/ Vocational training 1	Naoko Toriumi (Sakashita) (IDCJ)	Senegal, Uganda
Technical education/ Vocational training 2	Toshihiro Nishino (IDCJ)	(works in Japan, only)
Socioeconomic analysis 3	Hanako Tsutsumi (IDCJ)	Senegal, Uganda
Publicity Material Preparation Team		
Socioeconomic analysis 4/ Publicity material	Mihoko Kikuchi (IDCJ)	(works in Japan, only)
Publicity material production 1 (Director)	Michiyo Kawai (Ortus Japan)	Senegal, Kenya, Uganda, Zambia
Publicity material production 1 (Director)	Ryo Yamamoto (Ortus Japan (Bee Crew))	Senegal, Kenya, Uganda, Zambia
Support Team for Preparation of HRD Seminar in Africa		
Preparation of HRD Seminar 1	Nami Yasumuro (IDCJ)	(works in Japan, only)
Preparation of HRD Seminar 2	Yukino Komuro (IDCJ)	(works in Japan, only)

1.7 Preparation of Publicity Materials

In this Study, a documentary DVD film and a brochure were created on the outcome/impact of JICA's long term HRD cooperation and its future strategy as publicity materials based on the results of the Study. These publicity materials will be mainly used at TICAD V that will be held in June 2013, as well as by JICA offices in African countries after TICAD V. As mentioned

above, DVD production was sub-contracted to Ortus Japan, and the study team managed the production process. Design and the printing of brochures were done by ALEX Corporation.

The DVD, with its title "Human Resources Development for African Innovation", featured the C/P and graduates of the four (4) case study projects. They talked of what they had learned in Japan's "HRD cooperation", what they utilized in their current works, and expectations about their future. It is 20 minutes long, and produced in three (3) languages, Japanese, English, and French[7].

Brochures (6 pages of A4-size paper) introduced the outline and achievements of Japan's "HRD cooperation" and the results of this Study. This was also produced in three (3) languages, Japanese, English, and French. Brochures will be distributed to the participants from Africa and Japan at TICAD V.

1.8 Seminar on HRD in Africa

In the Study, a "Seminar on Human Resources Development (HRD) in Africa" was held in Dakar, Senegal on September 27-28, 2012. In total, 52 stakeholders from 11 African countries, two (2) Asian countries and JICA participated[8].

The seminar consisted of five (5) sessions. Session1: HRD experience in higher education (case study projects outline and analysis results), Session 2: HRD experience in vocational training (same as above), Session 3: HRD experience in Asia (report from Thailand and Indonesia), Session 4: HRD experience in Africa (report from Cameroon, Mauritius, Nigeria, Rwanda, Senegal, and South Africa), and Session 5: Wrap-up.

In the wrap-up session, the participants arrived at a consensus on the synthesis communiqué[9] for TICAD V.

In the communiqué, the following four (4) points were mentioned about the lessons learned from the case studies in this Study.

1) HRD for the African by the African was a key issue in JICA's approach.
2) HRD in collaboration with JICA put strong emphasis on practical skills, which is an important strong point of Japanese cooperation.
3) Assets of JICA's HRD projects could not be produced without the mutual trust of the Africans and the Japanese.
4) To produce further outcomes from the assets of JICA's HRD projects, keeping and

[7] Appendix 4 is the DVD scenario.
[8] Senegal, Cameroon, Cote d'Ivoire, Kenya, Mauritius, Nigeria, Rwanda, South Africa, Tanzania, Uganda, and Zambia were the 11 African countries. Thailand and Indonesia were the 2 Asian countries. Representatives from the JICA Offices of Cameroon, Cote d'Ivoire, Kenya, Madagascar, Nigeria, and South Africa also participated. The Participant list for this seminar is shown in Appendix 6.
[9] Appendix 7 is the synthesis communiqué of the seminar.

upgrading the relevance of education in industrial development are necessary by strengthening collaboration with the private sector. For higher education, research and development (R&D) between Africa and Japan was proposed, thus strengthening the inter-university network. For vocational training, JICA's cooperation assets need to be integrated into the entire vocational training system by promoting regional centers of excellence.

Lessons learned from the seminar are described in Chapter 7 of this report.

1.9 Outline of the Report

Chapter 1 provides an outline of the Study. Chapter 2 provides a summary of HRD cooperation in Africa as background information. Chapter 3 to 6 covers the results of the socio-economic analysis and HRD stories of case study projects in Kenya, Zambia, Senegal and Uganda, respectively. Chapter 7 is a comprehensive analysis based on case study results, and Chapter 8 describes the cross-cutting recommendations on HRD cooperation.

1.10 Limitation of the Study

In conducting the study on four (4) case studies, it was difficult to obtain written materials on related technical cooperation/grant projects. There were no materials on background, objectives, plans at the beginning, during the implementation process, and achievements when these projects were completed decades ago.

Thus, analysis was mostly done by connecting fragmentary information and by clarifying with former experts engaged in these projects. In this way, the study team was able to obtain a great deal of important information, but systematic analysis based on objective data was not possible.

CHAPTER 2: HUMAN RESOURCES DEVELOPMENT COOPERATION IN AFRICA

2.1 Economic Development and Assistances from Donors in Africa

In the 1960s when many former colonized African countries became independent, the majority were food exporters. Potential food production and per capita Gross Domestic Income (GDI) of African countries were higher than those of the Asian countries until mid-1970s. Especially in 1960s, the African countries' economic growth rates were relatively high and their exports were in favorable condition, taking advantage of the worldwide economic boom.

However, the *oil shock* in 1973 and the world recession from mid-1970s damaged the African economy. Africa in 1970s and 80s relied on the political and economic systems inherited from the former colonizing nations, where little technical innovation and social development occurred. For example, efforts to produce food for domestic consumption were very limited, and importance was placed on the production of coffee, cacao, and raw cotton for export.

From the 1980s to mid-1990s, most African countries underwent Structural Adjustment Programs (SAP) led by the World Bank and International Monetary Fund (IMF). It is said that in retrospect, poverty was further exacerbated in Africa under these programs due to hasty privatization of national enterprises and liberalization of trade and the exchange market. In many African countries, the governments were dictatorial and the private sector was not well developed. Poverty spread further in the rural areas as the economy stagnated and investment and trade remained undeveloped. According to the World Bank, the poverty rate (the rate of people who live on less than 1.25 USD/day (PPP in 2005)) in Sub-Saharan Africa was 53% in 1981, and it increased to 58% in 1999.

After 2000, the economy of the Sub-Saharan African countries showed a higher growth rate, as the economic growth rate from 2000-2007 was 5.1%. In 2005, the poverty rate decreased to 51%. It is said that the high growth rate after 2000 was due to the soaring price of natural resources and foreign direct investment.

Monoculture economy has long been the characteristic of the African economy. During the colonial period, 90% of its export was primary commodities. The economic structure has not changed very much until now; more than 60% of the Sub-Saharan Africa's imports are manufactured products. It means that the trade structure of Sub-Saharan Africa is *"vertical trade"* where Sub-Saharan African countries export oil and other mineral resources and import manufactured products from developed countries. In recent years, little change has been seen as oil export to China and import of manufactured products from China increased, but intra-regional trade in Sub-Saharan Africa is still limited, and it is only 12 % of the total trade volume.

This makes the gap greater between the natural resources haves and the have-nots in the inflow of private investment. This also creates a gap between countries and within a country. In many Sub-Saharan African countries, the private sector remains vulnerable, and employment opportunities are limited. The economic structure in which the main actors are small-scale farmers and the informal sector has not improved very much.

2.2 Development Assistance by Donors

As mentioned above, SAP aimed at macro-economic development and market liberalization was implemented in many African countries in the 1980s and early 90s. During the *Cold War*, Africa became the stage of the development aid battle of many donors, and the amount of foreign aid increased rapidly. The amount of ODA per capita was three times the average of all developing countries.

After the *Cold War*, Western countries shifted their foreign aid focus towards East Europe and the former Soviet Union, and they launched the strategy of human development for Africa, which required relatively small input. The World Bank started to advocate the Comprehensive Development Framework and Poverty Reduction Strategy Paper (PRSP) as its core development strategy for Africa.

With the adoption of Millennium Development Goals (MDGs) at the United Nations in 2000 and 9.11 in 2001 as a turning point, poverty reduction in Africa regained international attention. Cooperation for peace-building was actively done by many donors for countries such as Rwanda, Burundi, and Sierra Leone after the civil war.

Emerging donors such as China and Korea has started to play roles in Africa. China's existence is rapidly growing due to many Chinese private enterprises making inroads into Africa and its rapid increase in investment in Africa.

It can be concluded that development assistance for Africa was like a mirror of politics, diplomacy and the economic interests of Western countries, and it was not necessarily trying to meet the needs of African countries or to support their indigenous development.

2.3 Japanese Development Assistance for Africa

Japanese cooperation for African countries is represented by the "Tokyo International Conference on African Development (TICAD)". TICAD was launched by the Government of Japan in early-1990s to revitalize development assistance for Africa, when the international community's interest in Africa was low due to "*aid fatigue*".

The first TICAD was held with the cooperation of the UNDP and the World Bank in 1993, and it has been organized every 5 years. TICAD V will be held in June 2013. The principles of TICAD are ownership of Africa and partnership of the international community. There, "Asia-Africa Cooperation" is promoted based on the relatively sound economic development

experience in Asia after independence.

Japan's bi-lateral ODA for the African countries has long followed Asia and Latin America. Particularly, technical cooperation through dispatch of Japanese experts started relatively recently, namely in the 1980s. Such technical cooperation targeted agriculture, health, vocational training, and other areas.

Japan's bi-lateral assistance for Africa in 2010 was 1,732.75 million USD (net disbursement). The growth rate compared to the previous year was 23.5%. Assistance towards Africa was 12% of Japan's total bi-lateral ODA (gross disbursement). Out of 1,732.75 million USD, grant aid was 1,151.90 USD (66.5%), technical cooperation was 408.02 USD (23.5%), and loan aid was 172.83 USD (10.0%). It meant three-fourths (3/4) of the total aid was financial aid and technical cooperation was less than one-fourth (1/4) (Japan's Official Development Assistance White Paper 2011, MoFA).

2.4 Japan's HRD Cooperation for Industrial HRD in Africa

This sub-section describes the outline of Japan's HRD cooperation for industrial human resources development.

Higher education plays an important role in industrial human resources development by producing policy makers, researchers, administrators, managements at private enterprises, teachers/lecturers at educational institutions, and instructors at vocational training institutions.

In the higher education sub-sector, Japan has been actively cooperating in the medical field such as fostering medical personnel and strengthening research on disease control. However, in the industrial field, only small-scale projects existed in Eritrea and Ghana excluding projects related to JKUAT in Kenya and UNZA in Zambia. It can be said that cooperation for JKUAT and UNZA are representative among Japan's "HRD cooperation" projects in Africa.

Vocational training also plays an important role of fostering human resources with knowledge and skills needed by the private sector, although the subjects or level of technology differ by country or institution. In this sub-sector, Japan fragmentally implemented a few projects in Zambia and Kenya after 2000. Continuous HRD cooperation was only implemented in Uganda (NVTI) and Senegal (CFPT). Since mid-2000, Japan has implemented vocational training projects for former combatants in Eritrea and Rwanda, and vocational training projects in South Sudan, North Sudan, Ghana, Angola, and the Democratic Republic of Congo. However, cooperation for NVTI and CFPT is much larger in terms of both cooperation period and quantity of input. NVTI and CFPT have become the Center of Excellence, and they contribute to other African countries through Third Country Training Programs and instructor training as well as training inside the country.

Besides sub-sectors in higher education and vocational training, long-term "HRD cooperation" was implemented in technical development/dissemination in rice farming, irrigation, and

fisheries. In recent years, projects for private sector promotion are conducted in many African countries, such as OVOP projects and Kaizen (productivity improvement) projects.

In developing industrial human resources, higher education contributes to fostering administrators, top management and core engineers at private enterprises, and to R&D activities in appropriate technologies. On the other hand, vocational training contributes to producing workers skilled in practical techniques needed in the private sector. Thus, both sub-sectors play an important role in developing industrial human resources. Furthermore, it is thought that long-term cooperation projects can provide important lessons, as mutual trust established in long-term cooperation is the key in technical transfer in "HRD cooperation."

Therefore, as mentioned above, Jomo Kenyatta University of Agriculture and Technology (JKUAT) in Kenya and School of Veterinary Medicine, University of Zambia (UNZA) in Zambia were selected for case studies in the higher education sub-sector, and the Center for Technical and Vocational Training Senegal–Japan (CFPT) in Senegal, and the Nakawa Vocational Training Institute (NVTI) in Uganda were selected for case studies in the vocational training sub-sector.

The following chapters (Chapters 3-6) describe the results of the case studies of the four (4) HRD cooperation experience.

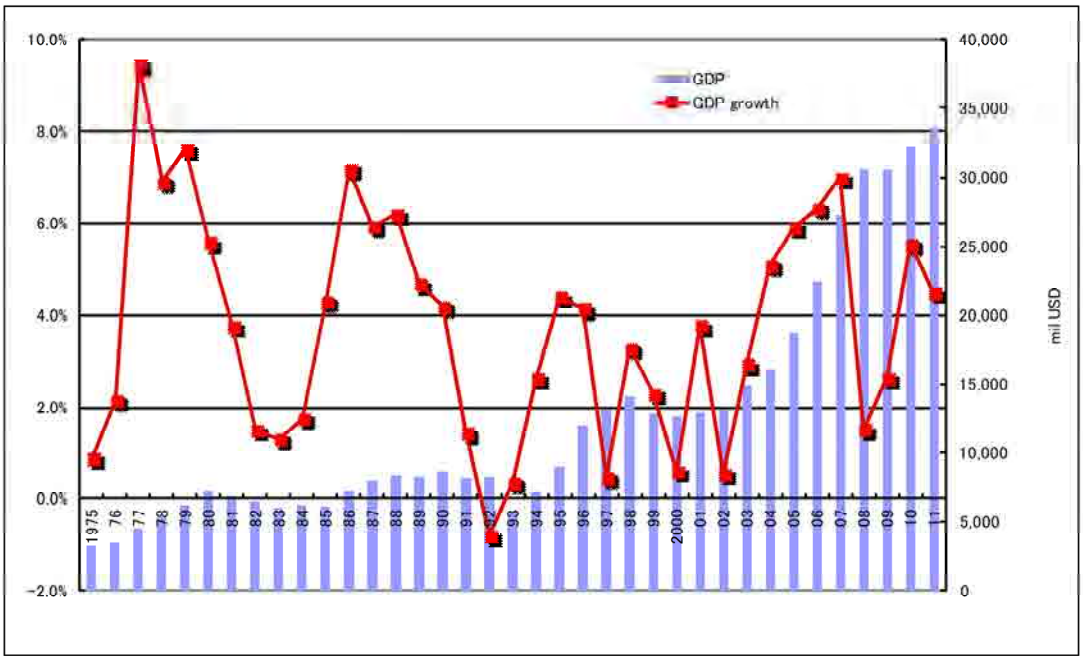
CHAPTER 3: HUMAN RESOURCES DEVELOPMENT AT JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY IN KENYA

3.1 Background of HRD Cooperation

3.1.1 Political Climate, Social and Economic Development in Kenya

Kenya, located in the east of the African continent, has a population of approximately 39.80 million (2009, World Bank). Kenya became a republic in 1964 soon after its independence in 1963. First president, Jomo Kenyatta (1964-1978) and second president, Daniel Arap Moi (1978-2002) was from KANU (Kenya African Nation Union) which kept power for about 40 years after independence. In 2002, NARC (National Rainbow Coalition), led by Mwai Kibaki won the election and changed the administration. In 2007, Mwai Kibaki was reelected as president. However, political instability and turmoil caused by political parties and tribal conflict resulted. In February 2008, President Kibaki and Raila Odinga, the leader of the ODM (Orange Democratic Movement) agreed to launch a coalition government. In April 2008, the new government was formed under this agreement. The next presidential election will be held in March 2013.

Figure 3-1 summarizes the Gross Domestic Product (GDP) and the economic growth rate of Kenya.



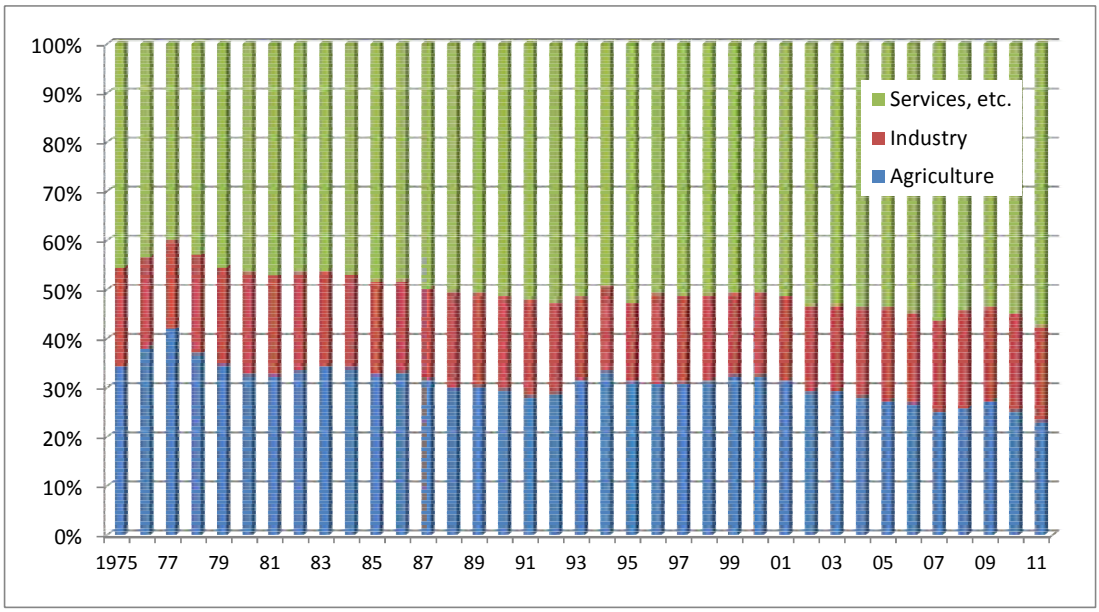
Source : World Databank

Figure 3-1: GDP and Economic Development Rate in Kenya

On the whole, the Kenyan economy has continued to grow although short-lived stagnation was observed. In the late 1990's, the growth rate dropped due to damages caused by droughts and floods that affected agricultural production. Economic growth recovered in 2003. In 2007, the domestic economy was plagued by political turmoil after the presidential election, internally displaced persons (IDPs), continuous drought and the world economic crisis. Consequently the economic growth rate dropped to 1.5%. The economy subsequently recovered led by tourism and construction (economic growth rate was 4.5% in 2011).

Meanwhile, GDP per capita did not improve due to fluctuations in the exchange rate. It was USD 447 in 1980, 366 USD in 1990, and 406 USD in 2000. GDP per capita was remained low, although it scored 808 USD in 2010, almost doubling in the first ten years of the 21st century.

Figure 3-2 shows the history of GDP share by industries. Although Kenya is considered one of the industrialized countries in Africa, its main industry is agriculture represented by the fact that the agricultural GDP share is around 25% and that 60 to 70 % of the workforce is engaged in agriculture. Coffee, tea and horticulture products are their main products. Processing and the export of agricultural products played a key role in the economy and employment as shown by the fact that coffee and tea production accounted for more than 20% of the export amount.



Source: World Databank

Figure 3-2: GDP Share by Industrial Sector in Kenya

Kenya's key industry is agricultural processing such as food, beer and tobacco etc. The market for Kenyan industrial products is mainly domestic due to low competition even though production capacity is relatively high in the East African countries. GDP share of the industry has been stable at about 10% since 2001.

3.1.2 History and Current Situation of HRD in Kenya

(1) National Development Plan and Economic Policy

The Kenyan government formulated a long term development strategy, Vision 2030. The concept of the vision was created following the emerging economy in Asia. The target was to become a prosperous country, where citizens enjoy a high quality of life in a middle-income country. The target in the education sector was to improve the linkage between the labor market and education. The focus was to enhance partnerships within the private sector and to build competitiveness and entrepreneurship. The strategy also mentioned improving the adult literacy rate.

Based on Vision 2030, the Ministry of Education started its review of the educational system, curriculum reforms and introduced Information and Communication Technology (ICT), which leads ongoing educational reforms. The Government of Kenya formulated the constitution in August 2010. The new constitution declared the right of free and compulsory primary education for all children.

(2) Educational Policy

Kenya has been prioritizing educational development since its independence in 1964. The Third National 5-Year Development Plan (1974-1978) prioritized enhancement of technical education in the development of middle-class labor, which was the key to nation building.

The number admitted to the university drastically increased. Formerly around 8000 students in 1980's, 118,000 were enrolled in 2007, which reached 1,988,000 in 2011. The number of applicants for the A-class exam required for university admittance, rapidly increased to 4,110,000 million applicants in 2011.

To cope with the rapidly growing demand for higher education, the government worked to increase opportunities for higher education. In 2007, the number of public universities increased to seven (7) as Western Science and Technology College was upgraded to Masinde Muliro University of Science and Technology. Furthermore, the number of higher educational institutions, which were able to give diploma degrees increased as many post-secondary educational organizations were upgraded to colleges. The budget allocation to this sector also increased to enhance entrepreneurship training and technical education.

(3) Needs for HRD for Agricultural and Industrial Development

The ownership of large-scale farms was transferred from the foreigners to the Kenyan people after the independence. Later, the operations of the farms were improved. However, improvement of small-scale farms, which still account for the majority in Kenya, began in the late 1970's. Training in agricultural production was provided for farmers; however, there were limited opportunities for them to learn post-harvesting and food processing skills.

Higher education was provided at Nairobi University and Egerton Agricultural College[10] in the agricultural sector. However, the facilities were unable to accept an increased student population. As a result, extension workers, who provided training for farmers, were in short supply.

There were limited employment opportunities in the industrial sector; although higher and vocational education was provided at Nairobi University, Kenya Polytechnic, Mombasa Polytechnic and Egerton Agricultural College. Nairobi University trained educational staff, while Polytechnics trained the middle-level workers, who were expected to play a key role at the workplace. However, the facilities and equipment were insufficient in number and the technical level of the teaching staff was inadequate. Consequently, it was noted that the quality of the graduates did not match the needs of the industries.

(4) Cooperation Trend by International Development Partners

In late-1970's, international development partners had already provided assistance in the higher education sub-sector. Egerton Agricultural College was supported by the United States and Mombasa Polytechnic was supported by Germany.

Kenya Joint Assessment Strategy (KJAS), a cooperative approach between the government of Kenya and international development partners for sustainable growth and poverty reduction, pointed out that demand for higher education was expected to increase as the enrollment rate in primary education grew as stated in the KJAS Update Report 2010. According to the report, the Canadian International Development Agency (CIDA) and Department for International Development (DFID, UK) were the active donors supporting the science and technology sector.

The Higher Education Loans Boards (HELB) provided scholarships for students from funds provided by IMF, the African Development Bank (AfDB) and the World Bank.

A number of international organizations extended funding support for JKUAT's research projects. These organizations included the African Institute for Capacity Development (AICAD), United States Agency for International Development (USAID), DFID, etc. JKUAT has established more than 20 collaboration agreements between universities in Japan, UK, Germany, USA and others including Penn State University in the USA, Cape Town University in South Africa and Dares Salam University in Tanzania. JKUAT has increased international publicity through these networks.

3.2 Outline of the Japanese Cooperation for JKUAT

3.2.1 Objectives and Goal

In 1977, under those circumstances, the Government of Kenya requested the Government of

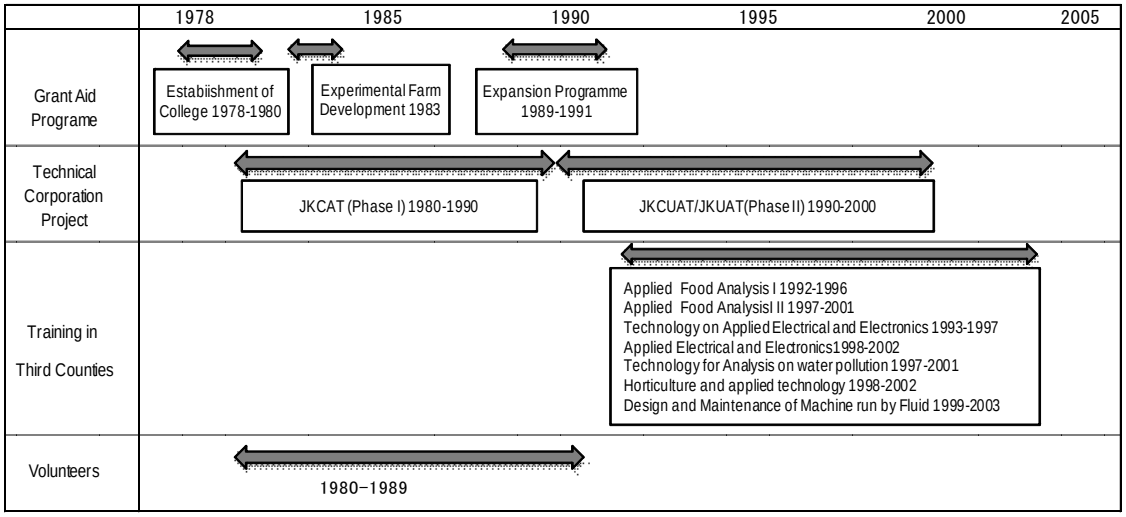
[10] Official name in those days. After the expansion and upgrade. Currently it renamed Egerton University.

Japan to cooperate in establishing a new college of agriculture and technology, having recognized the importance of human resources development for industrialization. The Project was launched aimed at developing human resources with practical agricultural and industrial knowledge and skills with the establishment of a university for Kenyans by Kenyans.

3.2.2 Overall Picture of Japanese Cooperation

The Government of Japan provided JKUAT with two phases of technical cooperation, namely, three Grant Aid projects and eight courses of Third Country Training in the 23 years from 1978 to 2000. Figure 3-3 outlines the history of Japanese cooperation to JKUAT. Japan's cooperation consisted of four major stages as shown below.

(1) Establishment of JKCAT and its operational structure (1978- 1988)
(2) Support for JKUAT upgrades: Upgrading diploma level education to undergraduate education (JKCAT→JKUCAT in 1989) and expanding to postgraduate education (JKUCAT→JKUAT in 1994)
(3) Using the asset developed in JKUAT, new projects including "African Institute for Capacity Development (AICAD)" etc. have been carried out (2001-2012).



Source：JICA

Figure 3-3: History of Japan's Cooperation to JKUAT

JICA assisted JKUAT starting with its establishment under a grant aid project. The grant aid project was conducted in collaboration with technical cooperation to set up and strengthen the management structure of the university and its human resources. The program lasted twenty-three years. Meanwhile, JKCAT became JKUCAT University College in 1989 and upgraded into JKUAT as a full-fledged university in 1994. The quality and contents of JICA's assistance were upgraded according to the raised status of the school. The project shifted its

focus to research activities. The level of education provided by the university was also upgraded with the introduction of postgraduate education in the latter cooperation period. Fifty-three Japan overseas cooperation volunteers were dispatched during the first period of the technical cooperation to collaborate with Japanese experts.

In 2001, AICAD, a regional-international organization was founded within the JKUAT premises. Recently, the renewable energy project started as advanced-research technical cooperation by utilizing the asset developed in JKUAT.

3.2.3 Activities

(1) Establishment of the College and Upgrade to University

The first grant aid project in the establishment of the college constructed the campus building and the basic infrastructure of JKUAT. Following this project, technical cooperation phase I was conducted to develop a college system to foster the technician and diploma-level education. The main focus of the activities was to develop the educational setting and to develop and enhance education and management capacity in each of the three departments of the two faculties of agriculture and engineering. In the second phase of the technical cooperation, the target was upgraded to the bachelor-level education to cope with increased demand for higher education in Kenya. The grant aid project in the Expansion Program was conducted prior to the second technical cooperation in order to fill the gap in facilities and equipment for higher-level education.

(2) Extension to the Neighboring Countries

The Third Country Training courses started in 1992 during the second technical cooperation and it was completed in 2003. The concept of the training was extension to neighboring countries through JKUAT by receiving trainees. Details are summarized in Table 3-1.

Table 3-1: Summary of Third Country Training Program

Theme	Department	Period	Number of Countries	Number of Trainees
Applied Food Analysis	Food Science and Post-Harvest	1992-1996	11	64
Technology on Applied Electrical and Electronics	Electrical and Electronics	1993-1997	12	71
Technology for Analysis on Water Pollution	Civil Engineering	1997-2001	12	75
Applied Food Analysis II	Food Science and Post-Harvest	1997-2001	n.a.	62
Applied Electrical and Electronics	Electrical and Electronics	1998-2002	12	74
Horticulture and Applied Technology	Horticulture	1998-2002	8	52
Design and Maintenance of Machine Run by Fluid	Mechatronics	1999-2003	11	71
Maintenance and Operation of Agricultural Machinery	Agricultural Engineering	1997-2001	5	27

Source：”Long-term technical cooperation—technology and education sector”, JICA

3.2.4 Project Position in Sector Development Policy

The cooperation was started to establish an educational system focused on practical skills training in order to foster technical labor. The plan was to establish a college-level school of agriculture and technology. As technical cooperation progressed, output became more remarkable than initially expected and demand for higher education increased. Accordingly, the cooperation plan was revised. The school was upgraded from college to a full-fledged university college. In other words, the school became an independent university from an institution conducting special training focused on technical skills training under the Ministry of Education.

Meanwhile, the environment of the agriculture and the industry sectors changed. Kenya's main industry, agriculture, shifted its focus from self-sufficiency to high productivity. Horticulture products started to be exported as well as coffee. Quality control and price competitiveness might be the next target. In the industry, the focus is to sustain agricultural growth and to promote manufacturing by developing unique products.

Photo 3-1: Current JKUAT Campus

JKUAT prepared a strategic Plan[11] for 2012, where the mission was "to offer accessible quality training, research and innovation in order to produce leaders in the fields of Agriculture, Engineering, Technology, Enterprise Development, Built Environment, Health Sciences and other Applied Sciences to suit the needs of a dynamic world." The Plan included targets related to enrollment, graduate, program, organization, resource allocation and research and development, partnership, extension to communities.

3.3 Socio-Economic Analysis

3.3.1 Output

(1) Graduates/Students

Initially, JKUAT provided only diploma-course education. The bachelor-degree course opened after the upgrade to university college. The number of first graduates was 1,173 in 1992. The number gradually increased, and from 2005 to 2010, it was around 5000. The cumulative number of graduates reached 60,000 in 2011. The number of graduates is summarized in Table 3-2.

[11] STRATEGIC PLAN 2009-2012, JKUAT (http://www.jkuat.ac.ke/images/documents/jkuat_strategic_plan_new.pdf)

Table 3-2: Number of Graduates from JKUAT after 1991/1992 (Unit: persons)

Level	Faculty/Area	1992	1995	2000	2005	2010	2011	Total from 1992 to 2011
Bachelor Degree	General Science	693	773	1,029	1,210	1,607	1,784	20,672
	Horticulture	165	146	194	232	897	996	5,541
	Agriculture Engineering	59	128	197	256	912	1,012	5,865
	Food Science, Post-Harvest Technology	43	87	142	155	440	489	3,371
	Architecture	44	81	184	184	470	522	3,705
	Civil Engineering	48	126	124	281	552	613	4,764
	Electric and Electronic Engineering	59	123	127	261	356	395	4,089
	Mechanical Engineering	62	135	117	261	317	352	3,799
	Computer	-		0	68	1,310	1,454	4,671
	Others			0	493	1,598	1,774	6,815
	Total	1,173	1,599	2,114	3,401	8,459	9,391	63,292
Diploma		610	533	907	2,442	1,995	1,700	27,321
Postgraduates（Master and Doctor Degree included）		0	0	116	431	564	481	4,475

Source: Kenya Bureau of Statistics

JKUAT started a postgraduate course in 1994, and the first 10 students graduated in 1996. In the late 2000's, the number of graduates was around 400 to 600. The total number of graduates reached around 4,500 in 2011.

Photo 3-2: Studying at a class in the Faculty of Engineering

The number of the diploma-course students reached to 2,510 in 2006. Later, it started to decrease as the focus shifted to the bachelor-degree course. In order to cope with the rapid increase of students, JKUAT expanded facilities and organization, and set the quota of students. In addition, the self-sponsored system was also introduced. As the number of students drastically increased, educational quality control has become an issue.

(2) Teaching Staff

With the expansion of courses and the increase in the number of students, the number of teachers also increased as shown in Table 3-3. The number of teachers was 370 in 2000 and 768 in 2008. The student per teacher ratio deteriorated since the growth rate of students was higher than the teachers. *Kenyanization* of the teaching staff progressed in comparison to the early days, when only the principal was Kenyan. As of 2008, the Kenyans accounted for more than 80% of the lectures given at the Faculties of Agriculture and Engineering. After the postgraduate course in JKUAT was established, Kenyan instructors began to train the teaching staff. Hence,

sustainability was confirmed.

Table 3-3: Teachers and Staff Members of JKUAT (Unit: persons)

	1989	2000	2005	2008
Teachers	118	235	345	508
Technical Staff	45	97	133	186
Managerial Staff	3	38	50	74
Total	166	370	528	768

Source: Comprehensive Analysis of Evaluation Results "Long-term Technical Cooperation", JICA

(3) Research

During Phase-II of the technical cooperation, the research activities were more actively conducted at JKUAT. Prof. Mutua, the former Deputy Vice Chancellor, stated that research activities at JKUAT were selected based on the proposals that were practical as well as educational. One of the criteria was how the activity benefited society and stakeholders. Academic societies, such as *the Agriculture Engineering Society*, *the Electric and Electronics Engineering Society in Kenya* etc., were established. In addition, academic journals/reports such as *"Journal of Civil Engineering"* were published during this period.

Photo 3-3: A Ceremony on Establishment of Institute of Electrical and Electronics Engineers Kenya

In addition to research collaboration with the other universities, JKUAT has annually implemented 10 innovation projects and 25 research activities since 2008 by securing self-research funds. Some of the projects were successfully developed in food science, horticulture and chemistry. The intellectual property of the research and innovation results was also examined. Commercial success of the projects also contributed to the finances of the university.

The current targets of research and innovation are wind power, bio-diesel, bio gas, income-generating activities for communities, development of low-cost and low emission building materials, improvement of the dairy-production process, locally assembled farm machinery, high-yielding aloe mango, passion fruits and mushroom development and extension, better methods of beekeeping and honey production.

The research output is regularly announced in the internal JKUAT meetings and annually published. The research output of the agricultural sector is reported in the *Journal of Agricultural Science and Technology*, which started in 1997.

3.3.2 Impacts

Impacts of the capacity development cooperation targeting JKUAT were examined from the standpoint of capacity development, ownership and customization at three levels—individual, institutional and social levels based on the UNDP's conceptual framework on capacity development.

Table 3-4: Targeted People and Institutes of JKUAT project

	Individual Aspect	Institutional Aspects	Social Aspects
Capacity Development	JKUAT Management JKUATT Teaching Staff Graduates/current student	JKUAT	Higher Education Organization
Ownership (Sustainability)	JKUAT Management JKUATT Teaching Staff Graduates/ student	JKUAT	Higher Education Organization Related Government Organization
Customization (Application, Adaptation, extension)	JKUAT Management JKUATT Teaching Staff Graduates	JKUAT	Higher Education Organization Government Organization Relevant Industry (Agriculture, Industry, ICT etc.)

Source: The Study Team

(1) Capacity Development

JKUAT has become well recognized for its performance and as a member of the top group of universities in terms of teaching staff, research activities and the knowledge and skills

The establishment of the Pan African University (PAU) was proposed to promote economic improvement through science and technology. African Union (AU) approved this concept in 2008. Kenya was selected as one of the host countries in 2010. JKUAT was selected as a host university in February 2011. Thus, JKUAT is expected to play an important international role in PAU.

The share of JKUAT graduates in Kenya rose from 3.5% in 1990 to 8.5% in 2000 (9.9% of the public universities in Kenya: Table 3-5). The number of JKUAT graduates was 11,572 in 2011. It was fourth among the universities in Kenya. JKUAT played an important role in fostering postgraduates in view of the fact that their number of postgraduate-course students account for nearly 10% of all students enrolled in universities in Kenya.

Table 3-5: Share of JKUAT Graduate Student in Kenya

	1991	1993	1995	1997	1999	2001	2003	2005	2007	2009	2011
Undergraduate in Public Universities	2.2%	3.7%	4.2%	4.7%	6.7%	6.9%	4.4%	4.4%	4.3%	7.0%	7.0%
Diploma Students in Public Universities	36.5%	39.1%	25.3%	29.8%	25.1%	54.9%	22.3%	30.5%	37.6%	31.1%	19.5%
Post graduate in Public Universities	0.0%	0.0%	0.0%	1.8%	11.0%	4.4%	6.8%	9.9%	8.0%	11.7%	6.2%
All Public Universities	3.5%	5.0%	5.2%	5.7%	8.2%	9.9%	6.6%	7.0%	6.9%	8.8%	7.7%
All Universities	3.5%	5.0%	5.2%	5.0%	7.1%	8.5%	5.9%	6.3%	5.6%	7.2%	6.3%

Source: Kenya Bureau of Statistics

As mentioned above, there was only one Kenyan teaching staff member, the principal, at the beginning of the cooperation. The target of the Project was to employ 130 Kenyan teaching staff members. It became possible for Kenyan staff members to manage the institution as their number increased. Their number rose to 300 in 2000 at the end of Phase II. The Kenyan staff members provide lectures for the entire course. The HRD collaboration for JKUAT established a Kenyan educational system by training teaching staff members on its own.

Some of the counterparts trained through the project were promoted and invited to other universities for their abilities in education and management. For example, Prof. Eshiwani was promoted to vice chancellor at Kenyatta University. Prof. Henry M. Thairu became the vice chancellor at Inoorero University after his career at JKUAT. They extended the JKUAT experience and contributed to the management of other universities.

(2) Ownership (Sustainability)

JKUAT was expanded to 3 faculties, 13 departments and 4 research institutions from its initial two (2) faculties and six (6) departments. This expansion was achieved mainly by Kenyan effort, since Japanese cooperation to expand faculties was limited. JKUAT also expanded their network as shown by the fact that Monbassa Polytechnic became a constitute college of JKUAT. JKUAT also made collaborative agreements with colleges and opened new campuses. For example, the Higher Education Commission approved nine (9) post-secondary educational organizations to cooperate with JKUAT[12]. JKUAT has emphasized expansion, in view of the fact that the total number of approvals in Kenya is only 32.

First President, H.E. Jomo Kenyatta directly requested cooperation for JKUAT. He was eager to support the project as shown by the fact that he donated his private land for the campus. The second President, H.E. Moi also supported the project. The Kenyan government paid attention to JKUAT by appointing excellent persons as vice chancellors of JKUAT. Therefore, ownership of the Kenyan government for the project was high. The Ministry of Agriculture conducted

[12] Commission for Higher Education Web（http://www.che.or.ke/coordination.html and http://www.che.or.ke/authority.html）

training for their extension workers by utilizing JKUAT.

Many of the graduates are proud of being JKUAT alumni. There are small meetings to exchange information among graduates in some industries.

It was also reported that some of the graduates were actively providing training opportunities to JKUAT students by accepting attachment students since they thought what they had learnt in the practice exercises was important.

(3) Customization (Application, Adaptation, Extension)

1) Cooperation between JKUAT and Industries

The British style was adopted for the curriculum development approval process in Kenya. This differed from the Japanese style that emphasized practical classes. Therefore, time and effort was required to get the curricula developed by the project approved. The conventional method named “attachment”, which was a system of practical training out of the school, was also utilized in the curricula by dispatching students to companies which had relevant technologies. This attachment turned out to be effective in filling the gap between industries and education. This system and method was applied later in other universities. This JKUAT effort was highly appreciated by the industries as shown by the fact that some companies sponsored the training courses.

2) JKUAT Graduates Outputs

Statistics on JKUAT graduates by industry and by companies were not available in the Study. However, it was confirmed that JKUAT graduates were highly reputed in all of the companies and institutions interviewed by the study team. This was because they were able to start their jobs without training since they knew not only theory but practical skills as well. The Chamber of Commerce of Kenya also recognizes the impact of JKUAT graduates to the Kenyan economy.

Bamburi Cement, the largest cement company in Kenya, produces 200 million tons of Cement annually. Large factories are located in Nairobi and Mombassa. Three managers of the Nairobi factory are JKUAT graduates and a large number of graduates are working there.

JKUAT graduates are also active in civil engineering and architecture. Some of them are working in the ministries and companies. There are also some who established their own companies. Mr. David Kuria launched Eco Tact. He was famous for improving the sanitation environment in Kenya and neighboring countries by constructing and managing public toilets. The United Nations and the Bill Clinton Foundation awarded him. Mr. Christophere Naicca, the chairman of the JKUAT alumni, is working as a designer in Tanzania and Uganda.

More than 4,000 JKUAT graduates of the Electric and Electrical Department are working in the power sector. Many of the graduates are also working in the Kenya Electricity Generating Company, the largest power company in the country. In the company, there is a program to

support bachelor-degree holders acquire postgraduate degrees. JKUAT is one of the popular universities for this course.

Mr. Evans Wadongo is one of the most famous graduates. He developed and introduced the Solar LED Lantern to the urban slum areas and the rural poor. He was awarded The Mikhail Gorbachev Award and voted as one of the ten heroes of CNN.

JKUAT launched an ICT course. The number of graduates of the course has exceeded 8,600. JKUAT has a cooperation agreement to provide training courses to foster competitive telecommunication engineers with two companies: Safari Com (Kenyan telecommunication company) and HUAWEI (communication device manufacturing company). Both of them employ many JKUAT graduates. Mr. Eric Kagai, a JKUAT graduate, was selected as the most excellent employee in 2009 and at 29 years of age, he was promoted to Manager at HUAWEI.

The share of JKUAT bachelor-degree holders in agriculture in Kenya accounts for 30%. Kenyan horticulture industry has grown these past ten years, as attested to by the increase in export volume. JKUAT graduates contributed to this growth in the post harvesting and development of food processing technology. The development, introduction and extension of banana tissue culture, which is well known, is one case example where JKUAT contributed to Kenyan agriculture.

Photo 3-4: Tissue Culture Banana Plant in JKUAT

3) Contribution to Community and Gender Issues

JKUAT conducted the rural woman socio-economic development community program funded by JICA. Initially, training was provided to improve agricultural productivity. Training was expanded because rural women played a key role in sanitation, environmental protection and health. JKUAT strove to develop the capacity of rural women through workshops and seminars. This project was funded by JICA from 1991 to 2011. The activities and training content was updated every two or three years. The target area was also expanded to include arid, drought-prone areas.

4) Research Cooperation with Japanese Universities and Company

After the completion of the second phase of technical cooperation, JKUAT signed an academic exchange agreement with several Japanese universities, which dispatched the experts during the technical cooperation period. They were Okayama University, Tottori University, Ritsumeikan University and Ritsumeikan Asia Pacific University. Some of them conducted collaborative

research by utilizing the JST (Japan Science and Technology Agency) Fund. Yamagata University, which was not involved in the technical cooperation, also established a research base on JKUAT campus.

Nissin Foods, a Japanese private company conducted the "Oishii (tasty in Japanese)" project as a social contribution on the JKUAT campus. This project was aimed at developing instant noodles which fit Kenyan food customs in collaboration with JKUAT. Later, the project provided instant noodles as school meals to neighboring schools.

3.4 Human Resources Development Story

3.4.1 Historical Motivation

The African continent was buffeted by the winds of the East-West Cold War between the United States and Soviet Union from the 1960s to the 1970s. At the same time, international pressure in the shape of economic sanctions and the breaking-off of diplomatic ties were enacted against South Africa, due to its apartheid policy. The United States and other Western nations were confronted with a difficult choice between the conflicting concepts of Cold War politics and humanitarianism. Japan faced a similar dilemma about whether to maintain its long-standing trade relations with South Africa or to break off trade and impose sanctions.

The Government of Japan, in June 1973, launched its “new Africa strategy” of imposing sanctions against South Africa, which included steps to suspend sports and cultural exchanges, and the then Foreign Minister Kimura gave a speech about this new policy at the 29th United Nations General Assembly in September 1974. Moreover, he made a round of calls on Ghana, Nigeria, Zaire, Tanzania, and Egypt to deepen ties with prime ministers and announce Japan’s major shift in its Africa policy with emphasis on South Africa.

Japan subsequently sought to make Kenya in East Africa, which had embarked on a democratic nation-building process, the new base of its African diplomacy, and it deployed aid diplomacy aimed at deepening relations with Kenya’s first President, Jomo Kenyatta, who was respected by many citizens as the “founding father of the Kenyan nation.” This aid took the shape of cooperation to establish the Jomo Kenyatta College of Agriculture and Technology.

From November 1977, technical cooperation aimed at enhancing the contents of education and training teachers commenced in tandem with the college construction based on grant aid. Following over 20 years of cooperation, Jomo Kenyatta College of Agriculture and Technology grew dramatically from a college into a university college, and eventually into an independent university with a postgraduate school. Placing emphasis on practical skills, this institution has become the representative university of Kenya today. However, apart from the aid funding that was devoted to this project for over 20 years, the trial and error and struggles that Japan encountered in training and educating human resources on the Kenyan side are said to defy description.

This sub-section looks at the history of Japanese diplomatic relations with Africa dating back to the 1970s when the story of cooperation for the Jomo Kenyatta College of Agriculture and Technology began.

(1) Historical background of Africa and Japan in the 1970s

<Project Beginnings>

To be honest, there are no longer any records to indicate what kind of dialogue was conducted and what kind of political course was followed in the run-up to this huge aid undertaking. Only hearsay remains today. Ambassador Oota, who oversaw the project, has since passed away. Prof. Uenosono of Kyoto University, who served as the preliminary study team leader for the construction project (the first mission) in November 1977, has also passed away.

However, according to hearsay, the dialogue between President Jomo Kenyatta of Kenya and Japan was already active at this time, and it is surmised that talk of a Japanese aid project was introduced here and placed on the administrative conveyor in so-called top-down fashion. The window on the Kenyan side was Mr. Mungai, who was the President's nephew, and he acted as the chairperson for reviewing the project. Land for construction of the college was originally owned by the President's son, but was donated free of charge.

As evidence indicating that the project had been decided in a top-down manner, when the preliminary study team members visited the Ministry of Agriculture and Ministry of Industry to discuss construction of the proposed college of agriculture and technology at the start of November 1977, ministry personnel surprisingly gave a negative response and claimed not to know about it. It seems that the project had not yet permeated down to the administrative base. This episode was heard in testimony given by Prof. Minoru Fukuda (a lecturer of agriculture at Okayama University at the time), who participated in the first preliminary study team.

In view of this, it may be said that Jomo Kenyatta College of Agriculture and Technology started out as a pet project of the President. Such "pet projects" were frequently implemented as aid projects as a means of diplomacy geared to influencing individual leaders of countries.

Meanwhile, on the Japanese side, Mr. Renzo Izawa (then member in charge of grant aid in the Economic Cooperation Division 2, Economic Cooperation Bureau, Ministry of Foreign Affairs) gave the following testimony. "Around 1977, the ODA budget had started to increase and thought was being given to actively extending grant aid beyond Southeast Asia and into Africa. There were people in the Ministry who thought that Kenya should be supported as our diplomatic base in Africa because it purported liberalism and had political stability in the East African region. Offering assistance to Kenya, which had influence, was also significant in terms of securing votes in the United Nations."

The issue of offering assistance to Kenya was also supported by ample consensus within the government. However, due to the vertically-segmented administrative system of Japan, even if

the Ministry of Foreign Affairs wanted to cooperate in establishing a university in a developing country for diplomatic reasons, it needed to hold discussions with the Ministry of Education, and unless it did, it would not obtain the cooperation of universities. Therefore, cooperation projects make little progress unless they are backed by powerful supporters. If the Ministry of Foreign Affairs tried to force a project through by itself, it would become isolated.

Therefore, it became necessary for politicians who had political channels in both the Ministry of Education and Ministry of Foreign Affairs circles to become active as Diet members with a special interest in education. Fortunately for this project, a certain Diet member, who was interested in education and had connections in both ministries, helped coordinate affairs.

Following these beginnings, the real educational specialists made their appearance. This is where these professionals displayed their true worth.

<First Step to Nairobi>

The first mission was the dispatch of the preliminary study team in order to discuss the plan to construct Jomo Kenyatta College of Agriculture and Technology (November 3 to December 10, 1977). The team leader was Prof. Uenosono (Faculty of Engineering) of Kyoto University, who exercised powerful influence over the Ministry of Education as the "scientist of the Education Ministry", and he was supported by deputy team leader, Prof. Minoru Fukuda (Faculty of Agriculture) of Okayama University. At this time it had already been decided that Kyoto University and Okayama University would act as *managing institutions* in the fields of engineering and agriculture, respectively. The team also consisted of a Ministry of Education official in charge of educational administration and educational facilities, a Ministry of Foreign Affairs officer in charge of grant aid (Mr. Izawa who gave testimony) and an officer in charge of technical cooperation, the coordinator from JICA, and an architect from Kume Sekkei.


Daily NATIO

Photo 3-5: Newspaper Article about the Launch of JKUAT Project

Since the team leader, Prof. Uenosono, had already passed away, we interviewed Prof. Fukuda, Prof. Emeritus of Okayama University, who is over 90 now but still in high spirits, about conditions at that time.

Apparently, Prof. Fukuda became involved with the project after being asked by Prof. Jiro Sugi, the President of the Japan Society for the Promotion of Science who had influence in the Ministry of Education and at Tokyo University, and was enthusiastic about overseas academic exchanges in the specialist fields of agriculture and engineering. He said, "We're going to build

a university in Kenya, so we want you to cooperate with Prof. Uenosono of Kyoto University." By this time it had already been decided that Okayama University would oversee the school of agriculture and Kyoto University would oversee the school of technology. After that, Prof. Fukuda brought in Prof. Junkichi Iwasa of Okayama University, who would become a key person in developing the school of agriculture at Jomo Kenyatta College of Agriculture and Technology.

The team members were emboldened by the enthusiastic support by the President's side, irrespective of whether the project was top-down or not. An example of this support was the free provision of land for the college. A grassy site covering 206 hectares and located roughly 30 kilometers northeast of the capital Nairobi was prepared.

As the second mission, the project technical cooperation implementation discussion team was dispatched in April 1980 in order to determine the type of buildings and undertake the basic items of work. This mission also played the most important role in deciding the educational content at the college. The members were Prof. Uenosono, who was team leader, Prof. Minoru Fukuda of Okayama University, who was in charge of the agricultural field, and Prof. Hiroji Nakagawa of Kyoto University, who was in charge of the technology field.

However, during the dispatch of the project's preliminary study team for technical cooperation from August 10 to August 25, 1978, Kenya's first President, Jomo Kenyatta, who had been the key promoter of the project on the Kenyan side, suddenly passed away on August 22. Prof. Iwasa recalls that time as follows. "There were rumors of a coup d'état, however, the British Air Force restored order in Nairobi in no time. To be honest, I thought that the project would be cancelled following the death of the president. However, President Moi, who was promoted from the position of vice president, carried on the work of his predecessor and the project progressed according to schedule."

The contents of the college were decided as follows in discussions with the Kenyan side: i) the faculty of engineering comprised of three departments, i.e. civil engineering and architectural engineering, mechanical engineering, and electric and electronic engineering, and ii) the faculty of agriculture comprised of three departments, i.e. horticulture, agricultural engineering and food technology. In this way, the college was launched as an agriculture and technology college having two faculties.

Around that time, a lot of assistance in the education sector was provided by the former colonial powers, the United Kingdom, as well as Canada in the field of higher education, Germany, which assisted the establishment of Mombasa Polytechnic, and the United States, which assisted Egerton University of Agriculture. This was the time of the Cold War, and the Soviet Union also accepted 100 overseas students to Moscow University every year.

Jomo Kenyatta College of Agriculture and Technology (JKUAT) was opened under assistance from Japan in April 1981[13].

Although it is now called a university, it was originally more like a technical college like that seen in Japan. According to Prof. Nakagawa, its objective was to educate core engineers who would contribute to the growth of small-scale industry, development of appropriate technologies and improvement of agricultural productivity. The school of agriculture offered diploma courses for three years, and the school of engineering conducted technician courses for four years.

Moreover, according to the educational system of Kenya at this time, educational institutions had to adopt education methods based on a national common syllabus with emphasis placed on vocational technical training as in existing polytechnics and agricultural colleges. However, this college was able to utilize the superiority of Japanese higher education to realize a unique form of education for that country.

Kenya inherited the British tradition of a strict "qualification-oriented society." Job classes and salary rankings were decided according to the qualifications acquired by individuals. For example, three ranks were established for technicians, and qualifications were established in each class. Technicians can only move on to advanced courses after they have passed a national examination.

In any case, education in Kenya tended to be preparatory in nature and geared to improving pass rates in qualification examinations. Against this background, JKUAT adopted an education policy that emphasized basic subjects geared to improving adaptive expertise, and it thoroughly taught basic subjects such as mathematics and physics that were not included in the syllabus.

As a result, although students were initially opposed to the college policy, they came to accept and support it when they saw pass rates in national examinations rise higher than in other schools. As a result of conducting practical education based on firm basic theory, JKUAT was able to produce more excellent human resources than other colleges; and this tradition was subsequently passed on to the college's bachelor programs.

Under British technical cooperation, the "sandwich approach" combining lectures with extracurricular learning was adopted; however, in a society where domestic conditions were not well developed and there were few corporations capable of conducting practical training, the practical learning time often tended to be wasted. Even if students got opportunities to train in government offices, they were unable to learn practical skills due to the lack of a capacity to receive in those organizations. This British approach to practical learning were effective in countries where there were numerous opportunities for placement, however, it was not an

[13] As a rule, JKUAT is used as the acronym in the rest of the section, however, according to the meaning, JKCAT is used to express the early college days and JKUAT is used to express the university college days.

effective method in developing countries where such opportunities were few and far between. In the case of JKUAT, because practical learning facilities and equipment were provided in the aid, the environment for conducting practical training on campus was ensured and this made a major contribution to improving the education and research capabilities of teachers and instructors, which were passed onto bachelor programs.

According to Prof. Nakagawa, this type of system helped attract outstanding students. However, he also warned that if the traditional Japanese style of education became threatened by equipment deterioration and obsolescence, shortage of experimental resources and reduction in building area, and other factors, and if steps were not quickly taken to rectify the situation, JKUAT will resort to the same type of classroom learning practiced by other schools and thereby lose its vitality.

3.4.2 Age of Trial and Error

(1) Key Person

<Key person (1): Prof. Hiroji Nakagawa>

Key persons refer to persons endowed with human qualities and academic experience who are capable of pertinently leading projects based on good insight and the ability to coordinate, while displaying expertise over the long term progress of a project.

Furthermore, the basic prerequisite for such persons is that they possess a spirit of service in wanting to contribute to society without any expectations of reaping personal rewards.

Therefore, in the case of JKUAT, members of the advisory committee, who loved and sacrificed much time and effort in cooperating with this project for 20 years, may be described as key persons.

Over this 20-year cooperation period, parties on the donor side (JICA) and on the recipient side in Kenya alternated at intervals of every two or three years. On the implementing side of JICA, there is no system for consistently monitoring or sustaining aid projects on a long-term basis. It was the advisory committee that filled this role, and it is no exaggeration to say that the persons who led the committee were key persons of the project.

Photo 3-6: Prof. Hiroji Nakagawa

Thus, in the case of JKUAT, the primary key person was Prof. Hiroji Nakagawa (Kyoto University), who stayed true to his intentions as chairperson of the advisory committee from December 1983.

Here, we refer to the piece entitled “Roles of the Advisory Committee” that was penned by Prof. Nakagawa to describe his initial impressions as the team leader.

<Roles of the Advisory Committee>

Thanks to the best efforts made by the Government of Kenya, the vice chancellor of the university and the faculty members, harmonious collaboration has been maintained with Japan over the past 20 years; and the college foundations have been put in place. During this period, there was a lot of reshuffling of officials including the primary secretary of the Ministry of Education. However, through the conferences and meetings held in Kenya and the visits to Japan by high-ranking trainees, close and amicable relations were established with the advisory committee, and the sincere stance of the Kenyan side throughout was extremely useful in smoothly advancing the project.

Meanwhile, on the Japanese side, the advisory committee experienced hardly any reshuffling, and it was beneficial that members who thoroughly understood the project were involved for such a long time. In order to smoothly advance local activities, the Kenyan Minister of Education often complied with the requests of the advisory committee chairperson and displayed special consideration regarding the personnel affairs in the high level posts of the university; moreover, the vice chancellor of the university frequently responded to privately communicated requests to deal with problems. These matters were based on high-level political judgments founded on a strong sense of trust between the Japanese and Kenyan sides, and such efforts were only made possible by the fact that both sides were on the same page. The role of the advisory committee was not only limited to examining the propriety of aid plans and implementing them; it also entailed exercising leadership and decisiveness from a lofty position in order to expedite political consideration on the Kenyan side.

Based on requests from the local side, the advisory committee selected and dispatched experts in each field; however, it was regrettable that not enough consideration went into deciding if candidates had sufficient credentials. Since simply having good expertise does not guarantee that good work will be performed amidst the tough conditions of Africa, it is necessary for personnel to devote themselves entirely to the work, and personnel need to possess sufficient linguistic ability, human qualities, leadership and of the power to act to invoke empathy on the local side. Now that we have entered an age where personnel in Japanese universities are requested to cooperate in developing countries whether they like it or not, it is necessary to nurture human resources who will respond to such needs, establish a system that makes long-term dispatch possible, to take steps to ensure that achievements in developing countries are properly evaluated, and prevent personnel from being put at any disadvantage. University human resources, who focus only on conditions in Japan, Europe and America, lack the ability to grasp the overall picture of things; and it is unrealistic to expect the ability to start from nothing as well as the courage to take the required action when conducting research cooperation in developing countries.

Prof. Nakagawa participated in the JKUAT project from the time of the project's technical cooperation preliminary study team (led by Prof. Uenosono) from October 10~25, 1978 in order to discuss educational content. From this time, he participated in all the missions up to the final evaluation study team (led by him) in February 2000. In total, Prof. Nakagawa travelled to Kenya 19 times during this period, and in this respect alone, he was clearly the greatest contributor to the project. The Kenyan side also recognized his services when he was awarded an honorary doctorate at the fifth graduation ceremony of JKUAT on April 2, 1998.

Prof. Nakagawa's involvement with the project began when Prof. Uenosono, who was 15 years his senior at the Kyoto University Faculty of Engineering, personally asked him to check the curriculums, syllabus and educational materials for a college to be built in Kenya. At that time, Prof. Uenosono was already in discussions with the Kenyan side in his capacity as the leader of the preliminary study team for the university construction project in November 1977.

Naturally unable to turn down the request from his senior, Prof. Nakagawa came to participate in the project's technical cooperation preliminary study team and entered into discussions with the director of the senior education bureau in the Kenyan Ministry of Education in August 1978. This was the first step in what transpired to be 20 years of cooperation. Prof. Nakagawa recalled his impressions at this time as follows (according to his work entitled "Yancha Ichidaiki – 20 Years of Bushido in Kenya").

"I frivolously accepted the job with the attitude that it may be a lifelong memory for me since I had never set foot on the African Continent before. I was full of curiosity and naive enough to think that I could take on anything without thinking about the future. It is so enjoyable to go with the flow of life, to throw oneself at challenges as they arise and to discover a new self in the process."

On visiting Prof. Nakagawa's residence in Kyoto, his wife fondly remembered those early days with a laugh and said, "At the time he was full of beans as if we were on the childhood TV show "Kenyan boy" (a popular adventure series). He was so excited and it was as though members of the Masai were chasing him with spears."

Mrs. Nakagawa also had the following to say about Prof. Nakagawa's attitude at the time. "My husband said that he wanted to treat the cooperation for university construction in Kenya as a hobby and find some relaxation through the project." Prof. Nakagawa later said, "Better ideas tend to be born when I treat things as a hobby. I generally fall into a rut when it comes to my primary work, but I have more freedom and come up with better ideas when I engage in hobbies."

He also displays his leadership qualities with the following words, "In order to guide a project to a successful conclusion, a leader needs to have a human side capable of influencing people. Without a wholehearted and sincere attitude, one cannot convey ideas to others. Many experts tend to be lone wolf individualist types, and there are always bosses in every field. I struggled to

recognize and coordinate these subtle nuances in relationships."

Prof. Nakagawa looks back on the education situation in Kenya around 1978 as follows. "The only institution of higher education in Kenya at that time was Nairobi University, and there were also teacher's schools and polytechnics, however, there was need for an educational institution that could nurture core engineers. During the era of British rule, only limited government employees were admitted to Nairobi University and government controlled education. However, for the sake of national development, it was necessary to develop human resources endowed with practical know-how and skills in addition to these government officials. This is how the need for the new college came to be expressed."

In terms of curriculum content, the local side requested establishment of technician courses (school of engineering) and diploma courses (school of agriculture). This was similar to the curriculum provided in Japanese technical colleges, although to be exact, the requested level was lower than in Japan. Despite this, the Kenyan side wanted to develop human resources who would help modernize agriculture and contribute to the industrialization of rural communities. In other words, the Kenyan side requested Japan's help to establish a practical education and training institution that would be useful to society.

Because it was necessary to provide classroom learning with practical workshop training, the template for this in the school of engineering was the polytechnic. Based on the British model, this system included six months of placement in a company for practical training in the curriculum. However, because Kenya did not have enterprises with the ability to accept students in this way, students would end up doing private study at home and did not gain much from the intended training.

Considering that this education system was not suited to the local situation in Kenya, Prof. Nakagawa decided not to follow the British "sandwich system" but rather to enhance workshop and laboratory facilities to allow students to conduct practical training within JKUAT. Despite this, the Kenyan side still thought the British system was best and was unwilling to compromise on the matter. In order to overcome this impasse, Prof. Nakagawa strived to ensure the construction of equipped facilities to enable practical training inside the university campus.

Luck stepped in here. Around that time, there were not many Kenyan teaching staff members; in fact the only Kenyan faculty member was Mr. Gitaiga, the first college principal. Therefore, it was possible to assign Japanese staff members, who were well-versed in the Japanese educational philosophy as teachers.

Education was initially implemented according to the British system, however, the resulting human resources lacked the practical ability needed to meet the needs of society. Prof. Nakagawa stresses the following point: "In Japan, ever since the Meiji Restoration, human resources development that encourages people to think for themselves and to be creative has been successful. That is why I wanted to change the content of the curriculum according to the

Japanese model."

"I believed that true contribution to the development of Kenya could only be made if the Kenyan people understood and embraced Japan's unique culture, which was different from that of Europe, and thereby nurture a new sense of values. I keenly felt that unless the local side worked with a full awareness of the uniqueness of Japanese education and the role it could play in forming culture, success could not be guaranteed simply by implementing a stereotypical education project in Kenya, where the effects of 200 years of British colonial rule still lingered."

Prof. Nakagawa viewed the cooperation for the university in terms of the boyhood period, the adolescent period, and the mature period. Moreover, his desire to introduce the "Japanese educational system model" and the perspective of a wider world to the Kenyan people, who knew only British methods and systems, was apparent in his efforts.

Prof. Nakagawa expressed these sentiments in the work entitled, "A Story of International Cooperation - King Mongkut's Institute of Technology in Thailand" (Mitsuya Araki, International Development Journal Co.), which tells a story about ODA in university development in Asia. One can sense the true essence of Prof. Nakagawa, or one should say the feelings of the entire team, in these words. "The JKUAT project had no backing from major figures of bureaucracy, politics or big business; there was little thought to contributing to the national interests of Japan. Rather, it was founded on a love for the country and people of Kenya and a lot of hard work that led to the creation of strong ties and the successful transfer of Japanese education and culture based on grassroots activities."

<Key person (2): Prof. Junkichi Iwasa>

Prof. Iwasa came to participate in the project in the field of food processing in response to the heartfelt request of Prof. Minoru Fukuda, who was his senior from Okayama University in agricultural education. His first tour of Kenya was with the construction project basic design study team that departed on March 9, 1978. Prof. Fukuda was also a member of the team.

Responding to an interview at the Hotel Granvia Okayama on March 10, 2012, Prof. Iwasa looked back on that time as follows. "It was only two weeks before departure that I received the unofficial announcement to participate in the first study team, and I didn't even have time to receive my yellow fever inoculation. I didn't think I would be able to participate for that long, however, I ended up being involved until today. There were some sad experiences along the way. For example, when Prof. Okamura of Obihiro University of Agriculture and Veterinary Medicine went out to Kenya in 1984 to comfort an expert on dispatch from

Photo 3-7: Prof. Junkichi Iwasa

the same university who had become depressed, and he suddenly passed away from a heart attack brought on by fatigue soon after he returned to Japan. Following that incident, trips to Africa came to be planned with a more leisurely pace."

"When lecturers are dispatched overseas as experts, since this leads to a shortage of faculty members at their home universities, we requested the Ministry of Education to assign additional faculty members, however, the ministry did not respond to our request. Since the fundamental principal of universities is to boost overseas exchanges, they ostensibly cannot voice opposition. However, because additional staff or the budget wasn't recognized, the burden placed on university personnel was great."

Prof. Iwasa was second to only the advisory committee chairperson, Prof. Nakagawa, in terms of the number of project missions he participated in, and he took part in more missions after the first graduation ceremony in 1984 with the dispatch of the evaluation study team (July 1984).

Based on the criteria that the level of contribution to the project is proportional to the number of missions participated in, the following can be pointed out as key persons in the project: i) Prof. Hiroji Nakagawa, ii) Prof. Junkichi Iwasa, iii) Prof. Hiroshi Fukui (Tottori University, Faculty of Engineering), iv) Prof. Atsushi Yomota (Okayama University), and v) Prof. Minoru Fukuda (Okayama University). However, on closely examining the content of the cooperation, a different list can be compiled. For example, at the very start of the cooperation, the influence of the late Prof. Chikasa Uenosono (Kyoto University, Faculty of Engineering) cannot be overlooked. In terms of expertise, the contributions made by Prof. Masaharu Masuda (Okayama University, Faculty of Agriculture) and Prof. Akihiko Saito (Tottori University, Faculty of Engineering) were immense. Meanwhile, if credit is given to the people who worked hard to receive students from Kenya and help them to acquire degrees and return home to take teaching positions at JKUAT, then different key persons may be chosen.

Prof. Hiroshi Fukui (current honorary Prof. of Tottori University) had the following to say in an interview held in March 2012. "I think that Prof.. Akihiko Saito (former Prof. of Tottori University), who gave me the opportunity to go to JKUAT, is another key person in a certain sense. At that time, Prof. Saito had visited Kenya a number of times as a short-term expert, and he still takes Japanese students on study tours to Kenya today. Prof. Saito insisted that research was important in order to raise the quality of education and worked hard for the establishment of the Institute of Electrical Engineers of Kenya. Today, this institute is healthy and contributes to enhancing the academic and research functions of Kenya."

"Students of JKUAT who acquired master's or doctor's degrees at Tottori University today fill important posts such as under-secretaries at the Kenyan Ministry of Industry, vice chancellors of other universities and directors of faculties. In 2012, Tottori University accepted almost 200 overseas students, and in 2011 it concluded an academic exchange agreement with JKUAT. Compared to those early days, it is now like a completely different age."

“In 1984, Prof. Saito went to Kenya to find an outstanding teacher (student), and he paid for that student to come to Japan and study at Tottori University while accommodating him at the back of his own home. That student received a YMCA scholarship from around 1987 and he acquired a bachelor’s degree and master’s degree after seven years of hard work. It fills me with much joy to see such people today working actively as faculty deans in JKUAT and so on.”

(2) Experts – The Key Persons on the Ground

In terms of project contribution, the key persons who play roles at each stage of development are also different. The role played by experts is especially large, and it can sometimes determine the success or failure of a project.

In the case of JKUAT, if the bureaucrats from the Ministry of Foreign Affairs and Ministry of Education, JICA personnel, experts, Japan Overseas Cooperation Volunteers (JOCV), the advisory committee and members from the private sector, and others are included, it is estimated that some 400 people were involved in the project. What shouldn’t be overlooked here is the collaboration of the experts and JOCV. In the early stages of developing the college (1980~1984), although the necessary buildings were constructed, the Kenyan teachers needed to teach did not exist. In this situation, it would be impossible to realize the goal of Kenyans teaching Kenyans. It was thus decided to send over large groups of students to Kyoto University and Okayama University to acquire teacher qualifications. In the interim, the Japanese side had to stand in for the local teachers for at least four or five years.

This is where the experts and JOCV members played a prominent role. The project technical cooperation was commenced in April 1980, and four experts were appointed at this time. They were Mr. Kawaguchi (team leader, electricity), Mr. Sugiyama (foods), Mr. Katsuta (civil engineering) and Mr. Moriya (horticulture). In March 1981, the first group of five JOCV members was appointed. They were Mr. Suzuki (horticulture), Takami (agricultural engineering), Mr. Koaze (foods), Mr. Tokita (machinery) and Mr. Endo (electronics). Of these members, Mr. Takami passed away in a road accident in June that year.

One of the experts, Mr. Hatashi Moriya (horticulture), recalls that time as follows. “Kenya was a qualification-oriented society where people took great pride in their academic background but not much emphasis was placed on practical training. Initially, in the horticulture faculty, we admitted extension officers of the Ministry of Agriculture and Forestry, who had graduated high schools, and we conducted in-service training.

The Faculty of Agriculture required a farm for practical training and it was the responsibility of the Kenyan side to prepare it, however, the preparations for this were delayed. Moreover, because the quality of soil was appalling and water supply facilities were not available, the students were unable to properly conduct practical training and there was little prospect of cultivating vegetables. We dug a number of wells to try and obtain water, but no water was found. We couldn’t even guarantee dormitory life, let alone practical training. Eventually, the

Japanese side offered assistance in building a practical training farm and pond, and the practical training setup was established. However, the pond sprung a leak and it became necessary to repair it. Furthermore, the college area was surrounded by slums and sometimes the university teaching materials and equipment were stolen.

At this time, the experts and JOCV members assumed teaching duties in place of the Kenyan lecturers. Unusually, both parties cooperated amicably in conducting the education. Generally speaking, a certain type of emotional friction arises between experts and JOCV members because they receive different pay for performing the same jobs. In the case of JKUAT, since former JOCV members with experience of East Africa were selected when recruiting experts, they were able to easily communicate with the new JOCV members and there was little discord between the two sides.

Prof. Nakagawa, the chairperson of the advisory committee, says that these experts and JOCV members were the ones who made the greatest contribution to the success of the project in the initial stage. They rescued the project from its early predicament and deserve to be called the key persons in the field. Despite this, judging from an expert's viewpoint, it isn't clear how JOCV members came to serve as university teachers and who came up with the idea in the first place, however, in any case it was totally an original approach.

According to Prof. Nakagawa, when the university came to offer bachelor degree programs in 1990, it was necessary to dispatch experts on the same level as university teachers, however, due to institutional constraints and the difficulty of finding suitable human resources, it was decided to assign conventional experts as long-term experts to each department (one expert per department) and to strengthen education and research guidance by short-term experts in each field. However, due to work constraints back in Japan, because the short-term experts could only be dispatched for limited periods, it was not easy for them to be effective teachers. Some members who had no grounding in the conditions in Kenya suffered from such culture shock that they became neurotic over non-teaching-related issues and had to return home midway through their assignment before any results were achieved. On the other hand, some experts endowed with great expertise quickly blended into the Kenyan environment, conducted excellent guidance and enjoyed the respect of the Kenyan faculty members and students. The continued selection and dispatch of such human resources each year resulted in great achievements. These experts came to feel a strong sense of attachment and attraction to JKUAT and they performed their teaching duties diligently and with a deep sense of affection.

A more detailed description of the experts is given below.

Many experts were involved with the project in the field over a long time. For example, as of August 1989, there were 16 long-term Japanese experts (five in the faculty of agriculture, five in the faculty of engineering, two on the farm, and four engaged in education engineering and coordination) and 11 JOCV members. JOCV ended its cooperation at the end of March 1990,

however, around the same number of long-term experts remained on dispatch until completion of the project in April 2000. Salient features of the experts can be given as follows.

- They comprised a diverse group of experts in seven disciplines in the fields of agriculture and engineering (there was constantly a group of around 15 long-term experts).
- They belonged to no particular organization but was a highly individual group with many members with JOCV experience in Africa.
- Many of the members were relatively long-term participants who gave a sense of devoting their lives to international cooperation.
- They were a passionate group who were single-mindedly devoted to developing a college from scratch with emphasis on practical learning.
- As well as possessing a mutual sense of competitiveness, the experts placed emphasis on mutual cooperation and a system of responsibility for each specialty.
- The members held a strong relationship of trust with the advisory committee (because they had no professional affiliations, the committee provided emotional support).

Therefore, it is no exaggeration to say that all experts displayed initiative in Kenya. In order to guide such a large group of Japanese experts, the capacity of the leader was extremely important. The first leader (from October 1980 to October 1983) was Mr. Tetsuo Kawaguchi, followed by Mr. Hiroshi Wada (from November 1983 to April 1985). Mr. Takahiko Sugiyama was the third leader and led the project for 10 years (just before JKCAT introduced bachelor programs until June 1994), during which time JKCAT was transformed from a college for training core engineers into a full-fledged university. Mr. Sugiyama's profound knowledge of Africa and his prudent leadership ensured that Japanese cooperation never lost its focus and direction in spite of upheavals on the Kenyan side. After that, the project was led by Mr. Sadanori Taguchi (April 1994 to April 1997) and Mr. Tatsuo Hoshi (April 1997 to April 2000), who bore a heavy responsibility during the development phase of JKUAT.

The leaders were supported by coordinators who were assigned to the school of engineering and school of agriculture. Experts who served in Kenya for a relatively long time (five years or more) were in the school of engineering, Mr. Shinichi Kimura, Dr. Manabu Tsunoda, Mr. Tokuaki Arai, Mr. Eiichi Asano, Mr. Yoshio Ishimi and Mr. Wataru Yamada and, in the school of agriculture, Mr. Hatashi Moriya, Mr. Hiroshi Koaze, Dr. Jiro Nozaka, Mr. Shinjiro Shiomi and Dr. Kiyoshi Kita. There was also Ms. Naomi Okada in the field of education engineering. Due to the sheer volume of work in Kenya, a team of two coordinators (including senior coordinators) was maintained.

As was mentioned above, most of the experts had no professional affiliation (13 out of the 16 experts in 1989). Only two employees dispatched from JICA and one expert dispatched from a company were affiliated to another organization. Many of the long-term experts had previously served as JOCV members, and the passion and devotion to Africa that these members exhibited in their work are still talked about among the Kenyan counterparts today.

In 1988, JKCAT was elevated in status to a university college and bachelor courses were commenced. At the same time, the diploma and technician courses were continued. The team of Japanese members joined forces with their Kenyan counterparts and tackled the massive amount of work entailed in preparing for the changes. Not only did lessons and practical learning activities multiply, but it was necessary to compile the curricula and syllabuses for bachelor courses, prepare the laboratories and build original curricula with an emphasis on practical training in the field.

While experiencing pressure from already established universities, the Japanese experts and Kenyan counterparts keenly debated the differences between the diploma courses and bachelor courses and ways to create distinctions with other universities. Composed of numerous members from various fields, the Japanese team combined forces to great effect.

In 1992, it became necessary to prepare for the establishment of postgraduate courses and vigorous debates were conducted in each field with a view to compiling programs that were suited to the local characteristics of Kenya. During the period of cooperation, because Japanese style education emphasizing practical skills and practical learning was conducted in collaboration with the Kenyan teachers and engineering officials, JKUAT graduates in the fields of agriculture and engineering increasingly gained a reputation for excellent practical skills after going into society. At the same time, the experts and Kenyan counterparts vigorously conducted local research suited to Africa and Kenya, production unit activities and in-school training for farmers and others.

By 2000, social recognition of JKUAT had become fairly high with more and more students and parents expressing a desire to enter JKUAT in order to study agriculture and engineering. The role played by the team of Japanese experts in securing the steady development of JKUAT was extremely important.

(Reported by Mr. Mitsuya Araki)

3.4.3 Phase of Development into a University College and Independent University

(1) Key Persons on the Kenyan Side

<Prof. Eshiwani – the clear-sighted and pioneering first president of JKUAT>

After its opening in 1981 as a college for educating core engineers, JKCAT steadily developed its educational infrastructure and earned a good reputation for constantly displaying a national examination pass rate in excess of 90%. In June 1988, Minister of Education, Mr. Aringo, announced that JKCAT would be elevated in status to a university college and, under the auspices of Kenyatta University, would commence a bachelor of agriculture course in 1989 and a bachelor of engineering course in 1990. For the officials on the Japanese side, since this was a sudden announcement with the potential to impose changes in the content of the technical cooperation, the project leader sought confirmation with the Ministry of Education and some

consternation occurred on the ground. In reality, since the JKUCAT board of directors was organized and legal steps were taken to pave the way for placement under the auspices of Kenyatta University, a fair amount of preparation had already been occurring in the background. Specifically, in September 1988, JKCAT was elevated to the status of university college as a constitute college of Kenyatta University, and its jurisdiction was transferred from the Ministry of Technical Training and Applied Technology to the Ministry of Education.

Photo 3-8: Prof. Eshiwani

Prof. Eshiwani, who had served as director of the Kenyatta University Education Research Institute, was appointed as the vice chancellor of the newly elevated university college in November 1988.

Looking back now, it is surmised that President Moi at that time had a vision for an independent university, and he appointed his trusted servant Prof. Eshiwani as the first university vice chancellor to ensure that this vision would be realized. Having obtained a doctorate at Stanford University in the United States and possessing the title of Prof., Prof. Eshiwani was a learned man who was expected to fill a role different from his predecessor (college principal) Mr. Gitaiga. Prof. Eshiwani looks back on that time as follows. “It was both an honor and a challenge to be appointed by the President, and I positively accepted it in the hope that I could make a great contribution to Kenya.” Moreover, since he had been appointed as vice chancellor of the university, he was determined to make JKUAT into the foremost agriculture and engineering university in Africa, and he relentlessly strived to build the foundations for transforming it from a diploma-level college for engineers to an academic and high quality university. From the interview with Prof. Eshiwani, one could sense not only flexibility but also a strong will and intellect.

Based on the conviction that the content of curriculums were the key to determining the quality of the university, Prof. Eshiwani put effort into developing original curriculums with emphasis on practical skills with support from the Japanese counterparts. He also appointed three outstanding deputy vice chancellors who had ties to other universities (Prof. Michieka in charge of education, Prof. Mutua in charge of research and extension, and Mr. Yaygo in charge of administration) and built an organization where his vision would be realized. In addition, he frequently staged in-school academic boards (composed of the vice chancellor, deputy vice chancellors, treasurer, registrar and faculty directors, etc.) in order to listen to the opinions of others while striving to resolve various problems. In 1992, when the operating base for JKUCAT was established and efforts were being made to acquire the status of an independent university, Prof. Eshiwani was appointed as the vice chancellor of Kenyatta University, which

was the full-fledged university overseeing JKUCAT. This reflected how highly his efforts at JKUCAT were regarded, and his glittering achievement was a realization of the elevation to university status. Moreover, as vice chancellor of Kenyatta University, Prof. Eshiwani was influential in helping JKUCAT achieve independence from its parent university and attain the status of an independent university. In the early and formative stages of university development, it is vitally important to assign the right persons to the right jobs in top management, and this was successfully achieved in the case of JKUAT (Figure 3-4).

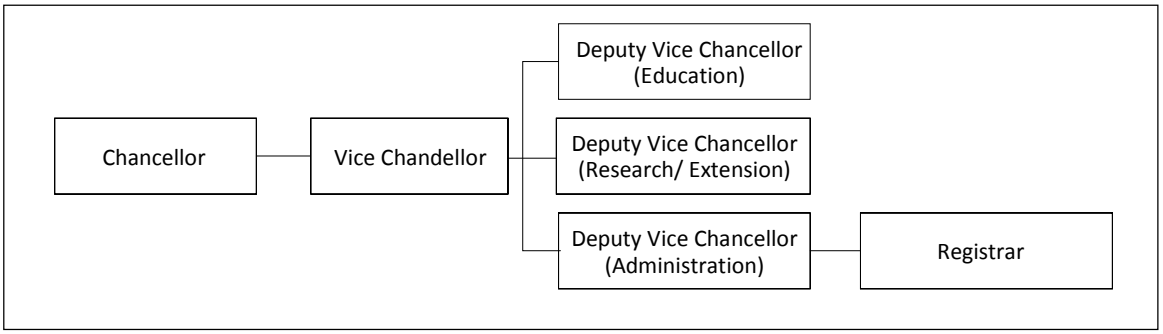


Figure 3-4: Top Management of Universities in Kenya

<Prof. Michieka - the First Vice Chancellor of JKUAT who displayed strong leadership and gave the university direction>

Prof. Michieka, who was appointed deputy vice chancellor of JKUCAT in 1989, had previously served as director of the faculty of agriculture at Nairobi University. Prof. Michieka admits, "I felt some confusion and trepidation when I heard talk of becoming deputy vice chancellor because I had never considered setting foot outside of Nairobi University. At the same time, I was very proud that my potential had been recognized and I looked on it as the opportunity for a new challenge."

Photo 3-9: Prof. Michieka

In his role as the deputy vice chancellor in charge of education, Prof. Michieka was expected to raise the quality of education in order to educate human resources consistent with the needs of society. Concerning project operations, he held frequent meetings with the Japanese experts and JICA officials and strived to achieve smooth communication. In particular, he held discussions with related persons concerning revision of curriculum content in order to enhance the education from diploma level to bachelor level.

He succeeded Vice Chancellor Eshiwani in 1992 and from 1994 onwards, he became the Founding Vice chancellor of JKUAT following its promotion to the status of independent university. In this capacity, he enhanced the quality of teachers and reformed the content of curricula with a view to placing emphasis on practical skills. At the same time he strived to produce numerous promising human resources in the education field through promoting overseas study in Japan, and he displayed firm leadership and made a major contribution towards solidifying the education and administration base of the university. Around that time, numerous universities were faced with the problem of student disputes, however, because Prof. Michieka stayed continually on the JKUAT campus in an effort to soothe the disputes, JKUAT gained a reputation for having few student troubles, and this in turn, led to an increase in the number of prospective students to the university. In this case, the contribution made by Prof. Michieka's management skills was great.

Prof. Michieka looks back on that time as follows. "Nairobi University was a large-scale full-fledged university with history and tradition and it already had various systems such as the established educational curriculum. However, JKUAT was a small-scale university specializing in the fields of agriculture and technology, so it was like a child with great potential for future growth. There was great enthusiasm about growing towards some goal among the JKUAT faculty members, students and administrative staff, and there was a sense of excitement about pioneering new fields. We were able to achieve active progress in such areas as enhancing the education and establishing new courses in our quest to make the step up to becoming an institution of higher education producing high-level human resources for industry."

According to Prof. Michieka, the factors behind the development of JKUAT were as follows. "First, based on a united desire among the Japanese side and Kenyan counterparts to make JKUAT into a better university, numerous officials were brought together in pursuit of a common goal, and each member steadfastly fulfilled the responsibilities that were placed on them. Second, we all focused on a project free of corruption and malpractice, and we sought to build relationships of mutual respect based on trust. Third, the Japanese style of thinking with strong emphasis on discipline permeated the university and led to good teamwork. In short, our good luck in having trustworthy and high-principled people come together produced good results." Through the interview, Prof. Michieka gave the impression of being full of vitality and a challenging spirit and having the desire to approach all matters head on.

<Deputy Vice chancellor, Prof. Mutua – the first female top manager and promoter of good teamwork>

Prof. Mutua, who had previously served as the director of the teaching resources development center in Kenyatta University, was appointed as Deputy Vice Chancellor in charge of research and extension in 1990. As she recalls, "Until then I had taught humanities and social studies at Kenyatta University and I was unsure whether my experience would come in useful in a job that primarily entailed management of a university in the different fields of agriculture and

engineering. However, I viewed the appointment as a major challenge for myself and decided to positively embrace it." A major issue at the time was securing approval from the higher education organization for the bachelor program curriculums, and Prof. Mutua struggled towards an educational level above a certain standard while holding discussions with the team of Japanese experts."

Photo 3-10: Prof. Mutua

During this period, JKUAT grew and transformed from an education-based institution to a more education and research-based institution. Prof. Mutua came up against various difficulties during this process, but she also enjoyed the challenge of pioneering new fields. Surrounded by numerous science teachers, she experienced a feeling of difference as a humanities educator, however, she placed emphasis on creating links between the university and community and beneficiaries via research and extension activities and contributed to enhancing the quality of the university's education and research activities through incorporating her unique perspective that had been nurtured in the humanities. Research activities around that time were largely confined to laboratories and there wasn't much linkage with the outside, however, Deputy Vice Chancellor Mutua gave consideration to the idea of incorporating how results are restored to society in the proposed applications of local research funds. Moreover, because she considered it important to build a relationship of trust with the community, she strived to strengthen joint fieldwork activities between the university and community and to implement social contribution activities.

Throughout the interview, Prof. Mutua emanated a sense of flexibility as well as a feeling of warmth and consideration for others. After serving in JKUAT for 10 years, she moved on to become Chancellor of a women's university.

<Deputy Vice Chancellor, Prof. Thairu – the outstanding staff with a rich sense of balance who wholeheartedly supported the Vice Chancellor>

Prof. Thairu was appointed as the Deputy Vice Chancellor of JKUCAT in 1992. It is believed he was appointed for his involvement as director of the faculty of science at Kenyatta University in the human resources development project to acquire doctorates based on support from the United Kingdom. He succeeded Deputy Vice Chancellor Michieka (in charge of education) following his promotion to Vice Chancellor, and he became the Founding Deputy Vice Chancellor (in charge of education) when JKUAT became an independent university in 1994, and he served JKUAT for 13 years until 2004. He played an important role as an outstanding staff for Vice Chancellor Michieka and was an indispensable figure during the era of JKUAT's development. Specifically, he served as chairperson on the board of faculty directors and was

involved in decisions on important matters in the university. Since this was his first experience working with Japanese people, he was bewildered on some occasions, however, he had much to teach and many people felt that he overcame differences of culture and custom to contribute to harmonious team building, and he was especially highly trusted by the Japanese side.

His biggest concern in operating terms was the lack of funding provided by the Kenyan government that frequently led to delays in the execution of in-school events. He realized that Japanese assistance was large in scale and all-inclusive of many things such as the construction of facilities based on grant aid, technical guidance by experts, human resources development through the overseas study of teachers and technicians geared to helping them acquire master's degrees and doctorates, and for this reason he says he was often overcome with nervousness and fear that the project would not succeed.

Photo 3-11: Prof. Thairu

Always concerned that suspension of Japanese assistance would mean the end of JKUAT, Prof. Thairu devoted all his energy to ensuring that results were achieved. Always cool and collected, he wholeheartedly supported the Vice Chancellor and tried to confront difficulties head on. This approach gained him a strong feeling of trust from staff members, and he was adept at coordinating the various opinions that existed within the university. Realizing that the university needed to produce the type of engineers that were required by industry, he believed that JKUAT had to adopt curriculum content geared to the real needs of society, otherwise it wouldn't be able to exert an impact on society. For this reason, he knew that it was urgently necessary to raise the level of faculty members and he improved the quality of teachers while liaising with the Japanese experts.

In March 1995, when a party was held in Kyoto to celebrate the retirement of Prof. Hiroji Nakagawa of Kyoto University (also the chairperson of the advisory committee), Deputy Vice Chancellor Thairu flew all the way from Kenya to express his deep gratitude to Prof. Nakagawa and present him with a heavy wood carving on behalf of the JKUAT side, and this episode moved all the people who attended the party. In the interview, Prof. Thairu gave the impression of being a warm and insightful human being.

<Secretary, Mr. Mberia – who worked selflessly behind the scenes from the JKCAT era>

Mr. Mberia is another key person. He worked as the Registrar or Secretary (corresponding to the undersecretary for the Kenya higher education organization today) for JKUAT for 19 years from January 1985 to December 2003. When JKUAT grew in stature from a college to a university college and finally to a full-fledged university, Mr. Mberia always worked behind the scenes and

made the greatest contribution in administering the various clerical procedures of the organization. His job, which included general coordination or administration, planning, and support of educational programs and research, brought him into close contact with the top management of the university.

Photo 3-12：Mr. Mberia

Mr. Mberia's involvement dated back to when Mr. Gitaiga, the founding college principal of JKCAT, requested his help while he was working as a mathematics teachers at Kenya Science and Technical College (KSTC), and he made the major jump from teaching to administration, however, he accepted the job of registrar, recognizing it to be a wide-reaching position and a worthwhile new challenge. From 1986 to 1988, he worked on compiling the master plan for raising the college status to a university, and the fruition of this plan demonstrates just how important a role Mr. Mberia played. The timing of this development was appropriate for it came just as there were plans to double the number of accepted students in Kenya overall and the government was looking into upgrading educational institutions.

Mr. Mberia gained the trust of the Japanese side in important academic board meetings where his prior behind-the-scenes work helped discussions proceed on the most difficult agenda items. He always maintained a flexible approach and sought realistic modifications while adhering to the needs on the ground, and he made an immense contribution to constructing a solid management system. In particular, there was a lot of difficulty in securing the necessary number of faculty members possessing doctorates in order to be promoted to a full-fledged university, and it was necessary to examine the provision of overseas study opportunities and recruitment of external staff members geared to enabling the internal promotion of teachers, however, since this was a matter that also affected the salary and treatment of teachers, it was a very delicate issue. Since overseas study alone could not be relied on to secure the necessary number of doctorate holders in the time allowed, Mr. Mberia strived tirelessly to secure understanding for acquiring qualifications within Kenya too.

His efforts in facilitating the human resources development of a wide range of staff members from teachers to technicians, postgraduate students, top managers and administrators in key positions were an important factor in allowing JKCAT to become elevated to university status. Efforts were made to secure degrees by combining training in Japan with guidance by short-term experts, and Mr. Mberia played a major role in conducting appropriate general coordination while listening to the opinions of the Japanese team. During the interview he gave the impression of being proud of his role in supporting top management over many years, of being diligent and of possessing outstanding administrative ability.

(2) Bavarois Scholarship – to strengthen partnership between Japan and Kenya

Around the time the JKUAT cooperation was coming to a close in 2000 after more than 20 years, Prof. Nakagawa, who was chairperson of the advisory committee, keenly felt the need to maintain some kind of support and took the initiative in establishing a scholarship fund. This scholarship system was named the JKUAT Trust Fund (Bavarois Scholarship), and on requesting contributions from the experts, JOCV members, study team members and JICA employees who had been involved in the project until then, 202 Japanese volunteers complied and provided funds out of their own pocket.

The JKUAT Bavarois Trust was opened with a Kenyan bank in June 1996; the Bavarois Trust Fund Subscription Committee was started in October 1996, and collection of contributions was started from that time. In April 1997, contributions worth 6.6 million yen were transmitted from Japan, and the Japan Bavarois Association was established to administer the fund. The JKUAT Bavarois Trust Fund Operating Committee was also established at this time.

The first award ceremony for the Bavarois Scholarship was held in May 1998. Scholarships were awarded to 39 students who had gained outstanding results in each grade and school (three faculties in the school of agriculture, and four in the school of engineering). Therefore, rather than a scholarship, this fund was like a prize for outstanding academic performance, and because the scholarship indicated recognition of effort and outstanding results, it became a great honor to receive it. It was an effective means of motivating students to strive harder. From 2002, the JKUAT Vice Chancellor's Award was created, and this too was awarded to students who achieved outstanding results. Whereas the Bavarois Scholarship was awarded to roughly the same number of students (36) each time from the second year onwards, the JKUAT Vice Chancellor's Award was presented to excellent students in courses and classes not targeted by the Bavarois Scholarship. Whereas the JKUAT Vice Chancellor's Award was presented to five students in the beginning, the number of recipients was increased in line with the number of students at the university, and by 2012, it was awarded to 100 students.

This type of development has been extremely unusual among all the many JICA projects that have been carried out all over the world, and it is indicative of the strong ties that existed between the Japanese and Kenyan sides. The circle of goodwill that has widened following the end of the cooperation has moved the Kenyan people and contributed to the strengthening of friendly relations between Japan and Kenya. Prof. Nakagawa, who launched the scholarship scheme and was president of the Japan Bavarois Association, looks back on the motivation behind the launch of the scholarship as follows. "Reflecting the strong feelings of numerous project officials who devoted their energies to developing the university from the early days through the development period, the scholarship was born out of the desire to leave something that would prove useful for the university's education and research activities in the long term with a view to strengthening the solidarity and ties between Japan and Kenya after the completion of the Project." He stresses the importance of maintaining the fund as follows. "In

the case of a higher education project that, unlike conventional assistance, is geared to nurturing young people who will undertake key positions in that country, achievements have to be judged from the long-term viewpoint of 50 to 100 years. For this reason, we introduced a scholarship scheme that will contribute to the ongoing enhancement of the quality of students and sense of tension in the classroom."

In the interview, Prof. Nakagawa gave an interesting account of how the name "Bavarois" came to be attached to the scholarship fund. "When I visited Kenya in April 1980 with the study team to discuss the implementation of the technical cooperation, I clearly remember the wonderful flavor of the chocolate bavarois desert that I tasted. Although it isn't a product of Kenya or even a representative food of Kenya and that region, I was incredibly moved when I tasted the cool and deliciously sweet flavor of this desert at the restaurant in Nairobi Station just as I was feeling dry, hot and tired from the continually hot weather and exertions of the site survey. The timing of this desert amidst such heat and fatigue made it all the more memorable, and even if the same chocolate bavarois was served again, the sense of wonder wouldn't be the same. Whenever I think of Kenya, that personal memory always springs to mind, and I consider bavarois to be representative of the historical climate of Kenya. Therefore, when it came to naming the scholarship fund, this is the first name I thought of."

This scholarship system was continued for 15 years from 1998; however, following the award ceremony that was staged in June 2012, it was taken away from the Japan Bavarois Association and handed over to the JKUAT side. During this period, scholarships were awarded to 583 JKUAT students under the Bavarois scheme. The total amount of contributions collected from Japanese project officials amounted to a grand total of 8.38 million yen. In response to this goodwill, the JKUAT side also provided 5.78 million yen, helping bring the total amount up to 14.16 million yen. In Kenya, it was commonly believed that education expenses in national universities should be covered out of the state budget, and nobody gave much thought to the idea of having a support system based on private funds. However, the Bavarois Scholarship generated a far greater effect than anybody anticipated over its 15 years of existence, and this goodwill scholarship scheme has become one of the proudest treasures of JKUAT.

In the Japan Bavarois Association, Prof. Junkichi Iwasa (Honorary Prof. of Okayama University), who served as vice-president and secretary, gave magnificent service in undertaking many painstaking and complicated tasks such as managing funds for contributors, maintaining close communications with the Kenyan side, issuing the Bavarois Trust Fund Annual Report (15 editions in all), which gave periodic reports on activities to contributors, and other activities. Meanwhile, in Kenya, Dr. Jiro Nozaka, who was assigned to Kenya as an AICAD expert at the time, held discussions with the JKUAT side and toiled to coordinate and give direction to affairs. At the final awards ceremony of the Japan Bavarois Association that was staged in June 2012, Dr. Nozaka represented the Japan Bavarois Association and read a congratulatory address on behalf of President Nakagawa and hand over the role of transfer and a

commemorative fan from Kyoto to Vice Chancellor Imbuga of JKUAT.

Photo 3-13: Awards Ceremony of the Japan Bavarois Association

The JKUAT side viewed the Bavarois Scholarship Fund, which had been created through the goodwill of Japanese project officials, as an extremely beneficial system and had a strong desire to continue it in some form. Moreover, the Japanese side considered it necessary to examine a way to maintain and develop the system with the university playing the center role such as establishing an alumni association for recipients of the scholarship. Following a review by the JKUAT side, it made a commitment to quickly establish the alumni association and to provide funding until the alumni association settled down and became able to sustain the scholarship system in cooperation with the university side. Specifically, the alumni association was formed in November 2011 and the university provided 5 million shillings (approximately 5 million yen) as operating funds. The final awards ceremony staged by the Japan Bavarois Association was also the ceremony to commemorate the transfer of the Bavarois Scholarship to the JKUAT side. In her address at the ceremony, Vice Chancellor Imbuga expressed her profound gratitude to President Nakagawa, Vice President Iwasa and all the members of the association, stated that the scholarship system was a valuable treasure for JKUAT and indicated her determination to make the utmost effort to maintain the scholarship based on cooperation between the alumni association and university.

(3) Graduates and Social Impact of the University

Starting with a questionnaire of graduates implemented in 1986, active follow-up of graduates has subsequently been conducted by developing places of employment, making visits to companies (by teachers) and encouraging students to take part in practical training at companies. JKUAT graduates have been active in a wide variety of fields. For example, some work as leaders in agricultural settings, some have built their own manufacturing companies and now employ many young people, and some have been successful in the IT field. Meanwhile, among graduates in the faculty of horticulture, some have achieved definite results through new initiatives, and many others have made use of their skills to earn high praise from their employers. In particular, graduates in the school of engineering have earned a reputation among employers as a valuable and immediately effective human resource. In specific terms, the employment rate for graduates in the fields of communications, mechatronics and IT has been high and many graduates find work in banks.

According to the survey conducted in 1986, although graduates engaged in in-service training were also included, there was a higher employment rate compared to graduates from other

universities in the agricultural and industrial fields (reflecting high demand from the industry). In this survey, one of the companies in the IT sector reported that JKUAT graduates were well-versed in practical technologies, were quick on the uptake and displayed rapid growth in an environment where responsiveness to rapid technical development is needed; and it is necessary to withstand intensive training after recruitment. This would seem to indicate that the provision of education with emphasis on practical skills and the strong tradition of practical learning have proved to be a success.

The JKUAT curricula that primarily focus on practical learning have earned a good reputation, and there is growing awareness that the level of contribution made in the agricultural field has been especially great. In the early days, many extension officers belonging to the Ministry of Agriculture were admitted to JKUAT, and when they graduated and resumed their duties in the ministry, they utilized the practical skills they had learned to focus on technical extension activities for farmers. As a result, they had great impact. In recent times, graduates have imparted various benefits in collaboration with various agencies under the auspices of the Ministry of Agriculture. For example, they have actively engaged in activities geared to widely disseminate the results of research and development concerning added value in the tissue culture of bananas. When team members also visited an agricultural irrigation system, it was found that JKUAT had offered assistance in seed quality inspections. These social contribution activities based on wide-ranging collaboration are widely respected. The fact that so many graduates have found employment in a diverse range of agencies has also contributed to promoting such collaboration.

Photo 3-14: Current Campus

Concerning the social impact of the university, it has developed into one of Kenya's prominent higher education institutions and it has become so well-known in Kenya that everybody recognizes it. In the survey here, university teachers, high school students, government officials and members of private sector companies, etc. gave the following responses, indicating a favorable impression when asked about their awareness of JKUAT. "It is a good school for engineering and technology in the agricultural and industrial fields," and "It is a high quality university founded on cooperation from Japan." Moreover, the university has had a ripple effect on other parts of Africa via third country training programs. In this way, as JKUAT has come to have a wide ranging impact in the fields of education, research and society, it has gained a solid reputation for its university functions; and it has a imparted major impact on society by boosting collaboration and cooperation with not only domestic

government organs, but also international agencies and private sector enterprises.

As an example of collaboration with a private sector enterprise, Nissin Foods installed a chicken ramen noodle maker in the practical learning room at JKUAT, and this is used to assist education and research and also to implement a project geared to realizing support for the independence of the food industry. In terms of contributing to local society, JKUAT has vigorously conducted technical dissemination training that targets communities and has actively engaged in locally suitable technical development and research geared to solving problems unique to certain communities. Through striving to return the fruits of research to local communities and making a contribution to local communities in practical terms via its social activities, JKUAT has enhanced its presence in the community.

In the field survey conducted here, President Muirui of the Kenya Chamber of Commerce and Industry had the following to say about the social impact of JKUAT.

"JKUAT was the first university that strived to collaborate with the private sector (industrial field and agricultural field), and it has a reputation for vigorously engaging in innovation on various fronts. In particular, its curriculums that lay emphasis on practical technologies based on external learning characterize and distinguish it from Nairobi University and others and have earned it attention from industrial circles too. Meanwhile, graduates of JKUAT are regarded as immediately effective human resources because they have grounding in practical technologies. As for the private sector, it hopes to acquire hints for future innovations that will help strengthen functions in each sector from this university that has become a reservoir of knowledge and information accumulated through research activities. In particular, concerning knowledge creation and technical development in the fields of science and technology, there are high hopes that international competitiveness can be boosted through promoting collaboration between industry and academia and much is expected from JKUAT in this respect. Specifically, in the IT and agriculture fields, it is considered that demand for horticulture, food processing and post-harvest treatment will increase from now on."

3.4.4 History of Japanese ODA for JKUAT

(1) History of Cooperation for JKUAT

The cooperation for JKUAT was a large-scale educational cooperation undertaking that continued for an extremely long time. Human resources, facilities and equipment were invested on a scale far greater than other education projects, and developments were monitored while making course corrections and deploying activities that had an impact not only in Kenya but also in surrounding countries. An outline of the cooperation is given at the start of this chapter; however, the history of Japan's ODA is once again reviewed based on the "story of human resources development" that unfolded out of the human links with JKUAT.

The following paragraphs give a chronological description of cooperation to JKUAT. The trend

toward an increase in the number of students since 2000, when Japan's cooperation ended indicates that the development of JKUAT is still ongoing.

(1) On receiving the official request for assistance from the Government of Kenya, the Government of Japan dispatched the preliminary study team for university establishment grant aid led by Prof. Uenosono of Kyoto University in November 1977. Then, in March 1978, it dispatched the grant-aid basic design study team to conduct a site survey and hold discussions with the Kenyan side concerning the basic items to establish an university. The contents of the first grant aid were unprecedented in scale: E/Ns were successively signed for 1.8 billion yen as the first portion in October 1978 for an administration building, classrooms, assembly hall, basic experimental apparatus and laboratory benches, for 2.0 billion yen as the second portion in July 1979 for the agricultural practical training building, farm, school of engineering experimental block, student dormitory and educational practical learning equipment, and 1.0 billion yen as the third portion in October 1980 for an agricultural experiment practical training building, painting practical training building, staff dormitory and farm development equipment. Work on constructing these facilities was completed in December 1981. Moreover, in September 1983, the E/N for a grant aid of 780 million yen for farm development, classroom building, workshop, warehouse, pumps, pipes and agricultural machinery, etc. was signed, the construction of the farm was finished, and the university basic infrastructure was established in February 1985. By this time, the total amount of grant aid provided for the first phase of development amounted to 5.58 billion yen.

(2) In September 1988, when JKCAT made the step-up to JKUCAT (university college) with bachelor programs, plans to expand the university were compiled and a request for grant aid was issued to the Government of Japan. In response, Japan dispatched the second grant aid preliminary study team in August 1988 and the basic design study team in January 1989, and these teams worked on forming the framework for the university expansion plans. As a result, E/Ns were successively signed for 999 million yen as the first portion in September 1989 for a common lecture building, common classrooms and laboratories, and for 461 million yen as the second portion in June 1990 for an agricultural practical training building, soil sterilization building and educational practical learning equipment, and 2.019 billion yen as the third portion in July 1991 for a laboratory building, practical learning building, library, cafeteria and experimental equipment. The total amount of grant aid provided in the second phase was 3.479 billion yen, bringing the combined amount for the first two phases to 9.059 billion yen.

(3) In order to ensure the effectiveness of the first and second large grants, it was essential to implement technical cooperation that was both massive in scale and sophisticated in terms of quality. In order to discuss the basic framework of the cooperation, the project technical cooperation preliminary study team led by Prof. Uenosono of Kyoto University was

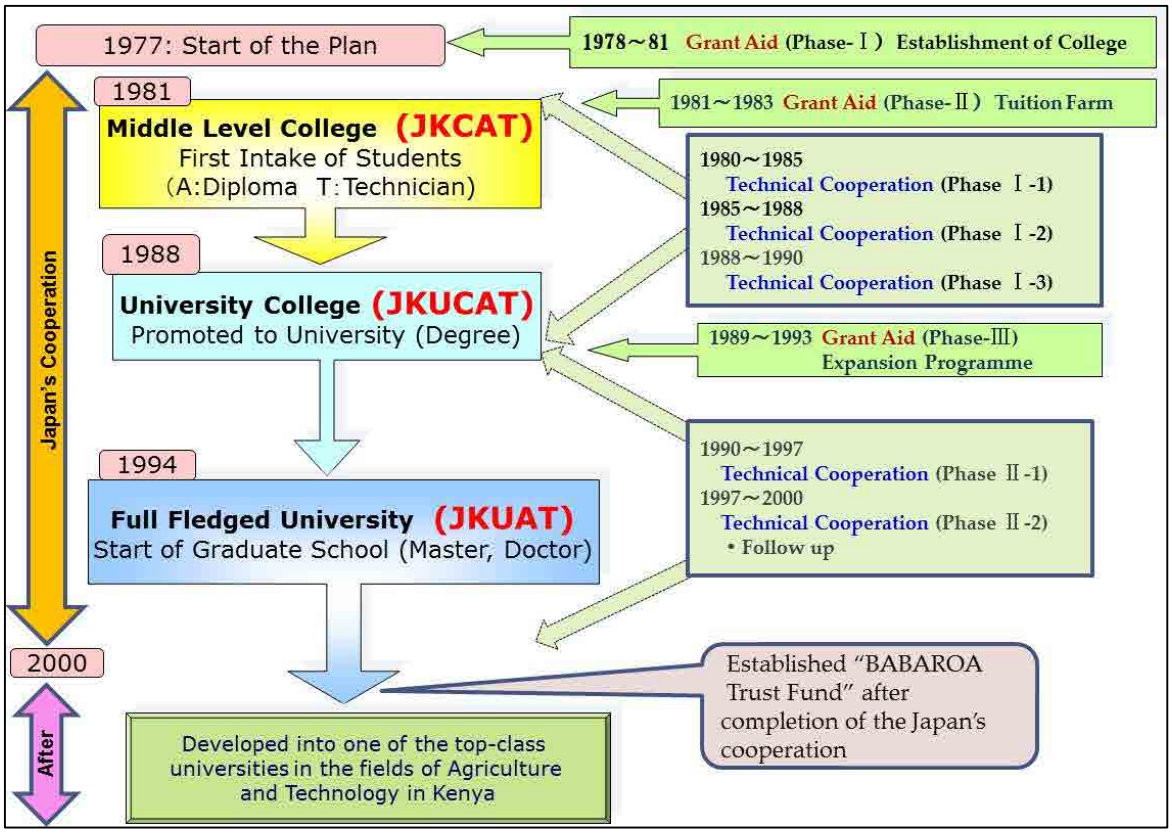
dispatched in August 1978, and the project's technical cooperation implementation discussion study team was dispatched in April 1980. As a result, the R/D (record of discussions) on five years of cooperation from April 1980 was signed and the cooperation was commenced. Following this, the first four long-term experts were appointed in October 1980, and the first five JOCV members were appointed in March 1981. Meanwhile, as the first Ministry of Education overseas students, two students were dispatched from Kenya to Japan for three years in order to acquire master's degrees.

(4) JKCAT opened and admitted its first students in May 1981, fairly soon after the start of Japan's cooperation. The university founding ceremony was held in the presence of President Moi in March 1982, while His Imperial Highness the Crown Prince of Japan and his wife visited the university in March 1983. After the evaluation study team that was dispatched in July 1984 concluded that the cooperation should be extended for three years, the project was extended, and it was then extended for an additional two years to 1990. In the first 10 years of the project from 1980 to 1990, a total of 309 long-term experts, 85 short-term experts and 53 JOCV members were dispatched, while 127 trainees and 22 Ministry of Education-sponsored students were accepted to Japan. The total cost (accumulation of unit rates) during this period was approximately 7.3 billion yen. During this period, starting with Prof. Nakagawa of Kyoto University and Prof. Iwasa of Okayama University, Japanese officials including members of the advisory committee were dispatched to Kenya every year in order to offer guidance and advice to the Japanese team and to check on the progress of the project, as well as to conduct close discussions with policy makers in the Kenyan government and university officials, and to make course adjustments where necessary.

(5) JKUAT was elevated to the status of university college as a branch of Kenyatta University in September 1988, and it became an official full-fledged university when the JKUAT Act was passed in November 1994. Concerning the project's technical cooperation, following discussions between the implementation discussion study team led by Prof. Nakagawa of Kyoto University and the Kenyan side in April 1990, the R/D (record of discussions) for five years of cooperation from April 1990 was signed to ensure that cooperation was continued, although this marked the start of a new project to expand the university. After that, extended cooperation and follow-up cooperation were conducted until April 2000, at which point 20 years of cooperation came to an end. Over the last 10 years of cooperation from 1990 to 2000, a total of 151 long-term experts and 141 short-term experts were dispatched, while 83 trainees and 49 Ministry of Education-sponsored students were accepted to Japan. In addition, almost 10 stakeholders were dispatched on study missions every year, and the total cost of the cooperation during this period was approximately 3.7 billion yen, making this an unprecedented undertaking in terms of the invested resources. The total cost over the 20 years of cooperation amounted to approximately 9.1 billion yen in grant aid and 11 billion yen in technical cooperation, making this the most expensive ODA project ever

implemented (not including yen loan projects).

(6) In addition, starting with the applied food analysis course that was commenced in February 1993, a total of eight training courses were conducted through a third-country training program, where a total of 496 participants from 12 neighboring countries over the 10 years up to 2003 were accepted. Furthermore, from 1995 to 1999, second-country training (within Kenya) concerning agricultural productivity improvement technology for women in rural villages was implemented. In this way, JKUAT conducted vigorous activities geared to disseminating the effects of cooperation both inside and outside of Kenya. The dispatch of such large numbers of experts and the acceptance of many trainees was made possible through the powerful support provided by Japanese universities, and special mention should also be given regarding the immense support and devoted effort of the members of the advisory committee. Moreover, this project was the first time that experts and JOCV members cooperated as one to conclude an agreement to cooperate on an equal footing. Accordingly, the unprecedented scale of this project and the adopted approach provide a hint of the trial and error and struggles that were experienced by all the people concerned.



Source: Prepared by the Reporter

Figure 3-5: Overview of Japan's Cooperation for JKUAT

(Reported by Mr. Takeshi Kaneko)

3.5 Features and Lesson Learned of Japan's Assistance in HRD to JKUAT

3.5.1 Assets Generated by Japanese HRD Cooperation

(1) Development of JKUAT as High Level University in Kenya

JKUAT developed from a college, University College, full-fledged university to a university with postgraduate courses. As a result, they have provided qualified research and education in collaboration with Japanese and Kenyan stakeholders for twenty years starting from the 1980's when cooperation started.

JKUAT developed in affiliation with a few colleges as a constitute university and expanded to several campuses. The foundation of the human resources and management system was established to conduct sustainable and independent operation in terms of education, research, and social and financial aspects. JKUAT is reputable as Kenyan high-level university in the field of agriculture and technology by the fact that it has a certain presence especially in agriculture and ICT, although many other universities were established in Kenya.

Furthermore, JKUAT is reputable as shown by the fact that JKUAT was selected as a host university for the Eastern Africa Pan African University.

(2) Practical Curricular Development that has Link with Industries

When Japan started its cooperation for JKUAT, the British style curriculum prevailed in the higher educational institutions in Kenya. They introduced a curriculum called the "sandwich style." It was named after an approach where internship at private enterprises was inserted between regular classes. However, this system was a substantial loss at the time because few private companies cooperated in the internship. The curriculum was revised based on a proposal at the top levels of the Ministry of Education soon after the launch of the cooperation. A new curriculum was developed based on the situation of private companies. Facilities and equipment were introduced in the campus in order to implement the new curriculum. Linkage between industries was enhanced and employment was assured based on graduates' performance through this approach. Graduates with a more practical mindset capable of managing future changes in industrial structural were anticipated based on the development of a practical curriculum that reflected industrial and real needs.

(3) Training for Teaching Staff and Researcher as Core Member of the University

Lecturers and trainers of practical lessons were moved to JKUAT as technical cooperation was smoothly implemented based on an attitude of thinking and acting together. Many of the postgraduate course holders were fostered through study in Japan. They learned the Japanese style of teaching, where teaching staff directly instruct students by conducting experiments as well as research together. This style was different from the conventional Kenyan teaching method that provided only lectures. They learned an instruction approach as well as discipline

through invaluable opportunities to see that students understood better. Hence, the project goal of fostering teaching staff and researchers who would be conducting qualified education and research was achieved.

(4) Enhancement of Intellectual and Research Network between Japan and Africa

During the cooperation period, many experts were dispatched and many trainees from Kenya were received. This was the first step of international exchange between universities where members of the Advisory Committee belong. An intellectual network was established and many of the Japanese teaching staff became interested in developing countries through this exchange. In short, the basis of the academic exchange and research cooperation was established. JKUAT's presence increased through technical development to adapt regional specific problems, international academic societies, international seminars, publishing research output as well as research entrusted by the Kenyan government and companies, development of research structure for social contribution.

(5) Alumni Network in the Kenyan Industries

The number of JKUAT graduates exceeded more than 27,000 with diplomas and 63,000 bachelor degrees from 1992 to 2011. From interviews with private enterprises employing JKUAT graduates and the Chamber of Commerce, it was revealed that graduates and JKUAT activities contributed to Kenyan society. Performance of the graduates proved to be high because many of the graduates received international awards for their development output and project achievements in various fields. JKUAT is also active in research activities. JKUAT extended their research results though the Civil Engineering Society, the Electrical, Electronics Engineers of Kenya and Agricultural Journal.

(6) Valuable By-Product through Long Term Cooperation

As it is said that "Rome was not built in a day", long term and continuous effort was required to accomplish a large goal. Japanese stakeholders devoted their heart and soul to JKUAT for a long time in order to ensure sustainability. JKUAT is admired for its management and staff members for their ownership, practical education and cooperative approach, which are also the characteristics of Japanese cooperation. Trust and respect of Japan fostered through long-term cooperation is one of the invaluable by-products of cooperation.

3.5.2 Promoting and Hindering Factors for HRD Cooperation

(1) Strong Leadership of both Countries

Although the project faced many difficulties, one of the biggest reasons why this huge project was successful was that President Jomo Kenyatta, who was respected as father of the nation by its citizens, envisaged a clear vision of the project to foster mid-level technicians, and was directly involved in the project. His successor, President Moi, who was a teacher in his younger

days believed that "People are treasure, education is important". Therefore, he also committed to the project with a deep understanding about human resources development and showed leadership as the Chancellor of JKUAT. Prof. Nakagawa, the chairman of the Advisory Committee, and Prof. Iwasa, the vice chairman were also actively committed to the project and advised the responsible persons on the Kenyan side as well as the team of experts. They played key roles to establish intellectual collaboration between Japanese universities and JKUAT. These contributions to the cooperation activities were one of the promoting factors of the project.

(2) Enthusiasm and Devoted Activities for Upgrading to the Status of University

The objective of the project was clearly and properly set as “fostering mid-level technicians focused on agriculture and industry.” The initial target of the school was human resources development at the diploma level (faculty of agriculture) and fostering technicians (faculty of engineering). Many stakeholders contributed much effort, with careful attention to Kenyan counterparts and students, to achieve the dream that JKUAT will become a top class university in Kenya. The JKUAT upgrade was one of the results that was brought about the painstaking endeavor of those persons. Kenyan education staff members were trained to develop logical and creative thinking through the study and training provided. They built trust with Japanese experts who have great knowledge about Africa. One of the promoting factors was that both the Japanese and Kenyan sides cooperated together based on a strong relationship.

(3) Trial and Error in Project Management

The Project encountered unforeseen difficulties because organization and structure were newly established. In the first year, there was no Kenyan staff member except Mr. Githaiga, the principal. The team managed to conduct the project by holding lectures by Japanese experts and JOCVs. Furthermore, the soil condition of the farm and water supply affected training, practice, experiments, and life in the dormitory. Water problems were drastically improved by the urgent response to provide a reservoir and purification facility development during the cooperation period.

Although it was the first large-scale, higher education project in Africa where the historical and cultural background was different from Asia, JICA did not have a long-term perspective nor the know-how and experience to cope with difficulties. Accordingly, the team was forced to repeat through trial and error.

It requires a clear idea that "education is a far-sighted policy of a country" in order to implement a higher education project; however, each cooperation was formed as a five-year project, which was the same as conventional JICA projects. Accordingly, a decision to continue cooperation at the end of the each project was required. This disrupted the smooth and efficient implementation of the cooperation. Decisions were made on a case-by-case basis due to the lack of a long-term perspective about the cooperation, although this type of project structure might cope with

changes in recipient countries.

In the field, it was a burden to prepare documents to extend a project. In addition, stakeholders in JICA and the government often changed. Sometimes projects encountered trouble because a newly engaged person would express opinions that differed from the ongoing view. A cooperation structure for smooth implementation of the project should be established once JICA implements long-term projects like JKUAT.

To implement higher education projects, support from Japanese universities is essential. Japanese universities did not have a system to dispatch their teaching staff for long periods at that time. That was why project often encountered difficulties. JICA staff members were dispatched as coordinators of the project. They provided effective coordination between the Project and JICA. In order to receive advice and support outside of JICA, proper and timely decision making at JICA Headquarters played a key role in project implementation.

3.5.3 Characteristic of Japanese Human Resources Development

Practicality was a key word that the Japanese side emphasized from the beginning of the project. Therefore, they focused on establishing a system by introducing practical education and curriculum and to provide feedback to societies by utilizing the output. One of the characteristics of Japanese cooperation was to focus on not only theory but also practice.

Japanese experts prepared teaching materials and training methods to better the understanding of students and teaching staff during the process of the cooperation. They also put them into practice and strove to develop a good working environment for the teaching staff. As a result, trust between Kenyan staff members was established through careful and enthusiastic technical transfer. This trust made counterparts notice the effort made by Japanese experts and led to respect for their attitude towards the subject matter and work. Later, awareness of self-help was cultivated by the counterparts. Experts fostered counterparts' knowledge and technical skills by working together in the fields of research and education. This approach is also Japanese-style human resources development. However, this approach cannot be structured because it relies on the expert's individual ability and effort. As a result, it was difficult to publish the output and know-how of human resources development cooperation.

Japan's HRD support ranged widely from establishment to management by introducing most of the facilities and equipment and dispatching many experts. This led to the people's perception that it was possible to learn Japanese advanced technology and knowledge at the JKUAT. Therefore, it was possible to recruit excellent students from the beginning, although JKUAT was new. Huge input was made (facilities and equipment) before the curriculum was developed and without a long-term plan for JKUAT assistance. This process of cooperation was also said to be Japanese style.

Recently, the concept of "capacity development" based on a wider context has become the

mainstream in human resources development. The reasoning was that social and institutional capacity should be enhanced in order to sustain the output of the cooperation, as the conventional and narrow context of human resources development did not achieve goals. Specifically, capacity development is an approach that includes human resources development, institutional capacity improvement and system innovation. The cooperation to JKUAT was characteristic of a pilot project that contained this comprehensive approach. The importance of human resources development was also recognized as the basis of the nation building through the long-term technical cooperation. It is notable that the project became sustainable as well. Furthermore, this cooperation was representative and revealed that the Japanese approach was effective. Japanese cooperation emphasized practicability, and that was the key in JKUAT cooperation. Therefore it is recommended that this become the basic approach in cooperation for human resources development.

The number of the students grew rapidly for several years, which reflected Kenya's education plan that included an expansion to higher education. As a result, quality control in research and education is an issue because the number of students is beyond its capacity, although the financial status of JKUAT improved. Furthermore, many staff members who trained under JICA cooperation were transferred to the management level of other universities. Although they have contributed to human resources development in Kenyan society, JKUAT faces a shortage of skilled staff members. There is also a shortage of teaching staff members and those who studied in Japan are nearing the age of retirement. Therefore, the next generation of human resources needs to be developed.

It is also the right time to consider cooperation to JKUAT where the Japanese presence is downsized. How Japan identifies JKUAT can be utilized in African development strategy since Africa would be identified in international society. Moreover, many of the facilities and equipment were already obsolete and need to be replaced as soon as possible to allow practice and experiments in practical education to continue. Continuous contribution to industrial needs through research and education is also important. JKUAT should take into account participation in LIWA (Linkage between Industry with Academia) and research collaboration with Japanese universities by utilizing the personal network fostered up to now.

3.5.4 Expectation and Issues

The JKUAT project is one of the successful Japanese collaborations in the higher education sub-sector. It is said "education is the far-sighted policy of a country", and it was not possible to complete the project in five or ten years. JKUAT was upgraded to a full-fledged university from a college due to constructive and continuous support.

As mentioned earlier, the number of the graduates increased from 147 students in 1981, 666 in 1985, 824 in 1990, 100 in 1995, 1,933 in 2000 and 26,380 in 2012. Currently, the financial status has become stable as the number of students increased. However, maintaining the high

quality of education and research is an issue. The number of staff members has not increased as much as the number of the students. As the top management who were trained in Japan starts to reach the age of retirement, training including study in foreign countries for the younger generation is an urgent issue. In addition, equipment and facilities have also greatly depreciated, and countermeasures are required.

JKUAT developed into one of the top-level universities in Kenya due to the long-term effort of both the Japanese and the Kenyan. Recently, cooperation with JKUAT was sought by other countries like China and Germany. Personal network and the intellectual know-how fostered by the selfless effort of the predecessors are a precious asset that will be applied to future Japanese cooperation. It is essential to establish a collaborative research platform that will serve as a bridge between Japan and Africa. Japanese and African researchers will be able to collaborate in highly qualified research activities and conduct academic exchange through a conference of international societies by utilizing this platform

JKUAT is expected to be the basis of human resources development for not only Kenya but also in other African countries and to play a contributing role to develop human resources who can perform in dynamic global industries. Hence, it is essential to enhance qualified research and the educational capacity of JKUAT by introducing "African style innovation" and utilizing African wisdom and African characteristics. What is also needed is to strategically and effectively develop a project, taking into consideration that JKUAT is one of the host universities of the Pan African University and that Industrial and Technology Park is will be developed on the JKUAT premises in collaboration with the Ministry of Industrialization.

CHAPTER 4: HUMAN RESOURCES DEVELOPMENT AT SCHOOL OF VETERINARY MEDICINE, UNIVERSITY OF ZAMBIA

4.1 Background of HRD Cooperation

4.1.1 Political Situation and Socio-Economic Development in Zambia

Zambia is an inland country situated in southern Africa and some 13.47 million people inhabit a land area twice as large as that of Japan. Since its independence in 1964, the domestic political situation has been comparatively stable. The United National Independence Party (UNIP) won the pre-independence general election in 1964 and its leader, Kenneth Kaunda, was elected as the prime minister and he kept this position until 1991. The first presidential election based on the multi-party system in 1991 was overwhelmingly won by the Movement for Multiparty Democracy (MMD) led by Frederick Chiluba. Mr. Levy Mwanawasa, the former vice-president, won the presidential election in 2001. Although he was re-elected in 2006, he suddenly passed away in 2008. Vice-President Rupiah Banda took over as acting president, upholding the economic growth policy of President Mwanawasa. In the presidential election held in September 2011, Michael Sata of the Patriotic Front (PF) replaced the MMD administration that had held the presidential position since the introduction of the multi-party system.

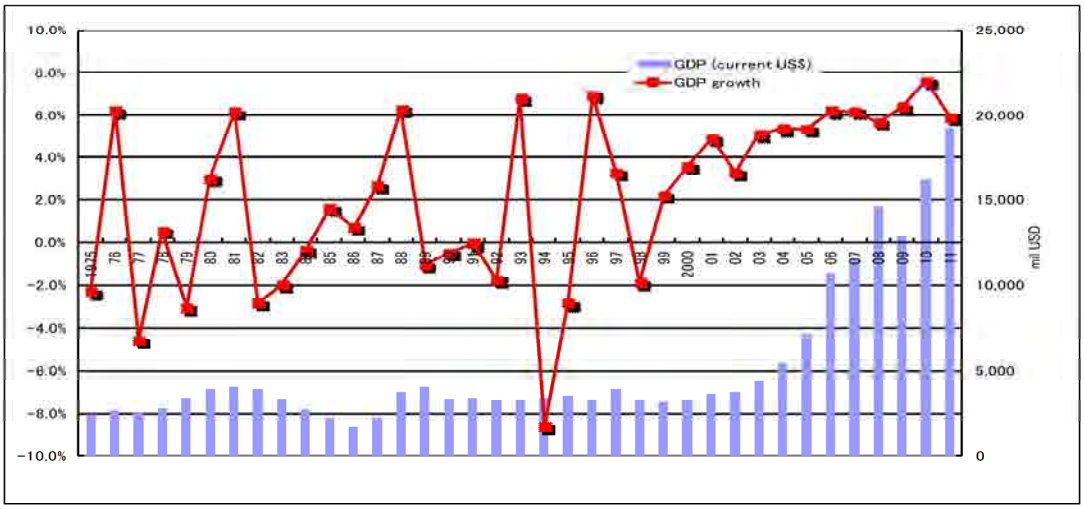
Zambia is a leading member of both the Southern Africa Development Community (SADC) and the Common Market for Eastern and Southern Africa (COMESA) and its diplomatic stance is to pursue and maintain the stability and coexistence of eastern and southern Africa.

Figure 4-1 shows the GDP and economic growth rate of Zambia while Figure 4-2 shows the historical trend of the GDP share by industry in Zambia. Zambia is one of the world's leading copper producing countries and has relied on the monoculture of copper production since independence. In 1982 for example, copper accounted for more than 70% of the total export value of Zambia. This means that Zambia's economy was strongly affected by the domestic production volume and international market price of copper. Up to the early 2000's, the country's annual GDP growth rate was volatile but generally low because of the sluggish copper price. The price hike of copper in subsequent years has stimulated inward investment and the annual GDP growth rate has been fairly high (the GDP growth rate in 2011 was 5.9%).

Meanwhile, the GDP per capita dropped from US$ 672 in 1980 to US$ 418 in 1990 and further to US$ 317 in 2000, recording a decline of more than 50% in these 20 years as a result of the sluggish economic performance. However, the figure increased to as high as US$ 1,425 in 2011. This quadruple increase of the GDP per capita illustrates the better economic performance of Zambia since 2000.

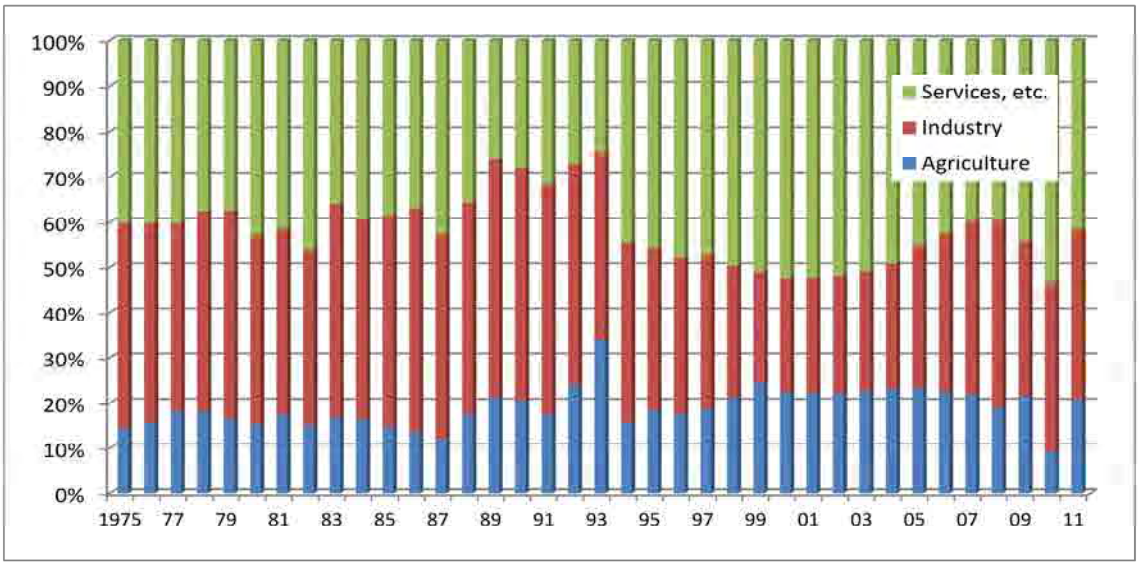
Agriculture accounts for some 20% of the GDP and has been showing a long term declining

trend. Nevertheless, it is still very important for Zambia as 75% of the working population is in the agricultural sector. To slough off monoculture, the Government of Zambia considers the structural reform of industries a priority policy. The government also emphasizes the promotion of agriculture and stock farming that account for one-third of the gross production value of the agricultural sector. Small-scale farmers in rural areas comprise more than 60% of the population of Zambia and constitute a group where the poverty ratio is said to be the highest. As most of these small-scale farmers are engaged in the combined farming practice of agriculture and stock farming, the promotion of stock farming is considered to be critical in terms of poverty reduction.



Source: World Databank

Figure 4-1: GDP and Economic Growth Rate of Zambia



Source: World Databank

Figure 4-2: GDP Share by industry in Zambia

4.1.2 History and Current Situation of HRD in Zambia

(1) National Development Plan and Economical Policy (Agriculture, Livestock)

The Third National Development Plan of Zambia, which was being implemented when the project was proposed to the Government of Japan, placed priority on rural development for substance farming and promoted exports in order to grow out of its excessive reliance on the mining sector and copper industry. Livestock was considered economically as a potential industry because of its water resources and highland location. The Fifth National Development Plan prioritized the education sector. Their approach was to improve the quality of education and to enhance skills development. Prioritized strategies were assuring teaching staff members, providing teaching materials and constructing teacher's houses and school buildings in order to cope with the rapidly increasing demand for primary education.

The objectives of the current Sixth National Development Plan (2011-2015) are sustainable economic development and poverty reduction. Their prioritized policies are infrastructural development, diversification of economic growth and economy, investment in rural areas, poverty reduction, and human resources development. The goal of the education sector is "to provide revolutional and productive life-span education to all citizens." The important issues are increased access to post-secondary and higher education and quality improvement of education.

The livestock sector has been just as important as the crop sector among the agricultural sectors in the National Development Plan. The Fifth National Development Plan targeted a decrease in livestock diseases, which was achieved. In addition, livestock production in traditional farming increased through improved productivity. The Sixth National Development Plan was formulated in 2011. The Plan indicates that agriculture remains the priority sector in achieving sustainable economic growth and reducing poverty in Zambia. This is because the country has immense natural resources such as land, water and fertile soils to support agricultural activities. In addition, over 80 percent of the rural population depends on agriculture-related activities for their livelihood. The Sixth Development Plan extended their target to promote livestock by establishing a disease-free zone, enhancing livestock disease control, facility development of the sector, and establishing categories and standards for livestock.

(2) Education Policy

"Educating our Future," prepared in 1996, emphasized the importance of education in promoting democracy under the multiparty system, which was the new national system. The policy clearly mentioned goals for the education administration, education development policy and national education system. In addition, the approach in education development was also set. Those were free education, decentralization of education and promotion of partnerships. The Ministry of Education and the Ministry of Science, Technology and Vocational Training merged as the Ministry of Education Science and Vocational Training in 2011.

The goal of university education was to provide university education for all qualified citizens based on the University Act 1999. Hence, the government increased the opportunity to receive higher education by registering private universities and expanding public universities. The enrollment in university education has been rapidly increasing in the urban areas. Development of infrastructure, career guidance, and mechanism of admissions examination were required to increase enrollment in university education. Furthermore, one of the important issues was to ensure the quality of education by securing teaching staff and facilities.

(3) Needs for HRD in Veterinary Medicine and Livestock

However, the bottleneck to promoting the livestock industry was the weak veterinary services. There were only around 80 veterinarians throughout the country, despite the fact that 300 are required to cover the vast national land area. There was a need to foster Zambian veterinarians since only about 10% of out of the 80 veterinarians were Zambians. There was no higher educational institution for veterinarian education in Zambia. The Zambia Institute of Animal Health (ZIAH) was established for fostering veterinary assistants in the 1940's during the British colonial era. The British policy to provide veterinarians from the other colonies and assistants to carry out the supplementary jobs, injections and surveillance was fostered in Zambia. However, this structure was not workable after the independence of Zambia since no veterinarians were dispatched from the other countries.

(4) Cooperation Trend by International Development Partners

Under these circumstances, it was urgent to train excellent veterinary doctors who would establish a system in the field of disease prevention and productivity improvement of livestock. A critical bottleneck was the absence of veterinarians and sanitation experts, although some international development partners supported livestock promotion. Shortage of veterinarians was commonplace in the southern region of Africa

The Food and Agriculture Organization (FAO) prepared a development plan for a veterinary educational organization for the ssouthern African region. They proposed to establish a regional veterinary school in Zambia. In response to this idea, SADC made a decision to establish a veterinary school in Zimbabwe and the Zambian government agreed. However, it proved that only three students from Zambia were able to be admitted to this school and their curriculum did not match the Zambian educational system. Because of this situation, the Zambian government recognized the urgency to train Zambian veterinarians and planned to establish a veterinary school at the University of Zambia (UNZA), a national institution. Then they requested the Japanese government to support its establishment.

DFID and the British Council had cooperatively supported this project. Currently, DFID does not support the education sector in Zambia, while the British council has continued its support though minimized. In 2010, they supported two students for matriculation to the School for Veterinary Medicine of UNZA (SVM-UNZA) for postgraduate studies in England From 2011 to

2012, they supported Dr. M. Syakalima's research activities in England.

UNZA has received support from many countries. Most of them are research collaboration and small scale. China is going to provide assistance to establish a Confucian school.

AfDB and the World Bank supported the livestock sector in Zambia. The World Bank launched the project, "Livestock Development and Animal Health Project" in 2012. Their focus is to improve the capacity and productivity of traditional farmers by introducing a market approach. They are satisfied with the quality of veterinarians and their service in the district. They plan to improve veterinary assistant education and its educational system by utilizing the current resources of SVM-UNZA and district veterinarians.

4.2 Outline of Japanese Cooperation for SVM-UNZA

4.2.1 Objectives and Goal

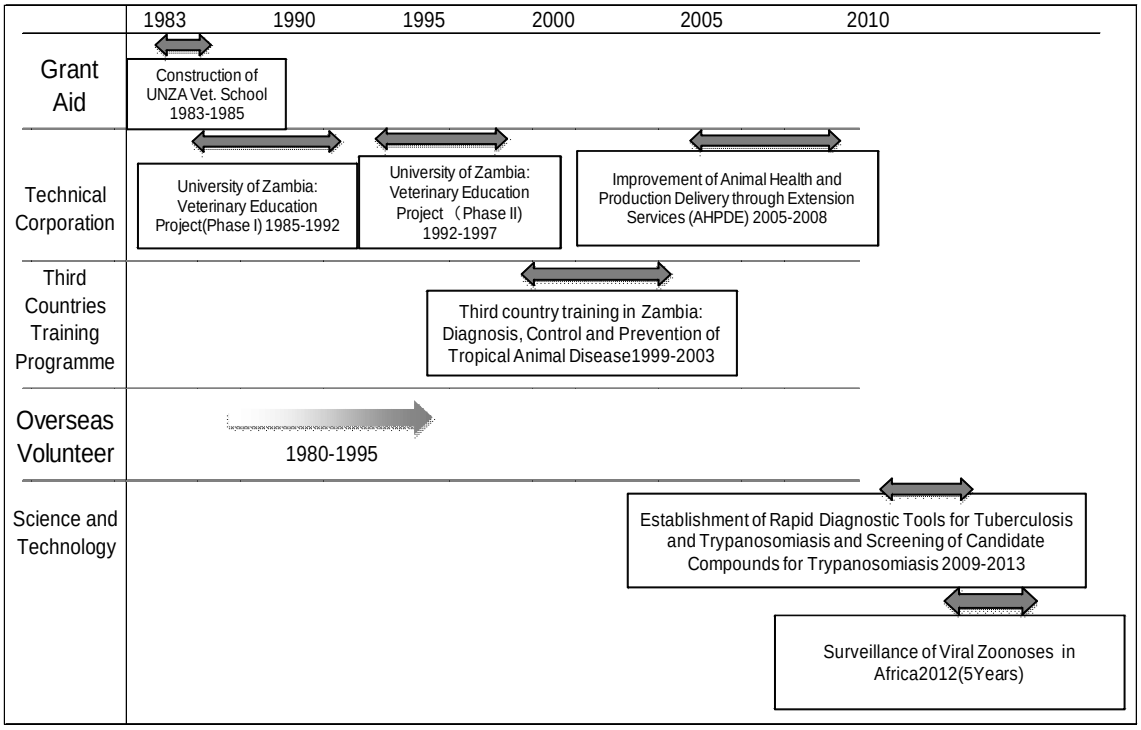
According to the aforementioned situation, development of capable veterinarians was urgently needed in order to prevent diseases of livestock and improve the productivity of animals. The shortage of the veterinary doctors and sanitation technicians was a bottleneck in promoting the industry, although some foreign agencies have already provided support. Under these circumstances, the Zambian government requested the Japanese government to provide support to establish a veterinary school in UNZA.

4.2.2 Overall Picture on Japanese Cooperation

The grant aid project, "Construction of UNZA Veterinary School", starting from 1983, provided major facilities and equipment. Technical cooperation projects started after the implementation of the grant aid project (Figure 4-3). These projects continued 12 years up to 1997, supplemented by dispatching volunteers and Third Country Training Program. In 2005, two years after the completion of the Third Country Training Program, a new technical cooperation project was launched. This project was named "Improvement of Animal Health and Production Delivery through Extension Services" that focused on extension to improve animal health and technology of production to the farmers.

In addition to UNZA, the Ministry of Agriculture and Cooperatives (MACO)[14] was pointed out as a counterpart organization. A new research project was adopted as a Science and Technology Research Partnership for Sustainable Development (SATREPS) Program in 2009 named, "Establishment of Rapid Diagnostic Tools for Tuberculosis and Trypanosomiasis and Screening of Candidate Compounds for Trypanosomiasis." Another new SATREPS Program, "Surveillance of Viral Zoonosis in Africa," was also adopted in 2012.

[14] Currently, it is Ministry of Agriculture and Livestock (MAL)



Source：JICA and SATREPS webpage

Figure 4-3: Japanese support to UNZA

The cooperation was implemented through the steps and activities listed below.

(1) Concentrating on the formation of the veterinary school operation (undergraduate to postgraduate). The target was upgraded from an establishment of operation to operation by Zambians (1985 - 1997)
(2) Expansion to nearby countries by implementing Third Country Training Courses (1998 - 2003)
(3) Extension to farmers and retraining for graduates in collaboration with the Ministry of Agriculture and Cooperatives (2005-2008)
(4) Science and research collaboration in zoonosis under the SATREPS Programs (proposed by Hokkaido University and under implementation)

4.2.3 Activities

(1) Construction of the UNZA Veterinary School (Grant Aid Project) and UNZA Veterinary Education Project (Technical Cooperation Phase I)

The first grant aid project provided both facility and equipment needed to start veterinary education. There were almost no Zambian veterinarians in Zambia at the beginning of the first project. Hence, no counterpart was deployed in the project. The project was forced to foster counterparts from student education. The management of the school was entrusted to hired foreigners. Following the grant aid, technical cooperation started by providing lecture services

to students rather than conducting technical transfers to the counterparts. The service was provided in collaboration with JOCV. The curriculum, syllabus, lecture notes were developed as teaching materials during this period. Lecture notes were the supplementary products especially for lecturers who were not good at providing lectures in English. These materials alleviated the language problem. Some of the materials were continuously used and highly appreciated by the graduates.

Photo 4-1: Campus of SVM-UNZA

(2) Technical Cooperation for SVM-UNZA Phase II (Postgraduate Course)

The target of the activities shifted from providing lecture services in Phase I into supporting research activities and postgraduate education in Phase II. This shift in focus was to foster teaching staff in order to enhance sustainability. During this project period, a Zambian became the dean of the school for the first time who was responsible for management. The Staff Development Fellow (SDF) system was introduced in order to train the teaching staff. As a result, a certain level of sustainability was established at the end of the project.

(3) Third Country Training

This program was conducted from 1999 to 2003. Training courses in the program were tick borne diseases, zoonosis, national border management, poultry, and management of wildlife. Trainees were from 14 south African countries. This was the starting point of extension educational services to neighboring countries.

(4) Improvement of Animal Health and Production Delivery through Extension Services (AHPDE)

This project was aimed at retraining veterinary graduates from UNZA as well as veterinary assistants working with them. The counterparts were the Ministry of Agriculture and Cooperative and SVM-UNZA. The training content was disease control, disease diagnosis, animal husbandry and veterinary public health.

(5) Research Assistance by SATREPS

The research assistance project started in 2009 with technical assistance from Hokkaido University that was financially supported by JICA and JST. The project name was "Establishment of Rapid Diagnostic Tools for Tuberculosis and Trypanosomiasis and Screening of Candidate Compounds for Trypanosomiasis." Another project was adopted in 2012. The name of the project was “Surveillance of viral zoonosis in Africa".

(6) Others

All input through JICA summarized the abovementioned projects. However, many organizations have activities related to these activities. The types of cooperation vary such as receiving students through the MEXT scholarship (The Ministry of Education, Culture, Sports, Science, and Technology) fund, receiving students from the private universities, grant-aid research cooperation for scientific research, training by the Veterinary Medical Associations, and others. The achieved outcome was based on a synergistic effect of the cooperation.

Japan provided technical cooperation mainly in the field of biomedical science studies and disease control, in addition to construction of a school building and provision of equipment. England and Belgium supported paraclinical studies and clinical studies. The first dean was dispatched from Ireland. The curriculum and syllabus were developed to remain compatible with Commonwealth and neighboring countries for academic and license exchange. Furthermore, human resources that could not be provided from Japan were invited through the British Network. For example, some lecturers were from other African countries.

During the phase II of the technical cooperation, there was a need to support graduates of the bachelor course to acquire postgraduate degrees in order to foster the Zambian teaching staff. However, there was no university that received postgraduate students from foreign countries in Japan. After many twists and turns, a postgraduate course was opened in the SVM-UNZA, and the Norwegian government provided the scholarship.

4.2.4 Project Position in Sector Development Policy

The project was prioritized in the development policy for the agricultural sector. Development of veterinary doctors was directly related to improved veterinary services to farmers.

As a certain number of the veterinarians provide service in the rural district, the current main objective of the sector is to protect the expansion and outbreak of infectious diseases like the East Coast Fever and Foot and Mouth disease. Several measures are planned to achieve this objective in the livestock sector and veterinarians are expected to play an important role. Therefore, the system will be improved to allow them to carry out their job efficiently.

The World Bank started a project in the livestock sector in 2012. According to their analysis, the quality of the veterinarians was not the bottleneck in livestock promotion, but productivity improvement and nutritional guidance to farmers were the issues. Problems in the livestock sector are believed to have shifted from access to veterinary services caused by the shortage of veterinarians to quality or efficiency of veterinary services.

4.3 Socio-Economic Analysis

4.3.1 Output

(1) Graduates/Students

The total number of the graduates was 88 in 1997 when the second technical cooperation project was completed. The number of the annual graduates ranged from 10 to 30 persons. The number of cumulative graduates exceeded 300 persons in 2010. 140 students were registered in SVM-UNZA in the undergraduate course from the second to sixth grades as of June 2011. Among them, 23 persons were foreign students who came from Malawi and Namibia.

Photo 4-2: Studying in a Practical Course

(2) Number of Teaching Staff

Table 4-1 summarizes the number of staff members by department.

Table 4-1: Number of Staff Members in SVM-UNZA

Department	Teaching Staffs	Technicians
Para Clinical Studies	9	11
Biomedical Sciences	7	6
Disease Control	9	7
Clinical Studies	10	9
Total	35	33

Source: SVM-UNZA, Web page of UNZA

All of the teaching staff were Zambians excluding one professor, in contrast to only two Zambian teaching staff members at the beginning of the project. The project goal aimed at conducting veterinary education by Zambian staff members was achieved.

The number of staff members is nearly half the number of assigned posts in the disease control department. The reason for the vacancies is due to a budget shortage. This situation has been continuous since the second phase of the project was completed. UNZA hired part-time lecturers for some of the subjects in order to cope with the shortage of teaching staff and to save operation costs. However, research activities in such subjects might be minimized.

(3) Research (Number of Publications)

The number of the research projects and publications are summarized in Table 4-2. The number of publications is the largest in UNZA among its schools according to an interview with the Vice Chancellor of UNZA. Domestic organizations assisting research at UNZA are the Ministry of Agriculture and Livestock, the Ministry of Health and the Ministry of Science Technology and Vocational Training, while the World Organization for Animal Health (OIE), FAO, DANIDA, and British council support them internationally. The Japanese organizations assisting research activities are JICA, JST, Hokkaido Univ., Okayama Univ., and Obihiro Univ. of Agriculture and Veterinary Medicine.

Table 4-2: Number of Research Projects and Publications by Department

Department	No. of Projects	No. of Publications	Period
Para Clinical Studies	35	49	2010-2012
Biomedical Sciences	4	14	2007-2012
Disease Control	12	10	2007-2012
Clinical Studies	n.a.	n.a.	--

Source: SVM-UNZA

4.3.2 Impacts

The impact of capacity development cooperation targeting SVM-UNZA was examined from the aspects of capacity development, ownership and customization at three levels: individual, institutional, and social levels based on the UNDP's conceptual framework on the capacity development.

Table 4-3: Target of Human Resource Development Cooperation for SVM-UNZA

	Individuals	Organization	Society
Capacity Development	SVM-UNZA Teaching Staff Graduate/Current Student	SVM-UNZA	Ministry of Agriculture and Livestock Veterinary Office, Private veterinarians
Ownership (Self help report)	SVM-UNZA Teaching Staff Graduate	SVM-UNZA UNZA	Ministry of Agriculture and Livestock
Customization (Application, Adaptation, extension)	SVM-UNZA Teaching Staff Graduate	SVM-UNZA UNZA	Ministry of Agriculture and Livestock Veterinary office, Private veterinarians Related sectors

Source：Study Team

(1) Capacity Development

At the beginning of the project, there were no counterparts were able to conduct veterinary

education. The objective, veterinary education conducted by Zambians, was achieved as attested to by the fact that many of the teaching staff represented by the current dean became graduates of SVM-UNZA.

The animal hospital, attached to the clinical department of SVM, is utilized for research and education on clinical studies and it generates income through medical examinations and treatment.

UNZA was the only organization that had a laboratory with a biosafety level 3 as well as a technical capacity to analyze the same level of virus. Once any zoonosis occurs, UNZA collaborates with the Ministry of Health to analyze the source of the infection. SVM-UNZA also assists the preparation of environmental standards and wildlife protection with the Ministry of Environment by utilizing their enhanced research function.

The veterinary graduates from SVM-UNZA utilized what they learned in the university. If they find an unknown subject, they utilize the handbook that was given to them at graduation. Furthermore, they are also linked and have the support of SVM-UNZA as their technical support center. SVM-UNZA is functional as the only educational organization to train veterinarians. Its graduates are working at the ZIAH (Zambia Institution for Animal Health) and research institute under the Ministry of Agriculture and Livestock. ZIAH has a common curricular system with SVM-UNZA and graduates of ZIAH can transfer to SVM-UNZA. As shown above, SVM-UNZA plays an important role in veterinary service enhancement.

Photo 4-3: Handbook and a Graduate of SVM-UNZA

The Ministry of Agriculture and Livestock is the organization that receives the largest number of graduates from SVM-UNZA[15]. The graduates are supposed to raise the quality of the Ministry's activities.

Among the 80 veterinarians working at district veterinary offices, 65 to 70 veterinarians are from UNZA. Graduates are also working in the veterinary research section, epidemic surveillance and information section under the livestock and veterinary research department.

The number of private veterinarians in the urban area may have increased after the cooperation

[15] 65 staff members in the District office, 15 staff members in the Provincial office and 20 staff members in research Institutions were working under the Ministry of Agriculture and Livestock. Two directors and one vice minister were also graduates. In total, more than 100 staff members were recruited by the ministry including retired staff members.

and played an important role in the prevention and treatment of rabies. It may have contributed to preventing rabies-related injuries to human beings. Information of private veterinarians was not available in this study. More than ten private veterinarians who graduated from SVM-UNZA are working in Lusaka. They maintain a close relationship with SVM-UNZA by receiving students in the attachment program and requesting UNZA to analyze samples. One of the impacts is that rabies may decrease through their vaccinations. Before the SVM-UNZA operation, there were few veterinarians who promoted and conducted preventive activities.

(2) Ownership

Project was requested and realized with the enthusiasm of President Kaunda. However, ownership of the Zambian government has been high even after the political turnover.

The operational cost of SVM was too high for the government to bear the entire cost. Despite this, the government has been increasing the budget for operation and personnel cost. For example, the government covered the personnel cost of Zambian staff members who replaced foreign lecturers. Furthermore, the Ministry of Agriculture has continued to employ many of graduates up to now.

SVM-UNZA has been mainly operated by the staff members with Ph.Ds fostered in the project and study in Japan. Their ownership is quite high. If the budget to cover operational costs was in shortage, they tried to cover the shortage through income generated by the animal hospital and rental facilities.

The ownership of some of the graduates appear to be high. SVM-UNZA graduates are received as interns and close information exchange related to diseases is maintained with SVM-UNZA.

The School of Veterinary Medicine of Hokkaido University that was a main player as a managing institution of the cooperation has conducted research collaboration and academic exchange with SVM-UNZA based on academic exchanges on treatment. They have focused on building a reliable partnership, and they opened a branch office in SVM-UNZA

(3) Customization (Application, Adaptation, Extension)

1) Service Diversification of SVM-UNZA

UNZA was established to provide veterinary education to Zambians, while Zimbabwe University was established as a base of veterinary education in southern African countries. Therefore, the original role of SVM-UNZA was to provide veterinary education only in Zambia. However, currently UNZA receives students from southern African countries due to political unrest in Zimbabwe. Malawian and Namibian students have been studying at SVM-UNZA. The competitiveness of the university in southern African countries can be attested to by the fact that there is an academic exchange agreement with Namibia University to receive a maximum of 20 students annually.

Utilizing the assets of SVM-UNZA, veterinary hospital services have been provided to the public. Additionally, technical assistance has been given to outside veterinary hospitals by SVM human resources. They provide medical service to large-scale livestock such as horses and cows to small-scale animals such as cats and dogs. The veterinary hospital is the source of animal treatment as well as practical instruction for students. Furthermore, they also support technological backup for field veterinarians in the ministry and private veterinarians by utilizing their technical skills and human resources. Their main roles are as follows.

Photo 4-4: Operation at the Veterinary Hospital

a) Providing analysis services for sample and blood utilizing advanced equipment, providing vaccines
b) Introducing and training of new treatment methods, analyzing technology and equipment
c) Supporting regional medical services around Lusaka
d) Providing intern opportunities for graduates
e) Providing technical advice for field veterinarians

2) Establishment of Foundation for Livestock Promotion

The number of the livestock animals increased as shown on Table 4-4. Dairy production also increased, although statistics were not available.

Table 4-4: Numbers of Livestock (Unit: Thousands)

Type	1982	2011
Cattle	1,950	3,000
Sheep	20	470
Goat	310	700
Pig	150	710

Source: Sixth National Development Plan, JICA

Preventing diseases is one of the important contributions in the promotion of livestock industry based on expanded veterinary services fostered by SVM-UNZA. East coast fever is one of the tick borne diseases prevalent in Zambia. Regular dipping can prevent the disease. Through successive instruction, dipping has become popular among farmers in the area where livestock farming is active.

The following is another example of expanded veterinary services. *Bovine fascioliasis,* cattle liver condemnation, caused by parasites, was a prevalent cattle disease seen in the Seganga and Sahng'ombo Districts in the Western Province in Zambia. The parasitic rate observed in slaughtered cattle was 89% in 1973 and 48% in 1998. The average rate of observed parasites from 2001 to 2010 was 20.3%, which was a major drop in parasites. The reason was due to increased awareness and de-worming practice carried out by farmers, intensified extension, and increased access to drugs and veterinary services.[16]

Photo 4-5: Milk Center developed with the technical support from graduates

Dairy production is also growing, although it was difficult to find statistics. Promotion of dairy production was also one example of the veterinarian contribution. Veterinarians cooperated with NGOs to extend the knowledge to farmers. The area of extension was in the value of dairy products, quality control, instruction of feeding, and establishment of a supply chain.

2) Health (Research on Infectious Diseases Counter Measures)

HIV is one of the prioritized areas in the Zambian health sector. Zoonosis is less prioritized because of the frequency and extent of the damage. However, the potential threat of zoonosis is underestimated. Zoonosis may occur at anytime in the rural areas where livestock and wild animals have frequent contact. In addition, the actual spread status of zoonosis has not been identified up to now. It is also a threat that it can spread across countries. The types of zoonosis observed in the rural area of Zambia are listed below.

- Bacterial Disease： Tuberculosis, Anthrax, Plague
- Parasitic Disease： African trypanosomiasis
- Viral Disease： Lassa fever, *Arena virus*, Rabies, Bird flu

Once highly infectious zoonosis spreads, only the SVM-UNZA team headed by Prof. Namangala can analyze the type of disease and infection route using the Bio Safety Level 3[17]

[16] Financial losses arose from condemnation of liver meat due to liver flukes in cattle from the Western Province of Zambia. Clive Simwanza, Chisoni Mumba, Girja S. Pandey and Kenny L. Samui, SVM-UNZA

[17] Biosafety level is the level of the biocontainment precautions required to isolate dangerous biological agents in an enclosed facility. Bio Safety Level 3 is applicable to clinical, diagnostic, teaching, research, or production facilities in which work is done with indigenous or exotic agents that may cause serious or potentially lethal disease after inhalation. It includes various bacteria, parasites and viruses that can cause severe to fatal diseases in humans but for which treatments do exist. (Source: Wikipedia)

laboratory, which was provided by Hokkaido Univ., and only available at UNZA. This team gained the reputation from WHO, the Ministry of Health, and other health sector organizations at the outbreak of anthrax case in 2009.

3) Veterinary Service in Environment

The study team observed that UNZA graduates contributed to the management of wild animals and the establishment of environmental standards for mining activities.

Photo 4-6: Preparing Anesthetics for Wildlife Protection in the National Park

Contacts between wild animals and livestock are one of the causes of zoonosis through viruses, parasites and bacteria. That is why, in order to prevent zoonosis, it is crucial to manage the wild animal migration in and around national parks and wild animal farms known as game ranches. Three veterinarians, including UNZA graduates, are working at the Zambia Wildlife Authority to manage wild animals and treat precious species. They cover a broad range of activities from analyzing the animal samples, to issuing the transport permits for wild animals and caring for animals in the zoo. Currently, their activities and contribution are limited because of the small number of personnel in contrast to the vast land area of the national parks. However, future expansion of their services is expected since this area seems crucial.

The SVM-UNZA staff researched animals downstream of the copper mine. They found unacceptable levels of heavy metal contamination in the animal. The environmental standards for the copper mine was established after their alert about the spread of environmental pollution through this research.

4) Impact on Japan

More than a hundred experts and volunteers were dispatched to Zambia in Phase I and Phase II of the technical cooperation project. They had opportunities to observe and experience the veterinary and livestock conditions that differed greatly from those Japan. After their dispatch, some of them became competent researchers. The knowledge and experiences gained are expected to help build their career in research. They remain interested in the country, and they would like to continue academic exchanges and research cooperation. Long-term exchange also provides opportunities for the next generation of researchers to experience conditions that differ from Japan.

4.4 Human Resources Development Story

4.4.1 Inland Country in Southern Africa: Link between Zambia and Japan

In 2010, the FIFA World Cup was held in South Africa, a country lying in the southernmost part of the African continent. This event inspired enthusiasm around the world, especially in Africa which had never hosted the FIFA World Cup before. Through this event, Africa became a bit more familiar to the Japanese public, partly because of the good showing of the Japanese national team.

In reality, however, Africa is still a remote place for Japan. The theatre for the present story is Zambia, an inland country on the African continent.

With a national land area of some 750,000 km^2, i.e. double that of Japan, and a population of some 14 million, Zambia gained independence from Great Britain in 1964 along with many other countries in Africa. Unlike many other African countries, Zambia's situation has been fairly stable since its independence and it has made steady strides towards national development.

It takes almost two days, including time in transit, to reach Zambia from Japan. On arrival in the capital of Lusaka via Johannesburg, I was greeted by an unmistakable "city". I was told that a number of large shopping malls and foreign-owned hotels have been constructed successively in recent years and that newer models of foreign passenger cars can be increasingly seen on the road. Those foreigners who are accustomed to life's luxuries will not come across many "inconveniences" while they live in the capital.

The scenery drastically changes when moving only slightly away from the capital. The vast expanse of natural environment embodying "traditional Africa" seems endless. Near the town of Livingston on the border with neighboring Zimbabwe lies Victoria Falls, which is one of the three greatest waterfalls in the world. The dynamic flow of the water over these falls reminds the visitor of the power of Africa. Zambia is a country which embodies both the image of "traditional Africa" and the image of "modern Africa".

Living in Japan, there are few opportunities to be aware of Japan's link with Zambia. It may be that Zambia hardly exists for the people of Japan except for those involved in issues related to developing countries. The theme of the story which will unfold here is the link between Japan and Zambia that was painstakingly built over a period of some 30 years. The main actors in this story are leading Japanese academics in the field of veterinary medicine, especially those of the Graduate School of Veterinary Medicine of Hokkaido University. This link between Japan and Zambia has been developed through a series of JICA technical cooperation projects for the School of Veterinary Medicine (SVM) of the University of Zambia since the 1980's.

To decipher the link between Hokkaido and Zambia in general and between the two schools of veterinary medicine, I would like to start by tracing the history of some 30 years.

4.4.2 Start from Zero: Birth of the School of Veterinary Medicine of the University of Zambia

The main campus of the University of Zambia is situated in suburban Lusaka, a drive of about 20 minutes from central Lusaka. I visited the campus in June, 2012. In Japan, this was right in the middle of the early summer rainy season. As Lusaka is located in the southern hemisphere, the season there was the exact opposite. It was even chilly in the shade.

The campus gate was easy to find because of a large sign saying “The University of Zambia”. The university is locally known by the abbreviation “UNZA”.

Unlike the hustle and bustle of the streets of central Lusaka, the atmosphere of the campus was idyllic. Grazing cattle made me wonder if I was actually at a university until I was told by the driver that they are actually kept by the School of Veterinary Medicine. This school is located at the far end of the campus from the gate. The red brick building stands out because all of the other buildings on the campus are an innocuous white. This building was constructed with grant aid provided by Japan.

The building was constructed in 1985 but its exterior does not give any impression of its age of nearly 30 years. Inside, the building is even better and it is surprisingly tidy and clean.

Photo 4-7: Gate of UNZA

There is a large pond in the courtyard, the edge of which provides a relaxing space for both teachers and students. On looking closer at the pond, I found that it was in the shape of Zambia, constituting a stylish design concept.

Although the timing of my visit appeared to coincide with the post-exam break, several students in white overalls were found in cheerful conversation in the courtyard. These are aspiring veterinary students who will shoulder veterinary medicine in Zambia in the future. It must be remembered that 30 years ago, there were only several veterinarians in Zambia.

At that time, Zambia’s economy was heavily dependent on the production of copper. However, the Third National Development Plan (1979–1983) adopted a new policy direction and called for a departure from a mono-culture relying on a finite natural resource which will be exhausted in time and the expansion of agriculture and stock farming. One significant bottleneck was the limited number of Zambian veterinarians familiar with work in the field. In fact, there were hardly any veterinarians working in the inspection, prevention and control of livestock infectious diseases, which were an impediment to the planned development of stock farming.

Consequently, many livestock, especially cattle, died all year round, causing a problem of low productivity.

This problem was not confined to Zambia but was prevalent throughout southern Africa. In 1981, the UN Food and Agriculture Organization (FAO) prepared the Plan for the Development of Facilities for Veterinary Education in Southern Africa. The subsequent study led to the decision to establish a school of veterinary medicine in Zimbabwe. However, the limited scope of veterinary education at this newly conceived school of veterinary medicine in Zimbabwe meant that the number of possible Zambian students studying at this facility would be very small, resulting in failure to train a reasonable number of new Zambian veterinarians. This prospect prompted the Government of Zambia to establish its own school of veterinary medicine at a Zambian university and it asked the Government of Japan for assistance to train veterinarians at this Zambian facility.

There is a story behind this request for Japanese cooperation. The timing of the Zambian request coincided with an overseas tour of the present Imperial couple (the then Crown Prince and Crown Princess) in March, 1983, after the official request for assistance made by the Government of Zambia to the Government of Japan in 1982. One of the African countries visited was Zambia. During the visit, they were told about the critical shortage of veterinarians in Zambia and expressed to the Government of Zambia that Japan would assist the establishment of the SVM at UNZA. This cemented the foundation for a consolidated relationship between the two countries.

In truth, Japan was not necessarily a leading country in veterinary services at the time. Although an international standard for veterinary education already existed, it was difficult for Japan to have its own distinctive aid position. However, there were people in the veterinary medicine academic circle who were steadily engaged in research work with “diligence” and “sincerity”, common characteristics attributed to the Japanese people. Typical of such people were those at the School of Veterinary Medicine of Hokkaido University.

In 1983, then Professors Hiroshi Kanagawa and Nobuo Hashimoto of this school arrived in Lusaka along with representatives of the JICA and MoFA. There was “Animal Doctors”, a comic story which was popular among Japanese teenage girls about 20 years ago. As the title suggests, the story evolved around the work of veterinarians. One of the main characters was a veterinarian who had fallen in love with Africa. Although the country where he had worked was not specified, his office was full of items sold at roadside stalls, etc. in Africa. It was said that both Professors Kanagawa and Hashimoto were models for this comic story, which was said to have the effect of encouraging Japanese teenagers, especially girls, to pursue the career of a veterinarian.

After graduating from Hokkaido University, Prof. Kanagawa had worked as a researcher in Canada and the US before being invited back to Hokkaido University by his former tutor to take up a professorship. This was several years before the decision of the Government of Japan to assist the establishment of the SVM-UNZA. As Hokkaido University was the only national university that had an independent faculty of veterinary medicine in Japan at the time, it became involved in the forthcoming Japanese cooperation for UNZA.

Photo 4-8: Prof. Hiroshi Kanagawa

Looking back to that time, Prof. Kanagawa says that he was the youngest professor at the school and that he was selected to assist the Japanese cooperation on the grounds that it would be better for a young teacher to get involved in such a project from a long-term perspective.

Before he knew what was happening, Prof. Hashimoto, also of Hokkaido University, was also selected to visit Zambia. The two gentlemen travelled together to Lusaka, accompanied by two government officials for the preliminary study on basic design.

Photo 4-9: Prof. Nobuo Hashimoto

While Lusaka today is full of modern buildings, it was just like a rural town surrounded by an idyllic landscape some 30 years ago. The planned site for the SVM was located at the farthest end of the UNZA campus from the road and was simply grassland. Prof. Kanagawa recalls that he felt a sense of a challenge on seeing this empty site. As both Prof. Kanagawa and Prof. Hashimoto had visited many advanced veterinary educational facilities, this challenge had a sobering effect on their determination to develop an excellent school of veterinary medicine.

The field work, which was part of the preliminary study, lasted for two weeks during which some of the concrete details for the planned SVM, including which building materials would be used and the types and layout of the rooms and offices in view of the preferred scale and number of students at the SVM, were discussed. Prof. Kanagawa recalls his intense discussions with Prof. Hashimoto on the return flight before compiling his report. His one regret now is that they did not provide a room for the technicians which would assist the professors. The reason for this omission was that as there was no post of technician at Japanese universities at the time, and they did not even think of it. Following the blueprint prepared by Prof. Kanagawa and others, Nikken Sekkei was selected to design the building, while Shimizu Corporation was contracted for the construction.

With careful design and assured technical capability which are widely known advantages associated with the Japanese infrastructure, Shimizu successfully constructed the SVM building which still looks new and fresh after 30 years. Prof. Hashimoto recalled that he has been very interested in being involved in a project to create an academic faculty from scratch and that this Zambian project was a gift from God for him. Together with Prof. Kanagawa, he developed a specification for the SVM and they informed the staff of Nikken Sekkei what they wanted to see in the latter's design work. The process was truly exciting for them.

4.4.3 From Construction of a Building to Technical Cooperation: Establishment of the Advisory Committee

A problem then arose. Although the construction of the new SVM building under the project was making steady progress, the shortage of veterinarians in Zambia also meant a shortage of teachers to train students to become veterinarians. Needless to say, the mere existence of a building does not produce the required human resources. Zambia desperately needed teaching staff for the SVM to train people to play a key role in the country's future veterinary service. JICA's slogan of assisting "nation building as well as human resources development" must mean a type of cooperation which combines the construction of physical infrastructure (hard component) with the development of human resources (soft component). In reality, JICA commenced a technical cooperation project for the SVM-UNZA in 1985 in addition to grant aid cooperation. JICA has since been involved in the provision of guidance for students, capacity building of teaching staff and preparation of curricula for 12 and half years.

At the onset of this technical cooperation, JICA established an advisory committee consisting of representatives of 16 Japanese universities, including Hokkaido University, which had a veterinary medicine course, the Japan Veterinary Medical Association (JVMA), Ministry of Agriculture, Forestry and Fisheries and local public bodies. During the long term of the technical cooperation project period, Prof. Kanagawa played a key role in the advisory committee following the basic design for the grant aid project. According to Prof. Kanagawa, the launch of a technical cooperation project was not anticipated at the time of his involvement in this basic design study. It should have been obvious that the construction of a school building would be useless unless there were people, meaning teaching staff, using the building for its planned purpose. The decision of the JICA to implement a technical cooperation project was the correct decision for both countries even though the development of human resources, i.e. teaching staff at the SVM should have been considered along with the decision to construct a school building.

It would not have been easy to manage the newly established SVM to properly train students while also attempting to train teachers. Even though Hokkaido University accepted JICA's request to continue its assistance for SVM under the technical cooperation project, it judged that the challenge faced could not be met by a single university. This led to the establishment of a project advisory committee in Japan. The idea was to create a back-up system by getting leading

veterinarians together. It was decided that regular meetings would be held to discuss important issues with a view to dispatching some of these veterinarians to Zambia in response to the local need. This truly appeared to be a nationwide commitment of Japanese veterinarians. At any time, there were two or three long-term experts together with a team leader stationed at the SVM. In addition, scores of short-term experts were dispatched every year to teach special subjects based on requests made by the SVM. Because of the virtual absence of people capable of teaching in the early years of the SVM, almost all teaching was conducted by Japanese experts whose work included patient efforts to train potential teachers for the institution.

4.4.4 SVM Made the Zambian Dream a Reality

The establishment of the SVM-UNZA became a popular talking point for Zambians in general. The SVM opened the door for young Zambians to realize "their dream" of becoming a veterinarian.

Dr. E. Oparaocha, who enrolled at the SVM in 1985, is currently managing an animal clinic in Lusaka which she inherited from her father. Although it is compact, the main single story building has a modern operating theatre. During the visit, she told me that new X-ray equipment would be installed the following month. The clinic has an inpatient facility which is capable of accommodating large dogs and the annex building has a fashionable pet shop. The clinic has been steadily developing as a reliable animal clinic for the citizens of Lusaka under the sensitive leadership of a female owner. Throughout her childhood, she had dreamed of becoming a veterinarian like her father but there was no school of veterinary medicine in Zambia. Although her father had obtained his degree from a foreign university, it was practically impossible for a young Zambian female to study abroad. The news of the opening of a new school of veterinary medicine at the UNZA was "*a dream comes true*" to her and her future. She still remembers Dr. Fujimoto, Dr. Nagabayashi, Dr. Tsutsumi and other Japanese experts who taught her more than 20 years ago.

Photo 4-10: Dr. Oparacha Examining a Cat

According to her, all of the experts were sincere and had warm hearts. Any question, no matter how trivial, was answered with eagerness and everyone was willing to answer questions regarding not only veterinary medicine itself but also other subjects beyond normal teaching hours. At the beginning of each class, there was a roll call which made the students look forward to the forthcoming lectures with eager anticipation. In her class, there were 12 classmates whose career paths since graduation have been quite diverse, ranging from college professor and work in government offices or private enterprises to establishing a local NGO.

While running an animal clinic to realize her childhood dream, Dr. Oparaocha accepts interns from the SVM, UNZA at her clinic to make her own contribution to her alma mater as a practicing veterinarian.

4.4.5 Teaching Based on Practice: Legacy of Japanese Experts

Because of its British colonial past, Zambia kept its British-style education system after independence. Lectures were given to large classes while the appraisal of student performance was heavily geared towards written examination results. In contrast, higher education in Japan was based on small classes for individual subjects through frequent communication between teachers and student. The balanced teaching involving both theory and practical exercises at the SVM was very appealing to the Zambian students. According to Prof. Takeshi Mikami who taught at the SVM from 1985 to 1986 as a short-term expert (then an assistant professor of Hokkaido University), the Zambian students were very excited and highly motivated because of the fact they were studying a new discipline at the newly established SVM. The high level of student commitment made the Japanese teaching staff both humble and dedicated. Although the period of his assignment was a short three months, the experience of working at the SVM, UNZA is said to have been truly impressive even for someone like Prof. Mikami who had been involved in a number of similar projects all over the world during his career.

He recalled that there had been a lack of proper infrastructure in Lusaka at the time and that it was extremely difficult to procure distilled water, etc. for research work. The teachers had to come up with novel ideas for their teaching using locally available materials. Textbooks also had to be prepared which corresponded to the local conditions. Field trips with students were made to catch animals required for laboratory experiments. The Japanese style of teaching, which emphasized the practical aspect of veterinary medicine was popular with the students. All of the Japanese experts, including Prof. Mikami, who taught at the SVM are united in their praise of the sincerity and high academic performance of all the Zambian students.

Photo 4-11: Lessons at the SVM in 1980s

What must not be forgotten is the important role played by JOCV volunteers to assist the learning of the Zambian students. One such volunteer was Mr. Hiroshi Urano who was dispatched as a second phase volunteer to the SVM in 1986 for two years. While he now works as a researcher at the Central Institute for Experimental Animals (CIEA), he obtained his M.Sc. in veterinary medicine from the School of Veterinary Medicine, Hokkaido University. His M.Sc. course tutor was the very Prof. Kanagawa who chaired the previously mentioned advisory committee. According to Mr. Urano, even though the field work in Africa had no relation to his research

theme, he was somehow interested in the wild animals in Africa, presumably because of his tutorial class taken by Prof. Kanagawa.

When wondering what type of career he wanted to pursue, he was told by Prof. Kanagawa that overseas experience was essential for anyone working in the field of veterinary medicine. This advice led him to take up the challenge of working as a JOCV volunteer in Zambia. His work at the SVM was to assist the Japanese experts and mainly involved the preparation of classroom lectures and practice exercises. In the early days, the actual work was often based on trial and error. Even though his specialist field was parasitology, he had to prepare teaching materials for many other fields, forcing him to study the subjects from scratch. He was thankful that help was available from other volunteers from Hokkaido University as well as the Japanese experts stationed at the SVM. Using the reference materials prepared by the volunteers, the experts prepared their own lecture notes and their lessons were met by enthusiastic Zambian students. When he arrived at the SVM, there were already some facilities and a range of equipment installed. Even though there was much room for improvement in terms of the soft aspect, he found both the teaching staff and the students to be lively. As the volunteers were of similar ages to the students, they often spent time together outside of lessons, encouraging each other.

4.4.6 Pursuit of Zambianized SVM

The project entered its second phase in 1992 when the SVM had begun to produce graduates 10 years after the start of the initial study for the grant aid project. The project purpose newly adopted by the JICA was the *Zambianization* of the SVM. As mentioned earlier, the teaching staff members of the SVM were predominantly Japanese and other foreign nationals at the beginning. A scheme was then introduced based on a proposal made by the advisory committee to allow Zambian students to study in Japan and enable some of the SVM's graduates to join the teaching staff at SVM.

One such person was Dr. Shakarima Michero, who enrolled at the SVM in 1983 and studied at Hokkaido University for five years from 1993 to obtain a Ph.D. After finishing a course at the SVM, he joined a private company before returning to the SVM as a lecturer. He then went to an English university to obtain a master's degree before being selected as a special nominee by JICA for study in Japan.

The importance of studying on one's own initiative only hit him when he began his study in Japan. "Once the research theme and approach had been approved, it was up to me to proceed with my research work. With good facility and materials, my research work in Japan was fruitful," said Dr. Michero. With a good command of Japanese, he felt that the Japanese teachers and students were his family. "My study in Japan obviously improved my research capability but I also learned many important things associated with the teaching side. For example, the Japanese teachers were willing to get their hands dirty and took the lead in setting a good example for laboratory experiments and field work, earning the respect of the students. That was

what I wanted to do at the SVM." Study in Japan was a life-changing experience for Dr. Michero as a teacher.

While the dispatch of Japanese experts under the technical cooperation project continued, past graduates of the SVM gradually took teaching posts at the SVM after completing M.Sc. or Ph.D. courses abroad. Ms. Mutsuyo Kadohira who is now a professor at Obihiro University of Agriculture and Veterinary Medicine was dispatched to the SVM as a long-term expert from the end of the Phase II project to the completion of the follow-up work (1995 to 1997). She had started work in Zambia in 1981 as a JOCV volunteer (veterinarian) prior to the establishment of the SVM.

Photo 4-12: Ms. Mutsuyo Kadohira

"It may be that I am the only person with intimate knowledge of both the initial and end stages of the technical cooperation project," says Dr. Kadohira. "When I was dispatched as a JICA expert in the 1990's, the equipment provided by Japan was fairly well maintained. The continued procurement of expendables under the project certainly contributed to the high equipment operation rate. Towards the end of the project period, it became possible to procure the necessary expendables from neighboring South Africa. Together with an increasing number of Zambian teachers, the SVM was right on track for self-reliant operation." In fact, as the end of the project approached, Zambian teachers at the SVM accounted for more than half of the total number of teachers, illustrating the steady progress of *Zambianization*.

4.4.7 SVM as a Partner for Research Collaboration in the Post Phase II Era

JICA's technical cooperation to establish the SVM came to an end in 1997, but UNZA immediately faced the problem of securing the necessary funding to keep the SVM going. Help came from the firm relationship of trust between Hokkaido University and the UNZA, which had been nurtured through the cooperation for 12 and half years. This trust led to the launch of joint research beyond the framework of the JICA project. The new initiative was helped in its early years by Dr. Jun Yasuda (currently a professor of Iwate University).

Dr. Yasuda first encountered UNZA when he was dispatched to Zambia as a short-term expert in 1994. At that time, he was teaching at Hokkaido University and had some interest in Africa. Once there, he was often confounded by the completely different realities of Zambia from those of Japan. For more than 10 years, he has been involved in joint research featuring Zambia. He says, "The forthcoming ending of the JICA's assistance made the teaching staff of Hokkaido University, who had long been involved in the SVM, worried about the future of the SVM. This led to the more positive thinking of doing something together with the SVM. Prof. Kanagawa

then came up with the idea of applying for Grant Aid for Scientific Research of the (then) Ministry of Education." He continued the joint research from 1999 to 2011 using this grant.

Many joint research activities have involved Japanese researchers with the experience of teaching at the SVM and a SVM graduates with experience of studying in Japan. Japanese teachers at not only Hokkaido University, but also other universities, which have assisted the SVM in one way or another, have been involved in Zambia again. "What is important for universities not only in Japan but also elsewhere is how to secure external funding for research. This task is more daunting in Zambia than Japan, especially for young teachers at the SVM. Our idea at the time was to appeal the existence of the SVM to the outside world through joint research with Japanese universities."

Meanwhile, the Hokkaido Zambia Society was voluntarily established by a group of experts with teaching experience at the SVM. Led by Prof. Kanagawa who had tirelessly worked behind the scene to develop the SVM, this society has maintained its links with the SVM by means of independently arranging training in Japan for Zambians related to the SVM.

4.4.8 Bright Performance of SVM Graduates

While Hokkaido University and UNZA were consolidating their links through joint research, etc., SVM graduates have been pursuing diverse careers.

One of these graduates is Dr. Joseph Mbanga, who now works as the Director of the Department of Veterinary, the Ministry of Agriculture and Livestock (MAL) in Zambia. Many other SVM graduates also work at the MAL. This situation is proof that "the training of veterinarians for the development of agriculture and stock farming", a goal adopted by the Government of Zambia at the time the SVM was established, is being achieved.

Although Dr. Mbanga referred to a number of pending tasks in terms of the practical education of potential veterinarians during an interview, he emphasized the critical role played by Japan's assistance, especially the teaching by Japanese academics of Hokkaido University and others, to completely change the face of veterinary education in Zambia from a state of the virtual non-existence of surgeons to the current state of more than 200 practicing surgeons. He expressed his determination to move forward together with other veterinarians in Zambia capitalizing on the assets built up during their study in Japan as the veterinary service in Africa is facing a turning point because of the growing complication of environmental issues as well as infectious diseases.

It is noticeable nowadays that the young talents taught by Zambian teachers at the SVM have begun to assume important roles. Dr. David Squire who plays an active role in the Zambia Wildlife Authority (ZAWA) protecting wild animals in national parks is one such person. Despite progress made in his work, he points out the need for more veterinarians for the protection of wild animals and the important role to be played by the ZAWA. The ZAWA has

three SVM graduates, including Dr. Squire, protecting "wild animals", which are important for disease control. "Whenever a problem occurs, we immediately go to the site involved. This is what we learned at the SVM." He had continued his study at Hokkaido University for five months from July, 2012 to brush up his skills. In all, it is probably fair to say that the future prospects for the young graduates of the *Zambianized* SVM are still unknown even though many of them appear to be surging ahead.

Photo 4-13: Dr. Square studying at Hokkaido University

4.4.9 New Hub for Combat against Zoonosis

When visiting the SVM, the present author was warmly welcome by Prof. Mweene, Dean of the SVM, at his office. He was one of the first graduates of the SVM. A person who has grown up together with the JICA project now leads the SVM. He says "Regardless of what it is that you want to achieve, you must do your best to succeed. This is what I learned from my Japanese teachers."

Photo 4-14: Prof. Aaron S. Mweene, Dean of the SVM

After graduating from the SVM as a member of the inaugural class, he went to a graduate school in England to obtain his master's degree before proceeding to get his Ph.D. from Hokkaido University. He also underwent post-doctoral education at Hokkaido University, totaling a stay of almost nine years in Japan. His approach to his work can be described as truly "Japanese", i.e. gentle manners, proximity between the teacher and students and a passion for veterinary medicine among others. "Both the teachers and students move forward together without a wall separating them. This is what university education is about."

Prof. Mweene's tutor during his study in Japan was Prof. Hiroshi Kida who now heads the Research Centre for Zoonosis Control, Hokkaido University. This center was established in 2005 to combat zoonosis which posed a global threat. In 2007, the Hokudai Centre for Zoonosis Control in Zambia (HUCZCZ), a satellite laboratory of the center in Zambia, was opened at the SVM-UNZA. Prof. Kida emphasizes the partnership between the University of Zambia and Hokkaido University in the common fight against zoonosis in the world. Prof. Kida continues, "All research, regardless of what it is, must contribute to society. It is not exciting and is even

foolish to conduct research for the purpose of achieving personal career progress or gaining the praise of others. We honestly share this conviction with the Zambian researchers at the SVM." The HUCZCZ is a facility which embodies this conviction.

At present, several Japanese researchers are working full-time at the HUCZCZ and there are many casual visitors from Hokkaido University throughout the year. Since 2008, research has been in progress on TB, trypanosomiasis, viral infectious diseases and others using a research promotion scheme called the Science and Technology Research Partnership for Sustainable Development (SATREPS) jointly funded by the Japan Science and Technology Agency (JST) and JICA. Japanese and Zambian researchers have known each other for a long time having developed almost ideal assets for international cooperation over a period of 30 years.

Zambia is a country located some 13,000 km away from Japan where there are a number of veterinarians and researchers totally devoted to their work for the country having inherited their way of thinking on how to work and study from Japanese experts. I am convinced that the strong "link" between Zambia and Japan which was clearly observed during my present visit will assist the further development of veterinary medicine not only in Zambia but also the world.

Photo 4-15: Photos with the Japanese Experts Displayed in the SVM Lobby

Photo 4-16: Inside the HUCZCZ

(Reported by Ms. Aiko Furuta)

4.5 Features and Lessons Learned of Japan's Assistance to SVM-UNZA

4.5.1 Asset Generated by Japanese HRD Cooperation

(1) Veterinary Education and Research Base in the Southern Region of Africa

One veterinary education and research base was established in the southern region of Africa when the SVM-UNZA was established and became operational. As mentioned above, this school aimed at training domestic veterinarians at the initial stage. However, the project tried to benefit neighboring countries by conducting the Third Country Training Program. The role of the SVM-UNZA grew as a regional hub, when Zimbabwe University, which had been established as the regional hub, was unable to fulfill this function due to political unrest.

Currently, the SVM-UNZA receives a number of foreign students from neighboring countries and it is expected to contribute greatly to veterinary education in the southern region of Africa.

(2) Veterinarian Graduates Working for Infectious Diseases Control and Network

Out of approximately three hundred graduates up to now, more than one hundred graduates are working at district veterinary offices and research laboratories under the Ministry of Agriculture and Livestock. There are private veterinarian graduates working in the urban area. They are able to take immediate action through the alumni network once an infectious disease from animals is observed. In order to implement infectious disease prevention, it is important that the SVM-UNZA, which is the core of the network, is the functional backup center of technology information on the veterinary field. It is expected to contribute further to prevent infectious diseases like zoonosis and rabies.

4.5.2 Promoting and Hindering Factors for Human Resources Cooperation

(1) Organizational Cooperation from Hokkaido University

Hokkaido University participated in the cooperation project not only by dispatching the experts as mentioned above, but also with organizational support. After the completion of the project, they actively conducted academic exchange, research collaboration and established a research center for treatment based on the academic exchange. The university's systematic response was an invaluable contributing factor to improving the collaborative environment, which allowed experts to be dispatched without worries about losing their career path, assuring experts, updating research information and supporting research collaboration.

(2) Collaboration with International Development Partners

This project was conducted under the cooperation with other international development partners. Japan implemented the project in Zambia in collaboration other country experts in veterinary fields where Japan has less experience. International development partners sent teaching staff members and provided scholarships for Zambian students for overseas study. Some of them could not be implemented under a Japanese cooperation scheme.

(3) Ownership of the Zambian Government (Ministry of Agriculture)

There were no personnel capable of managing the operation of the SVM in Zambia. As a result, Zambian counterparts were not initially in the project. The Zambian government employed a foreign dean with a proven track record. He contributed to efficient operations at the initial stage of the establishment by setting up approaches and resource acquisition and allocation. The government strove to ensure the increased personnel cost as the number of Zambian staff members increased.

The Ministry of Agriculture actively employed graduates and expanded veterinary services. They provided opportunities for graduates before they had established their reputation. It

contributed to secure job opportunities for graduates and helped the rapid expansion of veterinary services in the rural areas.

4.5.3 Characteristics of Japanese Human Resources Development

This cooperation was not aimed at transferring Japanese know-how, but to conduct the project effectively and efficiently in collaboration with other international development partners. This is because a clear international standard for veterinary education already existed. Thus, project operations followed this standard, taking into account Zambian characteristics. That is why Japanese cooperation was implemented to achieve veterinary education for Zambians by Zambian management through training for teaching staff members and development of management and organizations.

Japanese assistance changed the values of the teaching staff and students. They came to understand the importance of the verifying process, the spirit of "hard work", and work ethics in research and education.

Some of the UNZA lecturers who studied in Japan possessed the spirit of working hard and have practiced it all their life. There were few opportunities for Zambian counterparts to experience all of the experimental process at UNZA because of the technician system. When researchers studied in Japan, they were required to manage and implement the entire experiment. Through this experience, they discovered the importance of the process. Some of the lecturers introduced this approach when they taught their students.

Exchanges between Zambia and Japan have continued both at the organizational and personal level. SVM-UNZA dispatches students under the strategic program to reinforce their activities. Japanese researchers provide not only the opportunities for research cooperation, but also opportunities to attend conferences in Japan. They also provide equipment including consumables for experiments that cannot be obtained in Zambia. Through these experiences, relations of mutual trust have been established. It might be said that Japan is one of the most trusted countries at the SVM-UNZA.

In conclusion, Japanese experts and volunteers made trustworthy and enthusiastic efforts to achieve project objectives, which was to establish a veterinary school for Zambians by Zambians under the framework of international collaboration and by utilizing international development partners in collaboration with counterparts and organizations fostered by this collaboration.

CHAPTER 5: HUMAN RESOURCES DEVELOPMENT AT CENTER FOR TECHNICAL AND VOCATIONAL TRAINING SENEGAL-JAPAN (CFPT)

5.1 Background of HRD Cooperation

5.1.1 Political Situation and Socio-Economic Development in Senegal

Senegal is a republic located in the southernmost part of the Western Sahara of Africa with a population of 12.5 million. Ever since its independence in 1960, Senegal has maintained highly stable domestic politics. Even after the multiparty system was introduced in 1979, the Socialist Party's regime has continued forover 40 years after independence. In the presidential election of March 2000, Abdoulaye Wade, the leader of the Senegalese Democratic Party (PDS) gained the support of young people who wanted a change and was elected. The change in administration was carried out peacefully. President Wade was re-elected in February 2007 with a majority in the first round. Before his third term election in 2012, the criticism arose from the opposition parties about the proposed constitutional amendment, which had been submitted prior to the election to facilitate the election and the delegation of power to his son. As a result, the president withdrew the amendment. Amid growing dissatisfaction with President Wade, Wacky Sall from the opposition party won the presidential election in 2012. This peaceful and democratic change in regime was the ultimate sign of a mature democracy in Senegal.

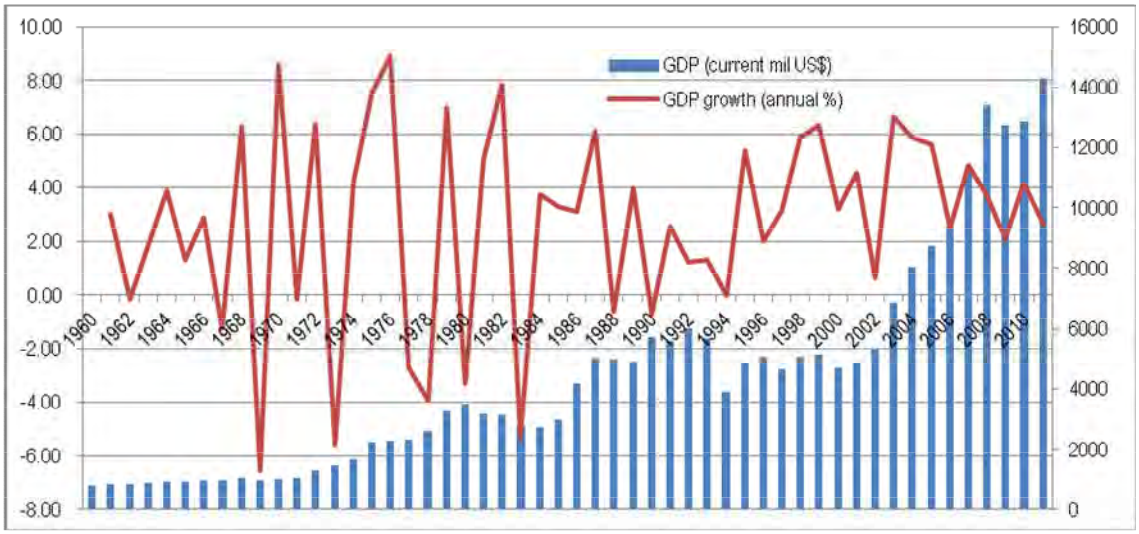
The separatist movement in Casamance, the southern part of Senegal, has become an important issue in domestic politics for over 30 years. The MFDC (Movement of Democratic Forces of Casamance) began an armed uprising in 1982, and approximately 3,500 people had died in about 20 years[18]. Unstable factors still exist such as the stalemate in peace talks between the MFDC and the Senegalese government, and the temporal lack of security.

The main industries of Senegal are agriculture such as peanuts cultivation which began in the French colonial period, and fisheries. Main agricultural products are peanuts, millet, cotton, and rice. Fishery is also the leading export of Senegal. Mining, tourism, and the service industries are also major industries.

Figure 5-1 shows the trends in GDP and economic growth in Senegal. Due to a slump in commodity prices, fiscal deficit, balance of payments deficit, and external debt problems have been seen persistently. Senegal undertook structural adjustment from 1979 with the assistance of the World Bank and the IMF and carried out various reforms such as the devaluation of regional currencies and the privatization of state-owned enterprises. The economy grew in 1994, and positive growth has been consistently achieved since 1995. However, in recent years, Senegal's

[18] The World Yearbook, 2011

economic growth has slowed due to the financial crisis and temporary financial deterioration led by the increase in subsidies caused by the soaring price of food and oil.



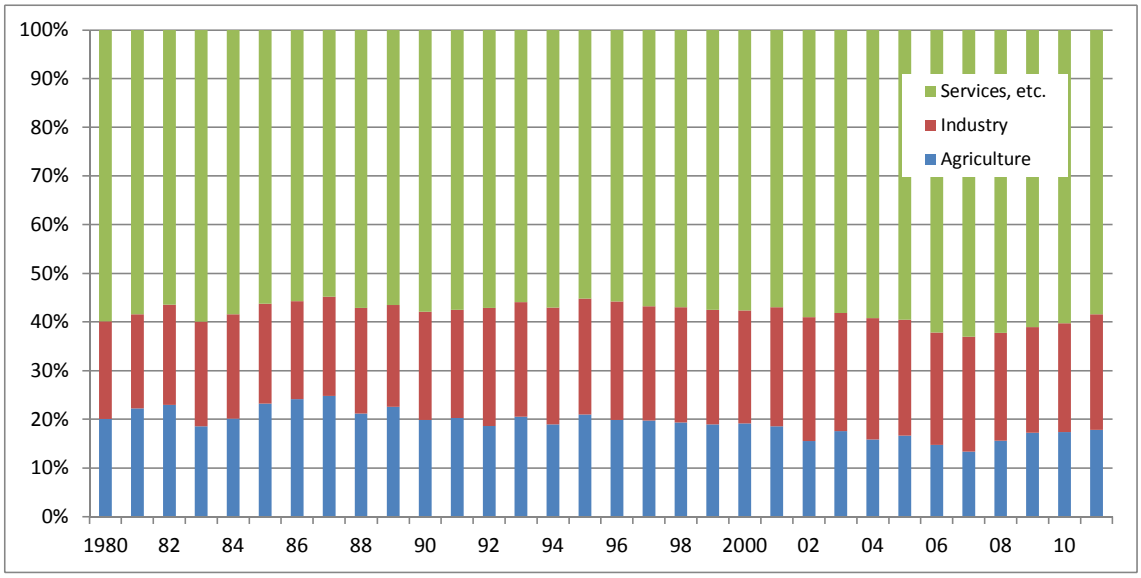
Source: the World Data Bank

Figure 5-1: Transition of GDP and Economic Growth Rate

Figure 5-2 shows the transitions in the GDP share of industry in Senegal. In Senegal, 70-80% of the population has been engaged in agriculture over the past 30 years[19]. However, the tertiary industry such as commerce, tourism, and information and communication services accounted for nearly 60% of the GDP, which became the main force in the Senegalese economy. The GDP, ratio of the industrial sector has remained at around 23%, greater than the ratio of the agricultural sector since 1990.

It is common in African countries for the informal sector to play an important role in the economy. The Senegalese informal sector is said to account for half of the country's GDP, 90% of all employment, one-fifth of all investment in Senegal and it extends to all industries: the primary industry, secondary industry, and tertiary industry[20].

[19] FAO, FAOSTAT (As of July 2012)
[20] AfDB, Republic of Senegal, Country Strategy Paper 2010-2015, 2020



Source: the World Data Bank

Figure 5-2: Transition of GDP Share by Industry

5.1.2 History and Current Situation of Human Resources Development in Senegal

(1) National Development Plan

The Government of Senegal adopted the Interim Poverty Reduction Strategy Papers (DSRP: Document de Stratégie de Réduction dela Pauvreté) in 2000 with the goal of halving poverty by 2015, and the government released its final full version of PRSP in 2002. In 2006, the second PRSP (DSRP II), which covered the period of 2006-2010 was released. The second PRSP set out the four pillars of strategy as priority targets for poverty reduction: i) wealth creation and pro-poor growth; ii) more vigorous promotion of access to core social services; iii) social protection, risk and disaster prevention and management and iv) good governance and decentralized and participatory development. In November 2011, "Poverty Reduction Strategy Papers (third year DSRP: 2011-2015)" was formulated under the name of "Economic and Social Policy Paper (DPES 2011-2015)."

(2) Education Policy

The government of Senegal has focused on education in order to achieve the education-related MDGs, which aims at a 100% ratio of primary school enrollment by 2015, and "Education for All" (EFA). Education is included in the second pillar of DSRP, and "more vigorous promotion of access to core social services" is a high priority issue. In line with this policy, the Ministry of Education formulated the "Ten-Year Education and Training Program (2000-2010)" in 2000, which is a development plan covering the entire sector including vocational training.

Technical education and vocational training is regarded as a sub-sector, which should be given high priority next to primary education as an important means to enhance competitiveness and economic performance. With an urgent need to train human resources for economic growth, and to strengthen the training of engineers who can meet the needs of the labor market, the government formulated the "Policy Paper on Technical Education and Vocational Training Sector" (2002), which solely focused on the field of technical education and vocational training, and the Action Plan for Technical Education and Vocational Training (April 2005). In addition, in order to carry out fundamental reforms in the technical education and vocational training sector, the Ministry of Technical Education and Vocational Training became an autonomous ministry separate from the Ministry of Education in July 2005 and began to formulate its own budgets and development plans[21]. The Ministry of Technical Education and Vocational Training changed its name to the Ministry of Youth, Vocational Training, and Employment in 2012 with the intention of focusing more on youth, vocational training, and employment.

(3) Industrial Sectors' Demand for Human Resources Development

The government of Senegal formulated the "Long-term Economic Development Initiative" (1977-2001) and "the 6th Four-Year Economic Development Plan" (1981-1985), and promoted technical education and industrial development in order to move away from its fragile economic structure vulnerable to changes in the environment. When the project for the "Senegal-Japan Vocational Training Center (Centre de Formation Professionnelle et Technique Sénégal-Japon: CFPT)" was formulated, the Senegalese labor supply was an inverted pyramid. While senior engineers graduated from universities/colleges were in oversupply, junior engineers who graduated from vocational training centers and technicians working at production lines and repairing workshops were in shortage, both in terms of quality and quantity.

From the industrial sectors' points of view, there were problems such as deficiency in curriculum, quality of instructors, facilities, and it was believed that trainees of vocational training centers were not yet up to the technical level which the industrial sector demanded. In contrast, in-house training was mainly based on on-the-job training (OJT), and an institutional training system was not fully functional[22].

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[21] JICA Web site, Mizuho Information and Research Institute, Inc."Evaluation of Japan's Cooperation in the Education (Vocational Training) Sector in Senegal", Third Party Evaluation Report 2011, Ministry of Foreign Affairs of Japan, February 2012.

[22] JICA, "The study on basic planning of Senegal-Japan Vocational Training Center (Centre de Formation Professionnelle et Technique Sénégal-Japon: CFPT", 1982 (in Japanese).

(4) Human Resource Development by Other Donors

1) AFD (L'Agence Française de Développement)

AFD is currently implementing two projects in Senegal. One is a project to support vocational training centers operated by private sector. The second is a project to support formalization of the informal sector. In the support of private sector operated vocational training centers, AFD supports three projects in the field of food processing, construction & public works, and ports & logistics, which was strongly requested by the Government of Senegal. AFD will contribute 250,000 Euro to the Government of Senegal for two projects in food processing and port & logistics for over three years. Based on the idea that the management of vocational training schools should be independent of the government, AFD requested that vocational training schools to be operated by the private sector. However, AFD created a system that allowed both the government and the private sector to be involved in the management committee of schools, to allow the government to convey their opinions.

In the area of support for the formalization of informal sector, 38,000 people have enrolled in formal vocational training schools as of 2008, and an estimated 100,000 young people have been trained under an informal apprenticeship. AFD forged partnerships with Luxembourg, Germany and Belgium to formalize the informal sector and focused on five regions (Saint-Louis, Dakar, Kaolack, Ziguinchor, Kolda) and three fields (sewing, machinery, construction) in order to provide opportunities to learn necessary skills not only in the traditional way but also in the theoretical way.

2) CIDA (Canadian International Development Agency)

CIDA selected Senegal as a country of focus as part of its new aid effectiveness agenda in 2009. CIDA defines its objective in Senegal as reducing household poverty by 50 percent by 2015 to align with Senegal's DPES goal. In the field of assistance for children and youth, enhancement of youth employment through vocational and technical training forms a major pillar together with improving the quality of education, improving management and access to basic education, especially for girls, building skills for employment for youth through formal education, and literacy programs. Enhancement of youth employment through vocational and technical training is regarded as a pillar in the field of children and youth assistance[23]. Based on a request from the Government of Senegal, CIDA supports formulating curricula in the area of heavy equipment, which is one of the newly established training courses of CFPT in 2012.

Reforms in technical education and vocational training were approved at the Conference on Technical Education and Vocational Training held in 2001. The main pillar of reform was a reform on pedagogy, and the concept of the Competency-based Approach (APC: l'approche par

[23] CIDA web site as of July 2012.

les compétence) was introduced into curriculums. Based on a request by the Ministry of Youth, Vocational Training, and Employment, CIDA, which has adequate experience in applying APC (also in Tanzania, Mozambique) is now engaged in compiling a textbook on pedagogy based on APC, and capacity development of instructors.

The cases of CFPT is recognized as a success by both Canada and Japan, which supported CFPT for its curriculum development and procurement of equipment with the intention of avoiding duplication of support. CIDA also supports reforms in pedagogy in the field of technical education and vocational training, and introduced APC with their wide experience in Tanzania, Mozambique.

APC mainly focuses on developing capacity based on an analysis of the work environment. There are 300 training programs about developing an APC-based capacity development curriculum. The Ministry of Youth, Vocational Training, and Employment has just completed drafting 16 programs. It is planning to produce 280 instructors successively in order to disseminate vocational training based on an APC-based curriculum.

3) Lux Development (Lux Dev)

Lux Dev has implemented projects in Senegal since the late 1980's. Projects mainly focus on the following sectors: education, vocational training and capacity building, health; water, and sanitation. All projects currently underway are carried out within the framework of the Indicative Cooperation Programme (ICP). The latest ICP was signed between Senegal and Luxemburg in 2007, and the duration of the programme is for a five-year period from 2007 to 2011.

The projects in vocational training and access to employment sector includes:

- Vocational Training School in Thiès (2003-2009)
- Support for Technical Schools for Girls in the Region of Saint Louis (2002-2009)
- Vocational Training and Job Insertion Program (2008-2012)

5.2 Outline of Japanese Cooperation

5.2.1 Objectives of the Project

As already described above, since agriculture in Senegal is a main industry of the country, which is highly dependent on the weather, there are very large variations in yield, and the structure of the economy had become unstable.

In 1980, the Senegalese economy, which was dependent on peanuts, was highly vulnerable to fluctuations in the international price and the weather. The Government of Senegal was keenly aware of the need to develop the foundation of other industries, notably promoting the import-substitution industry. In the process of formulating the Sixth 4-Year Economic

Development Plan (81/82-84/85), the government set "promotion of agricultural and fishery industries" and "the development of modern industry" as priority issues. One of the major obstacles in the development of modern industry was insufficient intermediate and junior level technical workers.

Although over 10 vocational training institutes were operating over the country at the time, there were problems with the quality of the curriculum, facilities and instructors, and personnel with necessary skills, which met the demand of industries were lacking. Due to these circumstances, “the establishment of vocational training centers (CFPT)” which was drafted along the above-mentioned measures, the government of Senegal requested the Japanese government for grant aid and technical cooperation.

Initially, the purpose of CFPT was “to supply the talent that would maintain the machine so as not to waste limited resources [24].” Since then, CFPT has flexibly expanded its mission to include supplying mid-level technical personnel, employment in the informal sector, and supplying instructors to other vocational training institutes, in light of the social conditions of the country and the needs of the industry at the time.

5.2.2 Outline of the Japanese Cooperation

Centre de Formation Professionnelle et Technique (CFPT) was established in 1984 with grant aid and technical cooperation from Japan, and it started its operation with a three-year degree program for industrial technicians (BTI) for junior-high school graduates. The program consisted of five courses in the three fields of electrical technology, electronic engineering and machinery.

Photo 5-1: Training Facilities under Construction

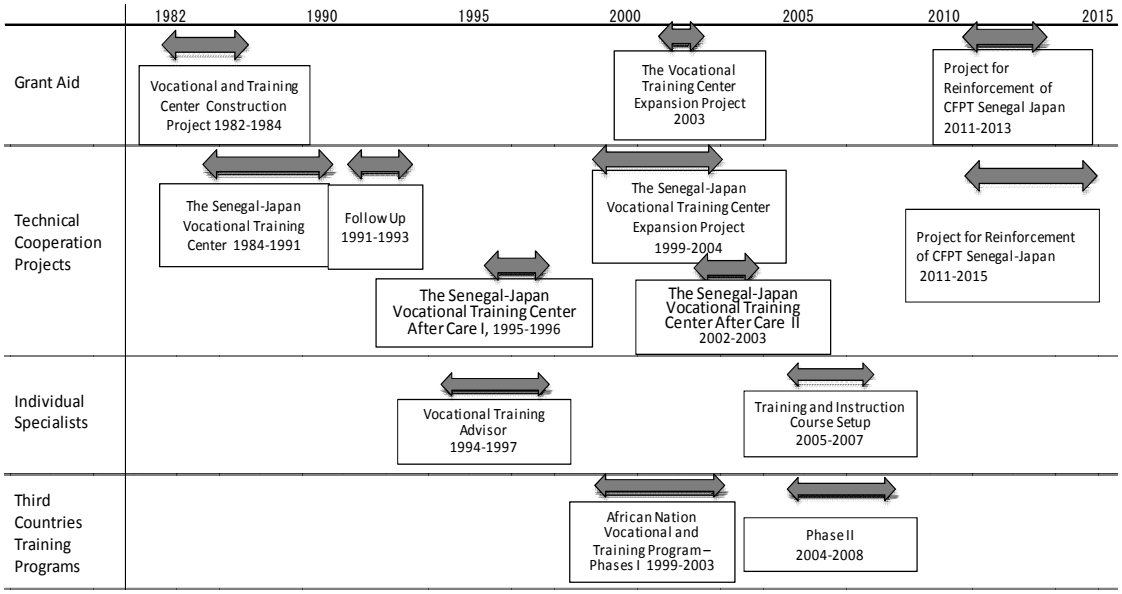
CFPT has horizontally increased courses for BTI as well as vertically increased the high-level technician (BTS) course, which was a two-year program at the junior college level whose coursework included information processing, automobile engineering and electronic machinery.

Following these measures, CFPT opened two new BTS courses from October 2012 for “maintenance of heavy equipment“ and “maintenance of construction equipment”, by

[24] The then president Abdou Diouf stated at the CFPT’s opening ceremony, “repairing and maintaining machinery would contribute to effective technical utilization of the limited resources. It is important as well to reduce the frequent stopping of the production lines. (Takanobu Misho, quoted from “A report on overseas vocational training series 11: a case of Senegal”, Overseas Vocational Training Association, 1988).

reorganizing the existing two BTI auto mechanic and electronic courses. Furthermore, CFPT diversified the activities to provide night classes for employees of private companies that would help meet the demands of the industrial sector and generate adequate income for CFPT itself.

CFPT broadened its range of training to include not only to students, but also adults by providing theme-specific training in the night classes based on demands from enterprises. CFPT also provides technical cooperation to instructors of vocational training institutes in neighboring countries as well. Figure 5-3 shows 13 projects the Japanese government has implemented since 1982.



Source: Prepared by the Study Team

Figure 5-3: Major Japanese Cooperation Project for CFPT

In line with the construction of schools and procurement of machinery and equipment from 1982 through 1984, the project-type technical cooperation supported CFPT in its work of formulating and starting vocational training programs and strengthening its management system.

Since the CFPT project was the first Japanese vocational training project targeting Francophone African countries, there was no Japanese vocational training expert who spoke French. The Japanese government invited four Senegalese counterparts to Japan for 2 years to undergo training in the Japanese language and technical and pedagogical skills improvement before CFPT started its operation. These counterparts joined CFPT when it started operations in 1984. The present director, Mr. Gueye was one of the four counterparts.

The first technical cooperation project, “The Senegal-Japan Vocational Training Center,” focused on the BTI course for CFPT, and the incoming project, “The Senegal-Japan Vocational Training Center Expansion Project,” focused on the BTS course as a secondary stage in order to

enhance CFPT's vocational training. The Japanese government has cooperated with CFPT by utilizing various cooperation schemes including project-type technical cooperation, grant aid, dispatching individual experts and training programs conducted both in Japan as well as in third countries.

The Government of Japan has been supporting the maintenance and installation of training equipment for the newly established two (2) sections (maintenance of construction equipment and maintenance of heavy equipment) from 2011 through 2013. This support aims at producing more technicians, who fill the needs of Senegalese industries, and to contribute to the development of Senegalese industries and poverty reduction.

In addition to that, from 2011 to 2015, the Japanese government has implemented a technical cooperation project, "Project for Reinforcement of CFPT Senegal Japan," to support new courses and management.

5.2.3 Activities

(1) Technical transfer to counterparts

Through the experiences of working with the Japanese experts at CFPT and training in Japan, Senegalese counterparts learned not only knowledge and technology related to their expertise, but also learned work ethics/values/habits that have been respected by Japanese society such as 5S (**s**orting, **s**et in order, **s**ystematic cleaning, **s**tandardizing, and **s**ustaining), punctuality, the work hard ethic, rigorous group work, disciplinary rule, joy of succeeding at something. In particular, those who joined CFPT from the beginning and established CFPT from scratch were in their 20s at the time, and benefitted from the multidimensional technical transfer quite well. Japanese experts strove hard to establish and build CFPT from nothing, which appealed to the Senegalese counterparts, who came to understand the way Japanese people thought about work, Japanese culture, and habits. They felt strongly responsible for establishing and operating CFPT, and a few counterparts even said that the CFPT was "their baby" during the interview.

Photo 5-2: List of Courses at the Lobby of CFPT

Unlike other vocational training institutes which provide lessons focused on theories, CFPT has provided curriculum which focused on practical lessons based on theories. The share of practical lessons has accounted for about 60 percent of the course work at CFPT. CFPT therefore recruited "technicians" who graduated from technical universities and technical schools and taught them pedagogical skills which enabled them to implement curriculum focused on practical lessons. In Senegal, in order

to be qualified as educational public officers, candidates were required to complete teacher-training courses at universities. These technicians were recruited as instructors, and their status was that of semi-public officers, and they were given the opportunity to complete teacher-training courses at universities and later qualified as educational public officers.

(2) Compilation of Textbooks and Teaching Materials

During the first stage of cooperation, technical transfer to the counterparts had not proceeded as scheduled, since counterparts were often absent from work because of strikes stemming from delayed or unpaid salaries by the government;, and they took on side jobs to supplement of their limited salary. To tackle this situation, Japanese experts decided to make textbooks and handouts for practical lessons in collaboration with the Senegalese counterparts for various purposes: the translation fees supplemented their limited salaries and this enabled them to come to CFPT rather than taking on side jobs outside of CFPT and strengthened their understanding about practical lessons based on a full understanding of theories.

Textbooks which the Senegalese counterparts had been using at the time were based on lectures they had received at universities and on existing textbooks, hence there was a lack of description about practical work and skills. Japanese experts and counterparts made new textbooks by discussing topics and compiled basic textbooks first. The counterparts then revised them based on their newly acquired practical experience and the final revised textbooks were used in the practical work at CFPT. Technical transfer from Japanese experts to counterparts was made through this process. This approach is still utilized when Senegalese counterparts train younger instructors.

(3) Utilization and Maintenance of Granted Equipment

Although some reported that equipment granted by the Japanese government were found in non-usable condition, most of them are effectively utilized until now. Maintenance of equipment is appropriately conducted by counterparts.

Photo 5-3: Present Situation of Utilization and Maintenance of Training Equipment 1

Photo 5-4: Present Situation of Utilization and Maintenance of Training Equipment 2

5.2.4 Positioning of CFPT in the National Development Plan

CFPT was established to produce mid-level skilled technicians in line with the policy of "human resources development that contribute to the development of light industry." The original mission of CFPT was to supply human resources who would be able to maintain existing machinery and prevent the country from wasting limited resources.

Since then, CFPT has led the field of vocational training as a pioneer. “The Vocational Training Reform Bill,” issued in 2000, was based on much of the effort made by CFPT ahead of other training institutes, such as capacity development of instructors, employment support for graduates, pedagogy focused on practical work and skills. Another intention of the government was to replace foreign workers engaged in work supervision at construction sites with Senegalese; hence CFPT has played the role of a pioneering training institution focused on developing human resources that respond to new technologies from abroad.

5.3 Socio-Economic Analysis

5.3.1 Outputs

(1) Passing Rates of National Examination Tests and Employment Conditions

According to the report, “Evaluation of Japan’s Cooperation in the Education (Vocational Training) Sector in Senegal”[25], the total number of CFPT applicants increased from 242 in 1990 (passed 85, the rate of passing: 35.1%) to 832 (112, 13.5%) in 1997 and 608 (109, 17.9%) in 2011. The steady growth rates show that CFPT has become an important vocational training institute for the younger generation.

Table 5-1 shows the ratio of students who successfully passed the national examination. Although the ratio has fluctuated, the general trend shows a high success rate of CFPT students. Furthermore, about 80 % of the students pass the BTS examination. The passing rate of BTS from 2006 to 2010 far exceeds the national average and CFPT is regarded as the foremost vocational training institute by industrial sectors in Senegal. More than 3,000 students both in Senegal and from other countries have taken more than 330 courses up to now.

[25] Mizuho Information and Research Institute, Inc.”Evaluation of Japan’s Cooperation in the Education (Vocational Training) Sector in Senegal”, Third Party Evaluation Report 2011, Ministry of Foreign Affairs of Japan, February 2012

Table 5-1: Ratio of CFPT Students who Passed the National Examination Tests

BTI(day course) (%)

Year	Electronics		Electro-technic	Electro-mecanic	Automobile Mechanic
	Consumer electronics device repair	Automatic controling system			
1987	85.7	75.0	-	87.5	66.7
1988	87.5	75.0	75.0	75.0	100.0
1989	88.9	80.0	77.8	80.0	-
1990	100.0	55.6	100.0	88.9	66.7
1991	100.0	88.9	90.0	37.5	90.9
1992	63.6	54.5	58.3	40.0	-
1993	66.7	41.7	-	60.0	16.7
1994	100.0	63.6	83.3	62.5	40.0
1995	81.8	30.8	76.9	62.5	40.0
1996	100.0	33.3	83.3	66.7	33.3
1997	100.0	83.3	81.8	75.0	83.3
1998	100.0	100.0	100.0	100.0	57.1
1999	100.0		100.0	92.3	91.7
2000	92.9		77.8	90.9	100.0
2001	82.4		64.7	90.0	75.0
2002	86.7		100.0	61.5	50.0
2003	86.7		100.0	61.5	50.0
2004	53.3		71.4	83.3	100.0
2005	64.7		73.3	73.3	50.0
2006	77.8		92.3	75.0	64.3
2007	43.8		93.8	58.3	50.0
2008	76.9		60.0	69.2	50.0
2009	66.7		75.0	100.0	50.0

BTS(day course) (%)

Year	Industrial Computer Science and Network	Electro-mechanic	Automatic
2002	87.5	88.9	-
2003	80.0	90.0	-
2004	90.9	90.9	-
2005	100.0	100.0	-
2006	100.0	100.0	-
2007	78.6	85.7	90.9
2008	84.6	100.0	100.0
2009	100.0	92.9	95.0
2010	91.7	91.7	88.2

Source: Evaluation of Japan's Cooperation in the Education (Vocational Training) Sector in Senegal, p.78

Table 5-2 shows the data on employment conditions of CFPT graduates from the report, "Evaluation of Japan's Cooperation in the Education (Vocational Training) Sector in Senegal." From 1987 to 1999, excluding 1997, more than 80 % of the graduates were employed.

Table 5-2: Employment Situation of BT Courses from 1987 to 1998

		1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Electronics Consumer electronics device repair	No.of technicians	6	-	4+2	8	5	7+1	5+1	6	8+1	4	4	9
	No. of employed	6	-	4	7	5	7(1)	5(1)	6	8(2)	3	4	16*1
Electronics Automatic controling system	No.of technicians	6	-	6+1	8	7+3	8+1	7	9+1	15+2	8+1	7+4	9+2
	No. of employed	6(3)	-	6	7	6	6	6(2)	9(1)	14(1)	5	1	0
Electrotechnic	No.of technicians	-	-	3	7	8	7+2	7	-	10+1	9+1	3+2	9+1
	No. of employed	-	-	3	7	6(1)	6(1)	7	-	10	8	2	1*1
Household appliance repair	No.of technicians	8	-	6	7	6+2	4	6	6+1	6+1	4+1	7	6
	No. of employed	8	-	6	7	6	4	6	6	5	4	5	6*1
Automobile maintenance	No.of technicians	3	-	10+2	-	6	9+1	-	1+1	11	4	3+2	1
	No. of employed	3	-	8	-	6	7	-	1	4	1	0	0*1
The rate of employment		100.0%	-	93.1%	93.3%	90.6%	85.7%	96.0%	100.0%	82.0%	72.4%	50.0%	29.5%

Note 1: Figures in parenthesis are self-employed. “4+2” implies 4 students wanted to be employed, 2 of foreigners and late students.
Note 2: *1 provisional figures
Note 3: In Senegal, students normally start finding their jobs after graduation. Therefore, the numbers of employed in 1997 to 1999 are lower than those of other years (data as of 1999).
Source: ibid. p.79

According to interviews with graduates with diversified backgrounds in terms of age, graduation year, courses and qualification (BTI and BTS): i) the number of human resources who had practical skills with a theoretical background was very limited in the 1990s, therefore, CFPT graduates did not face any difficulties finding employment, ii) the number of people who were trained at vocational training institutes due to an increase in newly established vocational training institutes including private ones, whereas the demand of companies did not increase in tandem with the rapid supply of labor to the market; therefore, the market was saturated in 2000, and iii) it became more difficult for graduates to find jobs in the mid-2000s. CFPT organized training in entrepreneurship that targeted new and past graduates in collaboration with JICA. However, it was difficult for graduates, who had no experience in starting a new business. Since the employment situation has continued to deteriorate, it is not always true that job opportunities for CFPT graduates have increased.

(2) Training of Instructors

Japan’s cooperation for CFPT was aimed at training Senegalese instructors to allow CFPT to continue operations even after Japanese experts left. There were no instructors who were able to teach a BTI course in the beginning. During the first technical cooperation from 1984 to 1991, a total of 32 counterparts were seconded to CFPT. Out of this number, two people were promoted as CFPT management whereas eight counterparts resigned from the job after they returned from their training in Japan. Furthermore, technical transfer to counterparts was not conducted as scheduled. Because the total working hours of counterparts were fixed at 18 hours a week and Japanese experts could not find adequate time to transfer the techniques; and technical transfer tended to be delayed. In particular, counterparts in the automobile maintenance course successively left CFPT, which delayed technical transfer. Notwithstanding, Japan has continued to provide CFPT with cooperation; and there are 42 instructors who teach 4 BTI courses and 3

BTS courses. Presently, there are about 75 persons working at CFPT: 12 people who were promoted to CFPT management, machinery maintenance, cleaning, security guards, and 21 people who are engaged in machinery maintenance,

(3) Operation and Management of CFPT

The government decided to allow amd encourage vocational training institutes to generate incomes through effective use of machinery and equipment from 1992 afterwards, when the government needed to reduce budgets allocated for vocational training under the SAP introduced by the World Bank. Taking this opportunity, CFPT started to actively engage in various income generating activities. Some of the incomes obtained were utilized for the salaries of staff members, which prevented them from leaving. Presently, CFPT raises funds from tuition fees for night classes and seminars, which covers 80% of the total revenue as shown in Table 5-3. The total expenditures are managed using the total revenues as shown in Table 5-4. CFPT thus achieved and improved their financial sustainability.

Table 5-3: Revenues of CFPT (Unit：100 million FCFA)

	2005	2006	2007	2008	2009	2010
Government	38.9	53.9	62.9	63.9	63.9	63.9
Tuition Fees	162.4	174.7	176.6	187.1	192.2	182.0
Others	37.8	30.0	42.8	58.2	43.1	58.05
Total	239.2	258.6	282.4	309.2	299.2	303.9

Source : Date up to 2009 is from “Evaluation of Japan’s Cooperation in the Education (Vocational Training) Sector in Senegal”. Data of 2010 is from CFPT.

Table 5-4: Expenditures of CFPT（Unit：100 million FCFA）

	2005	2006	2007	2008	2009	2010
Salaries	130.3	145.2	154.6	165.4	175.0	175.7
Operation	95.0	104.7	107.9	112.0	87.5	103.8
Others	3.3	2.9	9.8	18.6	12.1	2.14
Total	228.6	252.8	272.3	295.9	274.6	281.7

Source: same as Table 5-3

Institutional autonomy at CFPT has been strengthened and CFPT has conducted various activities utilizing available resources on its own initiatives for strengthening the institution. They are organizing seminars for private companies, organizing night classes which generate tuition fees, income-generating activities of respective courses, renting the football court to the local football team, and catering services provided for seminars at CFPT. CFPT started to invite instructors from their French-speaking neighboring countries on its own initiative. After recognizing the impacts, JICA started to support the activities. CFPT has formulated a five-year plan and discussed the implementation structure of the plan with all of its instructors and staff members. Some CFPT graduates started their own business utilizing their practical knowledge and skills and they have employed people from the informal sector. Some are even engaged in activities which are beyond their expertise, but could be dealt with technologically.

The institutional capacity of CFPT has been strengthened. CFPT has made an agreement with the industrial and mining cooperative and second interns to companies. CFPT has organized training courses which meet the demands of the industrial sector and led to practical human resources development. By doing these activities, CFPT has become a model for neighboring countries including those who participated in The Third Country Training Program and have started to request training by CFPT. The principle, Mr. Ousseynou GUEYE, was officially awarded, the Order of the Rising Sun, Gold and Silver Rays in spring of 2011, which is rarely awarded to a foreigner, for his contribution to economic cooperation and friendship between Japan and Senegal.

5.3.2 Impacts

Impacts of the capacity development cooperation targeting CFPT was examined from the aspects of capacity development, ownership and customization at three levels—individual, organizational, and institutional or societal based on the UNDP's conceptual framework on capacity development. Social levels include institutional aspects, the matured level of society and the social context the project has been involved in. Table 5-5 shows the framework.

Table 5-5: Targeted People and Institutes of CFPT Project

	Individual Aspect	Institutional Aspects	Social Aspects
Capacity Development	CFPT Management and staff members CFPT instructors graduates and students	CFPT	Government Other vocational institutes Private companies
Ownership (Sustainability)	CFPT Management and staff members CFPT instructors Graduates	CFPT	Government
Customization (Application, Adaptation and Dissemination)	CFPT Management and staff members CFPT instructors/ Graduates	CFPT	Government Private companies

Source: Prepared by the study team

(1) Capacity Development

CFPT recruited technicians and taught them pedagogy instead of recruiting people who held teachers' license and equipped them with technology. Instructors of each course learned expertise, pedagogy and the work ethics of Japan and they have utilized these for their lessons at CFPT. Students, who studied within this curriculum that put a strong emphasis on practical skills, obtained practical skills based on theory; therefore, CFPT graduates were highly appreciated by private companies in contrast to graduates of other vocational training institutes. For example, a graduate who majored in electric at BTI now works at BCEAO (Banque Centrale des Etats de l'Afríque de l'Ouest) stated, "graduates of CFPT could read drawings and

give accurate instructions based on these drawings. This differentiates CFPT graduates from graduates of other vocational institutes and technical universities. My senior graduated from a technical university, but he cannot read drawings. Therefore, he entrusts me to do the technical responses".

Many graduates pointed out they learned working ethics such as working hard, to be rigorous, strict, well organized, to take initiatives, to be humble, ambitious, joyful at succeeding at something, and the 5S at CFPT and still utilize them at the workplace. They also stressed that thorough practical lessons have helped improve their practical skills, which differentiates them from others, and this helped them build a good reputation at the workplace.

When we look at the institutional capacity of CFPT, it has continued to generate very talented graduates who are able to meet the demands of the industrial sector. CFPT students have maintained a higher pass rate of state examination tests in the country. Graduates are highly appreciated and trusted by the industrial sector. Despite the worsening market environment, employment rates and promotion rates to higher positions are higher than graduates from other institutes. Furthermore, BTS certificates and CFPT qualifications are recognized as one of the criterias to study in France and Canada. CFPT is well known in the West African countries and it has received many students from these countries. The number of overseas graduates account for 5% of the total number of graduates, whereas the maximum quota given to overseas students is 15% of the total prescribed number.

Looking at CFPT's impacts on the Senegalese society, first, CFPT has exerted an influence on government policies indirectly through CNP (employers' association), which is involved in CFPT management. CNP represents vocational training sectors when it participates on the government advisory committee. Second, CFPT has provided training and retraining to workers in both the formal and informal sectors since 1984 when ONFP was established. It is as an implementing agency of ONFP (Office National de Formation Professionnelle), which has provided vocational training budgets based on contributions from unemployment insurance, assistance of donors and international organizations. At the request of the ONFP, CFPT is now conducting training equivalent to 40 to 50 million FCFA per year. Although science and technology has developed rapidly, workers are able to keep up with the pace by participating in the training. The CFPT will continue to play an important role.

(2) Ownerships (Sustainability)

Instructors and staff members of CFPT, especially those who have worked at CFPT from the outset, have strong self-confidence and ownership in CFPT, since they consider themselves to be the ones who built and developed CFPT from scratch. CFPT graduates have confidence in the knowledge and skills they obtained at CFPT. They occasionally teach their colleagues what they know, share information about industries they work in to CFPT, and play the role of an external examiner of CFPT's entrance and graduation examinations.

(3) Customization (application, adaptation and dissemination)

CFPT counterparts have made great effort to apply what they learned from the experiences of Japan to Senegalese society to help establish the vocational training system. For example, while in Japan, students of vocational training schools clean the rooms, prepare materials, operate machinery, maintain the machinery after use and clean the place. This series of work is done by students to allow them to learn about problems related to machinery during its operation. After their return to Senegal, students clean the rooms after the exercise, but the initial preparation is done by the cleaning staff, a reflection of the Senegalese division of labor system. However, CFPT teaches the cleaning staff the reason why they have to clean the place from the standpoint of security and hygiene control to prevent accidents.

As mentioned above, CFPT took the approach to recruit and teach technicians about pedagogy and allowed them to obtain teachers' licenses later, and it did not follow the then popular approach of recruiting teachers with licenses to teach them technology, in order to provide vocational training with a strong emphasis on practical skills and lessons based on Japan's experiences. This was an approach where the CFPT has tried to apply the Japanese style of vocational training within the context of Senegal.

An open and frank relationship between Japanese and Senegalese has been applied to (a) students and teachers, (b) graduates and their colleagues, and (c) CFPT operations. Senegalese counterparts have open and frank relationships with students, and graduates have mentioned that they were easily able to ask instructors about theoretical and practical issues. The open and frank relationships are continued by graduates and their colleagues. This is another impact CFPT has made in Senegalese society.

5.4 Human Resources Development Story

5.4.1 Introduction

At the end of September 2012, towards the end of the rainy season in the Senegalese capital of Dakar, there were some unusual visitors to CFPT. They were Dr. Jane Egau Okou, the Assistant Commissioner of Instructor Education at the Department of Teacher and Instructor Education and Training (TIET) of the Ugandan Ministry of Education and Sports, Mr. Matovu Musoke – the Principal of Nakawa Vocational Training Institute (NVTI) of Uganda, Mr. Emanuelle Akinwale – Director of the Personnel Affairs Department of the Yaba College of Technology in Nigeria, and Mr. Dadet Pramadihanto–Director of Electronics Engineering Polytechnic Institute of Surabaya in faraway Indonesia. All four members have devoted their energies to "human resources development" that will provide the driving force in the future development of their respective countries.

Guided by JICA expert, Mr. Kiyoshi Yotoriyama, the group first observed the brand new practical training facilities and heavy machinery store that have been constructed under Japanese assistance for the heavy machinery maintenance department and building equipment maintenance department that opened in October 2012, as well as the latest equipment and resources that have recently been provided to pre-existing departments. After that, the four visitors took part in an animated discussion with the Director of CFPT, Mr. Ousseynou Gueye. Among various ideas that were aired, the members discussed inviting instructors from NVTI in East Africa to receive training at the heavy machinery maintenance department for the first time since the establishment of CFPT, and inviting instructors from NVTI to receive training at the Electronics Engineering Polytechnic Institute of Surabaya under scholarships provided by the Government of Indonesia. After having undergone various transformations in 25 years since its establishment, CFPT was about to embark on a new stage of evolution.

Photo 5-5: CFPT Visit by the Participants of the Seminar on HRD Cooperation

The following HRD story introduces the 25 years of CFPT, which has continued to evolve under Japanese technical cooperation not so much as an organization but rather like a living organism with a mind of its own.

5.4.2 From Birth to Autonomy

(1) 25 Years of History

Senegal is located on the western tip of Africa. If one drives for 14 kilometers along the trunk road leading from the center of the capital Dakar situated at the tip of the peninsula that juts into the Atlantic Ocean, one will come to a two-story cream-colored building by the side of the road. Underneath a dark blue logo comprising the four round font type letters “CFPT,” the country names of Senegal and Japon (Senegal and Japan) are inscribed in French. In Senegal, where 100,000 young people join the labor

Photo 5-6: Gate of CFPT

market every year, CFPT contributes to the supply of technical human resources to this market.

Unlike many western African nations where poor security and political instability are commonplace, Senegal has enjoyed a stable civilian government ever since it gained independence in 1960, and this stability has enabled it to serve as a gateway to inland countries and as a regional center of distribution and economic activities. Until the middle of the 1970s, the national economy was dependent on agriculture based on peanuts and cotton flowers; however, because traditional agriculture was greatly influenced by the weather, meaning that yields fluctuated greatly, it was also susceptible to fluctuations in international prices, and the resulting decline in international competitiveness was an issue.

Accordingly, the Government of Senegal came to recognize the need to promote import substitution industries and other sectors in order to reduce this economic vulnerability. From around 1980, the government targeted the twin goals of "promotion of agriculture and fisheries" and "development of modern industries." In particular, concerning the "development of modern industries," it was necessary to develop medium level and basic level technicians and mechanics.

Under these circumstances, the Government of Senegal issued a request to the Government of Japan for assistance in the vocational training field. Since this happened just at a time when Japan was aiming to advance international cooperation in the technical and vocational training field in terms of training industrial human resources who can directly contribute to industrial development and offering opportunities to improve the standard of living for socially disadvantaged groups, the government decided to offer grant aid assistance to Senegal in the form of facilities construction and equipment supply in 1982. In tandem with this, JICA consigned the Overseas Vocational Training Association (under the jurisdiction of the former Ministry of Labor and Welfare) to implement technical cooperation geared to establishing a vocational training center and strengthening the operating setup for this via technical guidance for instructors.

The aid targeted the four departments of electrical technology, electronic engineering, electronic machinery and automobile maintenance—all of which were basic technologies for which needs were increasing in the rapidly growing fields of automobiles and computers. From 1984, as a technical cooperation project, a BTI program consisting of three-year courses targeting junior high school graduates was started.

After that, in 1999, CFPT established BTS courses geared to presenting diplomas to middle and high level technicians in the three fields of data processing, automobile engineering and electronic machinery.

Moreover, in 2011, the decision was taken to provide grant aid to construct new facilities that will house a heavy machinery maintenance department for teaching maintenance of construction machinery and a building facility maintenance department for teaching building maintenance

and wiring. In tandem with this, practical training equipment for use in construction equipment and road development, a vehicle garage for the heavy equipment maintenance department, and other equipment necessary for practical training were constructed and installed. At the same time, “Project for Reinforcement of CFPT Senegal-Japan” (technical cooperation) is being implemented from 2011 to 2015, and operational support is being offered to prepare for the launch of the new departments.

* * *

On looking back over the 25 years of CFPT, one is again surprised at the way in which the center has expanded and enhanced its facilities and functions.

Naturally, the backdrop to this development has been marked by various dramas and struggles. All the Japanese experts and local teachers agree that they thought CFPT would never make it to 25 years at the beginning, and they talk about how the project initially struggled to get going and even faced collapse.

However, every time such difficulties presented themselves, the instructors and Japanese experts embarked on trial and error and succeeded in evolving CFPT. Here, we take a journey through CFPT’s past and recall the transformations that occurred along the way.

(2) Starting from Zero

CFPT was not a project to build the capacity or expand the activities of an existing vocational training institute, but rather it started from scratch. As a result, the history of CFPT has been one of making do without various things.

To start with, there was no center building. Therefore, in 1982, the Government of Japan offered grant aid to construct the building and provide practical training equipment.

There were no instructors to conduct guidance. The center placed large advertisements in newspapers in order to recruit instructors. Unlike other vocational training institutes that taught technology to persons with teacher qualifications, CFPT offered to admit engineers, teach them how to conduct instruction and confer teacher qualifications. In response, there was an avalanche of applications from Senegalese engineers who sensed how serious the center was about training industrial human resources.

Meanwhile, the Japanese side also had to deal with its own issues. Because the request from Senegal was the first from Francophone Africa, Japan didn’t have any human resources who were capable of conducting vocational training in French.

Accordingly, Japan recruited four members by similarly placing advertisements in Senegalese newspapers, invited them to Japan before the start of the project, conducted Japanese language training for a year and instructional method training for another year. To coincide with the return of these members to Senegal after two years, Japan also dispatched two Japanese experts to

Senegal. This Japanese training was continued for a number of years with the objectives of teaching the minimum level of Japanese required to receive technical guidance in the Japanese language, and having the trainees understand Japanese society, labor customs and corporate culture firsthand. Eventually, the technical cooperation project commenced in 1984. Since there were no teaching materials in the French language, trial and error continued while making use of professional texts from Japan and textbooks that were commercially available in the local area. Mr. Takanobu Misho, who was the first project leader, looks back on the opening ceremony as follows, "It was a grand occasion held in the presence of the President of Senegal and the Japanese Ambassador to Senegal."

Photo 5-7: CFPT Opening Ceremony

Today, CFPT is surrounded by new buildings and houses, and the trunk road in front of the main gate is busy with traffic; however, when the center was first established, there were no buildings and the area was "just fields" (Mr. Misho). When CFPT was first built in this desolate location, its only connection to the city was a bus service that operated once in the morning and once in the evening. When lessons started, the students commuted by bus. Because the bus went around the students' houses, the students had to leave home early in the morning, and since the evening bus left five minutes after the end of lessons, the students would rush out of the classroom as soon as the lesson time was up. Moreover, because there were no restaurants in the local area, students would sometimes have nothing to eat between leaving their homes and returning in the evening. (As an aside, when graduates of CFPT who studied there in those days were interviewed, they all laughed and talked about how hungry they used to feel, so the experience certainly left an impression on them. Eventually, at the strong urging of the students, CFPT built a canteen on the center premises.)

"When CFPT was launched, there was a great deal of interest with people talking about how the Japanese had built the new training center and how it was now possible to learn about *monozukuri* or the Japanese style of manufacturing. CFPT gained a good reputation among the Senegalese people because people said that the Japanese were willing to pass on all their know-how without holding back" (Mr. Misho).

(3) Discrepancies in Values

However, not everything was plain sailing. All the Japanese experts were at first bewildered by the fact that the local counterparts had no understanding at all of the 5S (sorting, straightening, sweeping, standardizing, and sustaining) that had supported Japanese manufacturing, and they

underwent various trials and tribulations.

For example, in Senegalese society, where there is a very clear division of roles, technicians who operate machines do not usually conduct cleaning. Therefore, when it came to things like machine cleaning, which is standard practice in Japan, there was a strong feeling that "This isn't my job" among the instructors and this made it difficult to teach them. Mr. Den-ichi Sato, who was dispatched to CFPT as an expert in the field of electronics in March 1984, looks back as follows: "Although they intellectually understood that clean is better than dirty, they were highly sensitive about "stealing other people's jobs" and they steadfastly refused to do cleaning at first."

Photo 5-8: 5S Promoted at CFPT

Even so, when it comes to manufacturing (*mono-zukuri* in Japanese), gaps appear in work if the people in charge of cleaning are different from the people who operate the machines. In order to convey the Japanese sense of values whereby everybody has pride in the uniform and joins in the cleaning together, Mr. Sato and the other experts tried various techniques such as expressing exaggerated pleasure when seeing that cleaning had been done or repeatedly performing the work on the ground for the trainees to see.

The process of understanding and accepting cultural differences between the two countries was also constantly bewildering for the Japanese experts. Mr. Atsushi Fujimoto, who worked as the third project leader, offered some advice to a counterpart instructor who was instructing a student how to use a lathe at the time; however, later on the instructor exploded with anger. "From his point of view, it was as though I had criticized him in front of a student and his pride had been hurt. This made me keenly realize the difficulty and importance of respecting another person's pride."

Another serious issue was the labor law that prevented people from working for more than 21 hours per week. Since delays in delivery of salaries from the government were commonplace at the time, the instructors and counterparts had low incentive at first and often resorted to strikes. Counterparts also often missed work because they were busy with other part-time jobs. Mr. Toshikazu Bito, who was the second project leader, looks back as follows: "We frequently struggled to transfer technology because we were so busy with meetings, discussions and joint work."

Mr. Bito puzzled over ways to improve the situation. Because the English language teaching materials that had been prepared in Japan lacked descriptions on practical skills and practical

learning, he commenced work on preparing texts and materials giving priority to practical skills, and he came up with the idea of paying the counterpart instructors to translate those materials into French. As Mr. Bito says, “It was after we started paying these supplementary wages that the project started moving and we were able to conduct concrete activities.”

(4) Realization of “Cooperation”

Certainly these measures made an impression on some of the counterparts. In spite of delayed wages and the departure of colleagues for other posts, they chose to remain in CFPT and today continue to instruct students there. The fact that they previously studied in Japan and became well-versed in Japanese labor values generated good results in the end.

One such member was Mr. Mamadou Barry, who is in charge of the automatic control technology course at CFPT. After graduating high school, Mr. Barry was dispatched by the Ministry of Labor to Niger as an electric technician, and after returning home, he was encouraged by his brother who had seen a newspaper advertisement to sit the examination for CFPT and he found employment as a teacher. Mr. Barry says that he even took part in strikes when wages were not being paid; however, he also says that he “sensed the moral determination of the Japanese experts to somehow make things better” on seeing the efforts of the experts. He says, “When I saw their attitude, I decided to believe in CFPT and stay on.” As it turns out, he is the only automatic control instructor of that time who is still at CFPT today.

Mr. Amadou Mbodji, who is responsible for the information course, graduated from university in Dakar and he too joined CFPT after seeing a newspaper advertisement and took the examination. After returning to Senegal after spending one and a half years studying in Japan, he was placed in charge of the electrical technology course and was extremely busy preparing for the start of lessons. After that, Mr. Mbodji also launched the computer section at CFPT in response to the growth in demand. Concerning why he chose to remain at CFPT, he looks back as follows: “I thought there was something very worthwhile about building a school from zero together with the Japanese, and I also felt a clear desire to conduct specialized training under the CFPT policy of recruiting engineers and nurturing them into teachers based on teaching instruction methods, as opposed to other vocational training centers that produce instructors by teaching technology to teachers.”

Photo 5-9: Mr. Mbodji, Explaining about Training Equipment

In this way, it seems that the time spent with the Japanese experts while overcoming various gaps, left a powerful impression on these members who were in their 20s at the time. In addition

to working hours, these members spent their holidays mixing with the Japanese experts on a family basis and through such exchanges they learned about not only instruction techniques and equipment maintenance methods, but also picked up new values regarding work, teamwork and self-help, and these experiences influenced their later code of conduct.

In reality, as Mr. Mbodji reflects, “On watching the Japanese custom of constantly cooperating with others, I realized that I needed to utilize knowledge from the automatic control field managed by Mr. Barry in my own field of information processing, and this encouraged me to cooperate.”

The frank and open relationship between the instructors and Japanese experts was also seen between the instructors and students. In CFPT, since instructors’ rooms were established in the practical learning block, students were easily able to visit the instructors’ rooms and ask for advice. As Mr. Barry recalls, “When students brought ideas and questions, we would take time to discuss things in depth.” Mr. Mbodji, who was only 23 when CFPT opened, says he often had conversations about student scholarships and family life with students who were older than he. This was unusual in Senegal, where it was commonly regarded that teachers were a separate entity not to be casually spoken to by students.

(5) Establishment of BTS Courses

After that, as was mentioned earlier, in 1999, CFPT started evolving when it established BTS courses geared to presenting diplomas to middle and high level technicians. The idea for adding these courses originated on the CFPT side; however, Mr. Barry says that the frank relationship of the instructors with the Japanese experts was a major background factor.

Photo 5-10: Discussion with Japanese Experts (in 1990s)

Mr. Barry said that one scene was etched in his memory. Around 1994, during a conversation between some of the CFPT instructors and a Japanese expert who had been dispatched to the Ministry of Vocational Training, the Japanese expert casually remarked, “If CFPT remains at the BTI level, it will become engulfed by all the other vocational training schools in the near future. CFPT needs to grow from the high school graduate level to the junior college and university levels; it needs to be a leader of other vocational training centers.” In this way dialogue on the future vision of CFPT was started. The instructors immediately drew up a plan to add BTS courses and presented it to the principal Mr. Gueye. It was from this time that moves to newly establish BTS courses in CFPT took on added impetus.

It took around five years in order to obtain understanding from the Government of Japan for this

idea and recognition of the need to establish new courses, but the decision to establish the new courses was finally taken in 1999. While receiving support from Japan, CFPT took the initiative in compiling the curriculums and operating the courses under the new program.

(6) Autonomy of CFPT

Meanwhile, it should not be overlooked that completely different external factors had a major influence on the "evolution" of CFPT. This was the SAP that was advanced in the 1980s.

Photo 5-11: Practical Class (in 1990s)

When CFPT was launched at the start of the 1980s, it was a time when countries throughout the world were experiencing serious debt problems. With respect to countries that were burdened by growing deficits and were struggling to repay their external debts, the IMF and the World Bank proposed policy packages emphasizing market principles such as reducing subsidies, reviewing public utility tariffs, reducing expenditure on social security issues, inducing high interest rates and promoting trade and price liberalization. These proposals were made as new loan conditions geared to improving the international balance of payments.

Under this policy, the environment surrounding CFPT changed.

The size of the budget that the Government of Senegal could allocate to vocational training centers was drastically cut, and CFPT and other centers were confronted with an operating crisis. On seeing these training centers that were unable to procure even raw materials, the Government of Senegal revised the law in 1990. Under the revisions, CFPT and CNQP (Centre national de qualification professionnelle = the national vocational qualification center) were given special permission to conduct fund-generating activities that had hitherto been prohibited, and they were permitted to autonomously raise operating funds through utilizing the equipment they owned. Confronted with the need to raise funds through its own efforts, CFPT embarked on a process of trial and error in implementing seminars at the request of private companies such as Sonatel and Nestle, opening night courses or lending the center football pitch at cost. Through utilizing the resulting revenues to pay the salary of employees, CFPT thereby succeeded in keeping hold of its personnel.

In view of the success displayed by CFPT, the Government of Senegal gave permission for all public vocational training centers to conduct income-generating activities in December 1991. From 1992 onwards, all vocational training centers were encouraged to generate their own funds by making use of the equipment they possessed. In other words, when viewed in terms of results, CFPT was forced to make a major leap forward when faced with the urgent need to free itself of

its conventional management culture of dependence on government subsidies.

CFPT today obtains approximately 80% of its total revenue from lessons and seminars centered on night courses.

5.4.3 CFPT Brand

(1) Students as a Signage

As an evolving organization, CFPT is strongly oriented towards giving back to Senegalese society and it actively seeks to develop in collaboration with private sector companies and help its students find employment. For example, the center established an employment assistance section to give individual career related advice to students; it posts the personal histories of students on its webpage in order to advertise to companies, and it invites recruitment officers from companies to attend final examinations for BTS courses (diplomas) to help them conduct matching. Thanks to these efforts, the employment rate among CFPT graduates is higher than 80%.

Many companies actively recruit graduates of CFPT. For example, Sonatel, which is the state telephone company, has so far recruited roughly 50 graduates of CFPT. Mr. Ndiaga Seck, the Head of International Telecommunication and a graduate of CFPT, has the following to say about his old school. “I was very happy to learn Japanese methods and new customs. Graduates of CFPT are balanced in that they possess excellent know-how and practical skills and have also acquired 5S values.” At this company, eight out of 10 employees on the production line are graduates of CFPT.

Mr. Malik Gueye, who is Director of the Industrial Development Department at Patisen, a food company that makes bouillon soup, chocolate paste, and margarine, also rates CFPT very highly. “Its graduates have a much better grasp of basic attitudes than graduates of other schools in the areas of cleanliness, punctuality, work discipline and diligence.”

As was mentioned earlier, following the establishment of the construction machinery maintenance department and heavy machinery maintenance department in 2011, the Japanese construction machine maker Komatsu invites CFPT instructors to participate in customer training at the training center it has established on the grounds of an affiliate company in the outskirts of Dakar. In this way, cooperative relations are being gradually built between the two sides.

Photo 5-12: Komatsu Dakar and BIA

The CFPT graduates are also highly regarded by the teachers of other vocational training centers. Mr. Ba, the Director of G15 which, like CFPT, accepts students from neighboring countries thanks to past support from the Government of India under the framework of the Conference of the Non-Aligned Movement, says, “The greatness of CFPT does not only exist in its state-of-the-art equipment and wonderful teachers. Its approach to conducting tie-ups with private sector companies with a view to promoting employment and reflecting the wishes of companies in its curricula is a revolutionary and totally new way of doing things in the vocational training field in this country.”

Moreover, Mr. Sanga, the Director of a physical distribution vocational training center that was opened in 2005 under assistance from AFD of France, says, “CFPT graduates, especially those from the electric components and electronic control fields, are renowned for being at an extremely high level. They also have good ability when it comes to writing reports and communicating with operators, and they have come to fill team leader and management positions in workplaces all over the country.” As Mr. Atsushi Fujimoto, the third project leader, says, “The graduates who commence careers from CFPT every year are its greatest signage.” These graduates serve to inscribe the CFPT brand and enhance its renown throughout Senegalese society.

Moreover, CFPT has implemented Third Country Training Program for vocational training instructors from 11 Francophone countries in Africa since 1999, in addition to dispatching instructors to neighboring Mali under the Third Country Expert scheme, resuming acceptance of trainees from the national vocational training institute (INPP) in the Democratic Republic of Congo, where there is a high need for development of industrial human resources following more than ten years of civil war. In this way, CFPT has contributed to human resources development in more than 20 nearby countries, and such international students today account for roughly 15% of all students at the center. By taking the things they learned at CFPT back to their own countries and spreading them through instruction, there is no doubt that the “CFPT brand” has achieved unshakable status not only in Senegal but also among the other West African nations.

(2) Successful Graduates: The Story of the Company President Ms. Coumba

Here we introduce a graduate who has been indispensable in demonstrating the “CFPT brand.” She is Ms. Ndeye Coumba Mboup, the female president of the auto repair company, Femme Auto.

Since she was talented at mathematics and physics, Ms. Coumba was encouraged by her father to pursue engineering. After she graduated high school at age 19, she took and passed the CFPT examination for the auto maintenance course. Although she embarked on her studies in high spirits, she came to regret her choice in just two weeks. During the workshop training which accounted for 80% of the coursework, trainees were obliged to wear work overalls and safety

boots with the intention of promoting safety awareness; however, Ms. Coumba found conditions to be very hot and just putting these things on wore her out. Even the hammers and other tools were too heavy for her, and she felt isolated as the only woman student among men. Feeling like she was “in a cattle shed,” she told her father one day that she was quitting the school, and one week later she refused to go to CFPT and stayed at home.

Photo 5-13: Ms. Coumba

Then one day she received a telephone call at home from an unexpected person. It was the Principal, Mr. Gueye, ringing up to say he was worried about reports she had quit school. He said, “Whatever, come over to the principal’s office and let’s talk about it.” So she went to see the principal the next day and he patiently listened to her words and then said, “I also majored in machinery. I know it can be hard. But it only seems that way at the beginning. You’ll get used to it after a while.” Although he was the principal, Ms. Coumba felt warmth and kindness as though he was her father, and she decided to return to school. After that she applied herself to her training as hard as she could.

After graduating CFPT, she worked for Renault and Matt Force Co. in Dakar and further deepened her knowledge on auto technology and marketing. Then in 2006, she realized her long-held dream of launching her own company, Femme Auto, using her savings as capital. It is a small repair shop that handles all kinds of auto repair jobs including batteries, air conditioning, chassis and body repairs. One can sense the fierce determination of Ms. Coumba from the company name which means “cars for women.” While looking at the company employees in their red uniforms, she says, “Women drive cars without knowing how to change the oil let alone make repairs. That above all is why I started this company.”

In Senegal, car repair work tends to be viewed as a low class profession; however, the expressions of Ms. Coumba and her employees are cheerful and confident. She wonders, “One day this small workshop may turn out a car that is representative of Senegal.” Her down-to-earth work has been well received and her company, which started out with three employees including herself, now employs 35 people after seven years. In addition to graduates of CFPT and other vocational training centers, the company also actively employs human resources from the so-called informal sector. CFPT, with its white walls shining in the sunlight, continues to support the challenges of trainees who hope to bring about a small revolution in the engineering market of Senegal.

5.4.4 The "Living Organism" that is CFPT

(1) Destination of Evolution

In Senegal, the demand for human resources who are endowed with advanced skills, have graduated university level engineering programs and are able to conduct line operations is increasing. In response, CFPT is actively promoting collaboration with the engineering polytechnic ESP.

In this way, CFPT has fitted itself to the needs of the age, sometimes getting ahead of the times and sometimes making drastic changes. Consolidating the latest technology and know-how, it has continued to fulfill the role of being a driving force for industry. In Senegal, where "people who wash their hands after work" are looked down on, CFPT has assumed a status far removed from the conventional view of vocational training centers as "places where students who can't make it into general courses go." Far from it, as Mr. Ibrahim Diam, a senior advisor of the Canada International Development Agency (CIDA), points out, "CFPT has brought about a change in the mentality of Senegalese people." He points to cases where people who have already graduated university with master's degrees seek admission to CFPT in order to acquire skills that will be advantageous in the workplace.

Photo 5-14: Mr. Gueye, Principal

One can gather a sense of pride as both innovator and incubator in the Principal Mr. Gueye's words when he says, "CFPT always has and always will take risks before others and it will continue to be a pioneer in industry." It will be well worth watching the way in which this living organism grows and evolves from now on, as well as to observe the impact this will have on relations between Senegal and the rest of the world.

(Reported by Ms. Mitsue Tamagake)

5.5 Features and Lesson Learned of Japan's Assistance to CFPT

5.5.1 Assets Generated by Japanese HRD Cooperation

Japan's long term cooperation to CFPT generated the following various assets.

- More than 3,000 graduates who are equipped not only with good skills, but also with good work ethics are highly appreciated at the work place. Graduates helped CFPT even after graduation by collaborating with CFPT by playing the role of external examiners at entrance and graduation examinations and by receiving interns from CFPT. A network of

CFPT graduates exists.

- The self confidence and trust between Japanese and Senegalese stakeholders that they built the best vocational training institute in Senegal from scratch, which has paved the way for others and is well recognized by neighboring countries as well, enhanced the smooth implementation of Japan's cooperation. CFPT counterparts fully understood the advantages of Japan's assistance and technology and have operated and managed CFPT effectively and efficiently.
- CFPT trained 42 instructors capable of providing practical education and training through practical skills lessons.
- CFPT has contributed to training people coming from more than 20 countries through Third Country Training.

5.5.2 Promoting and Hindering Factors for Human Resources Cooperation

There are several factors that have enhanced the impacts of *Hito-zukuri* cooperation to CFPT. First, the project started in the right time when the Senegalese government attempted to strengthen "vocational training and technical education" under its national policy. Second, training conducted in Japan has not only improved the practical skills of core members of CFPT who have been actively engaged in the operation and management of CFPT, but also provided opportunities for them to learn about work ethics/customs of Japan. The experiences in Japan helped the counterparts understand Japanese technology and Japanese assistance, which resulted in the development and allocation of right human resources at CFPT, who fully understand and are broad-minded about Japanese assistance. These people tend to have strong leadership and ownership of CFPT, which became a driving force for further development of CFPT. Moreover, the government has kept facilitating the implementation of Japan's assistance to CFPT, by keeping core human resources who clearly understood the value of vocational training in the government, which effectively enhanced implementation.

Japanese experts and Senegalese counterparts have closely communicated with each other frankly and openly, which built trust. Counterparts gradually understood the importance of *Mono-zukuri*. As CFPT started to be recognized as the best vocational training institute in Senegal which has always paved the ways for others, the principal, instructors, staff members and students tended to be proud of CFPT.

The appropriate and flexible application and transformation of Japan's rich know-how to start up vocational training institutes from scratch into the Senegalese context in collaboration with counterparts, has helped sustain CFPT's institutional capacity to support activities. The Japanese government has been monitoring CFPT's activities regularly and occasionally responded to technological innovation and changing market's needs by setting up new courses and renewing machinery and equipment over the long term. The approach has contributed to maintaining and improving the quality of CFPT's training.

There were several factors that constrained effective implementation such as delayed or non-salary payments which caused strikes by counterparts. However, both Japanese experts and Senegalese counterparts have fully worked out and solved the problem. Instructors of CFPT were not permitted to work more than 21 hours a week according to the government regulation, which affected the lessons. Therefore, CFPT requested the government to deregulate the maximum working hours like other vocational training institutes.

Photo 5-15: Mr. Gueye (center), Dr. Saliou Diouf (right) and Ms. Cumba

5.5.3 Characteristics of Japan's Assistance in Human Resources Development

The CFPT project aimed at establishing a vocational training institute from scratch and was not expected to continue as long as 30 years. A Japanese expert even mentioned that the project would continue only during the technical cooperation period from 1984 to 1991, whereas Senegalese counterparts considered that it was very tough work to establish a vocational training institute from nothing and did not expect CFPT to continue as long as it has. But, CFPT has been in operation for almost 30 years now. There are some features specific to Japan's assistance behind the continuity.

It is said that traditionally, those who "wash their hands after work" such as machinery fixers and blacksmiths have been discriminated against in Senegalese society and "making something" was less regarded. In such a country, the CFPT project tried to introduce a different value which respects making something, in other words, *Mono-zukuri* that is defined as "the duplication of design data into a material" and also as the "art, science and craft of making things"[26], as Japan's long term collaboration to CFPT has not only covered technology and processes integrating development, production and procurement, but also intangible qualities such as craftsmanship and dedication to continuous improvement. Putting more emphasis on technology, CFPT employed technicians, who learned pedagogy to be a teacher later and not vice versa. It shows CFPT's clear view about training people who can work in the industrial sector.

Senegalese people considered the approach CFPT took was different from that of its former suzerain state, France, in the sense that CFPT has tried to train Senegalese instructors from the beginning of 1979 to enable CFPT to educate Senegalese students using their own human resources over the long run. In addition, vocational training institutes need to update the facility,

[26] Takahiro Fujimoto, Prof. of the Manufacturing Management Research Center at the University of Tokyo.

machinery and equipment to respond to the changing demands of the industrial sector as well as human resources under the rapid progress of technological innovation. Japan fully recognized the importance, and has been closely monitoring CFPT since 1984, replacing, introducing or maintaining needed machinery so that all the facility is in order taking into account technological innovation. Japanese experts and JICA have jointly utilized available cooperation schemes together in order to meet CFPT's various demands. The cooperation style could be a feature of Japan's assistance.

G15 would be a comparable case to CFPT. G15 was a vocational training institute supported by the Indian government from 1997 to 2000 within the framework of the Non Allied Movement. Like CFPT, G15 tried to train Senegalese instructors by providing buildings, machineries and equipment, dispatching Indian experts, and receiving Senegalese counterparts in India, France and Bangladesh. Having done this, the Indian government expected G15 to operate and manage the institute by the Senegalese themselves after 2000 when India withdrew. G15 is operated and managed by Senegalese counterparts now and it is popular among students in line with CFPT. However, after the Indian government terminated the cooperation, G15 could neither replace obsolete machinery nor establish new courses such as telecommunication in order to respond to market needs using its own budget. Therefore, it was unable to respond to industrial sector demands. G15 has been looking for other donors such as Canada and Korea.

With Japan's assistance, CFPT has not only updated machinery and equipment, but expanded their courses in line with social and economic changes. The Senegalese government stressed the importance of improving access to technical education and vocational training, quality improvement and improvement of the operations and management of facilities in its revised policy on education and vocational training in 2003. The policy proposed construction, food processing and port and harbor works as important subsectors in vocational training. Based on this policy, CFPT started two new BTI courses on maintenance of construction facilities and maintenance of heavy machinery by reorganizing two BTI courses on automobile maintenance and electric. It is not only Japanese assistance that establishes new courses in tandem with changes in government policy, as in the case of AFD that that provided assistance to establish privately operated vocational training institutes on food processing and port and harbor works. Therefore, this approach cannot be described as a specific feature of Japan's assistance. However, the fact that Japan has been collaborating for a long period of time with CFPT has enabled CFPT to teach the latest technology, which has been far advanced and paved the way for other vocational training institutes, technical high schools, technical universities and private companies. It could be said that the existence of CFPT per se has changed the public mentality of discriminating against "artisans and technicians", which is the essence of Japan's assistance for *Mono-zukuri*.

There are several issues to be considered about Japan's assistance. First, how has the concentration of Japan's assistance to CFPT exerted an influence on other vocational training

institutes and how has it been understood by the Senegalese when there are many other vocational training institutes that require attention. It is crucial for vocational training institutes to regularly update their technology and facilities in the face of rapid technological innovation in the market in order to conduct training effectively. However, it is rather difficult for vocational training institutes to respond to market needs using their own funds. This is true in Japan as well where it is difficult for vocational training institutes to fully update their facilities using only their own funds. Local governments have provided budgets for vocational training to update machinery and equipment. Given these circumstances, it was natural for Japan to concentrate its assistance only on CFPT until CFPT got on the right track and became recognized by society. Due to this concentrated assistance, there were many impacts on the society as described above.

However, while the Government of Senegal alone will not be able to update the facility and machinery of CFPT from now on, Japan will need to change its cooperation approach to CFPT as ODA budgets are declining. How to update the technology and facility of CFPT in order to prevent them from becoming obsolete is a major issue.

Collaborating with private sectors is a promising solution to catching up with rapid technological innovation as well as a source of human, physical, financial and technical support apart from ODA. CFPT has already started collaborating with Komatsu Dakar, which is a hub for West African countries and it has received students from about 20 African countries in the field of heavy machinery maintenance within the CSR framework. Unlike ODA, training provided by a private company is aimed at specific objectives which the company wants the trainees to obtain; and therefore, it is rather challenging for CFPT instructors to obtain wide-ranging theoretical and technical skills adequate for instructing students. It should also be noted that the costs of training by private companies are higher than those provided by ODA. For CFPT instructors, who have been accustomed to studying under the official assistance programs of the Japanese government, the mindset to work with the private sector is needed. Furthermore, as CFPT has already started collaborating with Canada, CFPT's ownerships are anticipated to be further strengthened in its endeavor to look for other donors in addition to Japan.

Second, further improvement of the CFPT management is another issue that needs to be considered. In vocational training institutes in Japan, there exists a committee system which enables respective instructors and staff members to discuss different issues and propose the discussion results to a management board, in other words, a bottom-up decision-making process is widely adopted. This kind of bottom-up decision-making process has not existed in the Senegalese society where all the power and authority are given to the principal and the delegation of power to respective section heads is not implemented. CFPT is now formulating a quality management system by all teachers and a five-year action plan, which shows the future activities of CFPT, was developed. These are also seen as CFPT's initiative. It is necessary for

the new management system to function before the retirement of the present principal in three years.

Third, the future direction of CFPT needs to be further discussed between the two governments. CFPT is now shifting from the BTI course to BTS courses, which are equivalent to technical college or technical junior college in Japan. The reason behind this change is that CFPT intends to differentiate itself from other vocational training institutes and to maintain its pioneering role in the industrial sector.

In contrast, the number of people receive formal vocational training is very limited in Senegal and the majority of people working in the informal sector have little opportunity to study at vocational training institutes. Training people working in the informal sector is another important issue the government is now struggling with. As of 2008, it is estimated that about 38,000 people studied at formal vocational training institutes, whereas more than 100,000 people were trained informally under apprenticeships. In the Senegalese labor market, demand for basic training in electricity, electronics and automobile maintenance is in high demand. In view of these circumstances, CFPT should foster people who studied these subjects, some of which will be replaced by the new BTS courses. CFPT's focus in vocational training should be based on what human resources the government considers necessary. Since the impacts of CFPT on other institutes in Senegal are very limited, strengthening links with other vocational training institutes and technical universities should be considered to allow CFPT to display their impact as a leader of vocational training in more visible manner.

Chapter 6: Human Resources Development in Nakawa Vocational Training Institute (NVTI)

6.1 Background of Human Resources Development Cooperation

6.1.1 Political and Socioeconomic Situation in Uganda

Uganda is a landlocked country located in the eastern part of Africa, and it is a republic with a population of approximately 33 million. Uganda gained independence from Britain in October, 1962. The prime minister at the time of independence was Milton Obote (1962-1971), who was appointed president-for-life in 1966. In January 1971, Idi Amin, a commander of the Ugandan forces, seized power from Obote in a military coup. Approximately 300,000 people such as dissidents were reported to be massacred under the Amin dictatorship.

After the Uganda-Tanzania War (1978-1979), which began with Uganda's invasion of Tanzania in 1978, President Amin was ousted by the Uganda National Liberation Front in 1979. Obote was appointed as the president again in the general election of 1980. After the coup in 1985 through 1986, the National Resistance Movement (NRM) captured the capital, and Yoweri Museveni of the NRM chairperson was appointed the sixth president of Uganda (1986-present). President Museveni won the first direct presidential election since its independence in 1996. Through re-election to a second term in 2001, the constitutional amendment to abolish the third-term prohibition of the president was approved by the Congress in 2005. Museveni won a fourth-term in 2011.

In the northern region of Uganda, the conflict between the LRA (Lord's Resistance Army) and the Ugandan Government continued for two decades. The LRA and the Ugandan Government signed a truce in August 2006, and agreed to begin peace talks. However, the peace talks broke down, and the LRA has not been decimated despite continuous mopping-up operations since 2008. The activities of the LRA inside Uganda have stabilized.

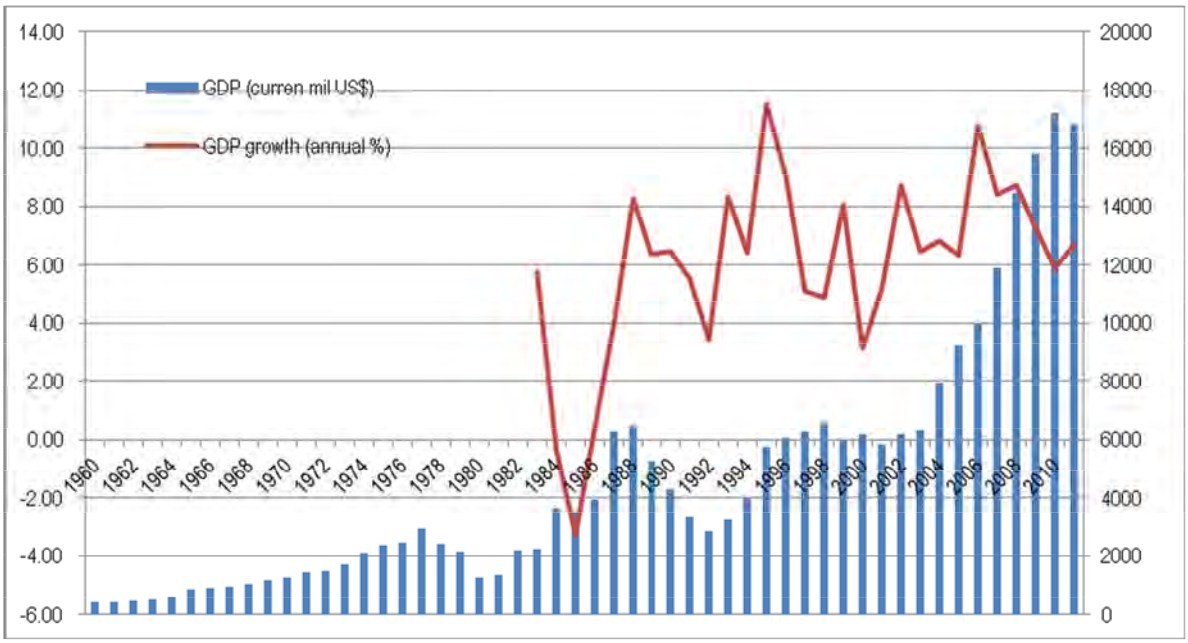
Uganda is an agricultural country, where the agricultural sector accounts for about 73% of the working population[27] and 66 percent of the GDP.

It has vast and fertile land, plentiful rainfall, and it is rich in mineral resources such as copper, cobalt, and gold. In 2006, oil was mined in the Lake Albert region located in the western part of Uganda. Coffee, tea, tobacco, petroleum and its products, fish, fish products, non-metallic minerals, iron, and steel, are identified as the major export commodities. As industrial products, textile production, tobacco, cement, sugar, and brewing products are produced.

Figure 6-1 shows the trends in GDP and economic growth in Uganda. Uganda had positively

[27] FAO, FAOSTAT

accepted various SAPs by the IMF since the late 1980s, and promoted measures such as the liberalization of producer prices of agricultural products, the abolition of public monopoly, and the privatization of state-owned enterprises[28]. The real GDP growth rate has remained robust at an annual average of 6.6% since Museveni's long-term regime began. However, there is no change in the status quo that Uganda is a low-income (poor) country, and the government implemented the policy, "Prosperity for All," to improve the income of farmers and to enhance private sector-led economic growth through the promotion of trade and investment[29].



Source: World Data Bank

Figure 6-1: Transition of GDP and Economic Growth Rate

Figure 6-2 shows the transition of the GDP share of industry in Uganda. Agriculture accounted for more than 50% of the GDP until the 1980s, but later gradually decreased the proportion of agriculture. Instead, since the 2000s, the proportion of the service sector has increased with nearly 50%. Although the GDP ratio of industry was less than 20% of the total until the 1990s, it has steadily increased to a ratio comparable to agriculture since the 2000s.

Uganda is located in a key area which connects the outer harbor (Port of Mombasa, Kenya) and neighboring landlocked countries with natural resources; and it forms an important hub for air and overland transportation for the PKO (Peace Keeping Operations of the UN) which is deployed in South Sudan and the Democratic Republic of Congo. In addition, it also functions as a food supply center in neighboring countries suffering from food shortages.

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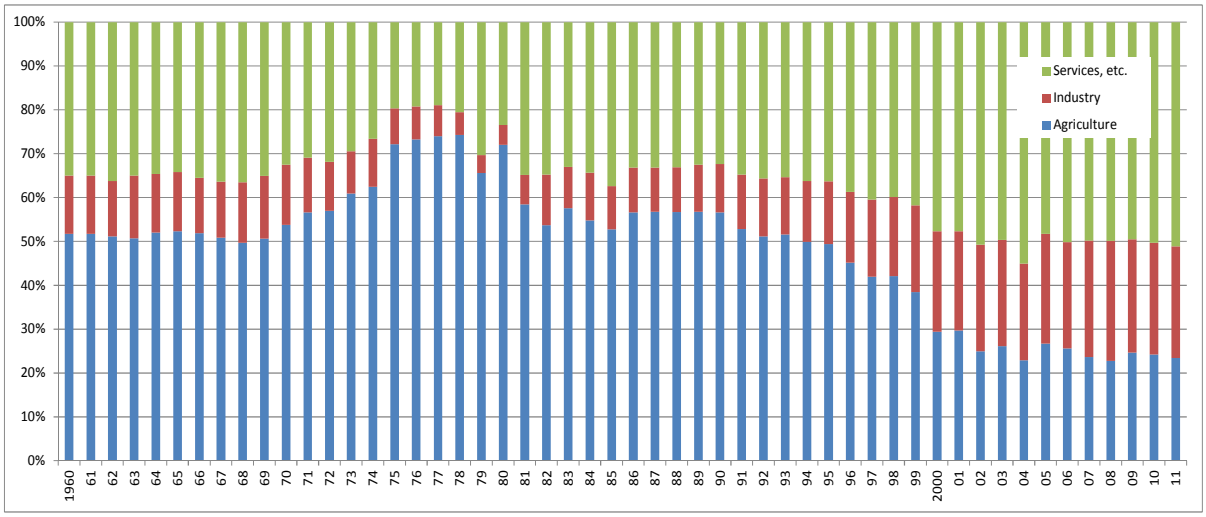
[28] Ministry of Foreign Affairs, Country Data book.
[29] Ibid.



Source: World Data Bank

Figure 6-2: Transition of GDP Share by Industry

6.1.2 History and Current Situation of Human Resource Development in Uganda

(1) National Development Plan

In 1997, the Government of Uganda formulated the national development plan, "Poverty Eradication Action Plan (PEAP)", which targeted the decade up to 2007. The first revision of PEAP (2000) was recognized as the world's first PRSP by IMF and the World Bank, and debt relief under the Heavily Indebted Poor Countries (HIPC) Initiatives was implemented in March 2000 prior to other countries.

The priority issues in the third PEAP, which was released in December 2004 were: i) economic management, maintenance of macroeconomic stability, soundness of public finances, and increase in private investments, ii) improvement of competitiveness, productivity and income, modernization of agriculture, preservation of natural resources, infrastructure development (roads, electricity, railways, etc.), improving technology and duties in the power sector, iii) security and conflict resolution, and disaster management, conflict resolution with rebels, robbery eradication of livestock, intensive support to internally displaced persons (IDPs), strengthening measures against kidnapping by rebels, iv) good governance, human rights and democratization, improvement of legal systems, transparency and accountability, anticorruption measures, and v) human development: community empowerment including, primary and secondary education, improvement of health indicators, promotion of family planning, improvement of adult literacy.

As cross-cutting issues common to all priority issues, the government decided to set up eight fields: gender, environment, HIV/AIDS (Human Immune-deficiency Virus and Acquired Immune), employment, population issues, social security, income distribution, government,

and reduction of disparities among regions[30].

National development plan, which targets the five-year period from 2010/11, was formulated as a part of a long-term strategy to raise Uganda to a middle-income country over the next 30 years, and it was also a new development strategy alternative to PEAP. Compared to PEAP, there is more emphasis on economic growth with the theme of "Growth, Employment and Socio-Economic Transformation for Prosperity." The following eight objectives are identified as being strategic: i) increasing household incomes promoting equity; ii) enhancing the availability and quality of gainful employment; iii) improving stocks and quality of economic infrastructure; iv) increasing access to quality social services; v) promoting science, technology, innovation and ICT to enhance competitiveness; vi) enhancing human capital development; vii) strengthening good governance, defense and security; and viii) promoting sustainable population and use of the environment and natural resources.

(2) Education Policy

“The Government White Paper on Education Policy Commission Report” formulated in 1992 is positioned as the basic document for the country's education policy and programs, and even after revisions of the education program, it remains as a priority guideline for the education sector in Uganda. (Ministry of Education and Sports, 2004).

The paper is the basis of “the Education Strategic Investment Plan (ESIP),” “Education Sector Strategic Plan 2004-2015,” and “Education Sector Strategic Plan 2007-2015.”

The purpose of education is defined in the paper as follows (UNESCO, 2010):

- Promote understanding and appreciation of the value of national unity, patriotism and cultural heritage, with due consideration to internal relations and beneficial interdependence.
- Inculcate moral, ethical and spiritual values in the individual and develop self-discipline, integrity, tolerance and human fellowship.
- Inculcate a sense of service, duty and leadership for participation in civic, social and national affairs through group activities in educational institutions and the community.
- Promote scientific, technical and cultural knowledge, skills and attitudes needed to enhance individual and national development.
- Eradicate illiteracy and equip the individual with basic skills and knowledge to exploit the environment for self-development as well as national development; for the better health, nutrition and family life, and the capacity for continued learning.
- Equip the learners with the ability to contribute to the building of an integrated, self-sustaining and independent national economy.

[30] Ministry of Foreign Affairs, ibid.

In parallel to lower secondary education, three years education is provided in agricultural schools, technical schools, and vocational training centers in the field of commercial, technical, and vocational education and training (four-year education in community polytechnic). Qualification is granted after completion of courses, and success in final exams. In parallel to upper secondary education, two-year education is provided in polytechnic, elementary school teacher training schools, nursing schools, home economic schools, vocational training schools, and commercial schools. Qualification is granted after completion of courses, and success in final exams.

In parallel with tertiary education, higher education institutions such as colleges (technical college, commercial college, etc.), secondary school teacher training schools, medical schools, and polytechnic are open to those who completed upper secondary education and an equivalent level of education. It is also noted that as part of the restructuring of the administrative system in 1998, vocational training institutes, which had been under the jurisdiction of the Ministry of Labor and had acquired their autonomy from the education system, came under the jurisdiction of the Ministry of Education and Sports to be incorporated into the education system of elementary to tertiary level.

(3) HRD in Industrial Sectors and Capacity Development

Due to the prolonged internal conflict, the number of skilled labor decreased in Uganda. Due to these circumstances, industrial human resources from India supported industrial development in Uganda with their technical skills and management abilities. High labor costs of these resources resulted in an increase in production costs[31]. In addition, the government of Uganda implemented a drastic reduction of military and government officials since 1993, and vocational training for these retired officers has been urgent issue[32]. When the preliminary study of Nakawa Vocational Training Institute was conducted, there was not enough capacity to absorb the growing labor force moving in from the rural to urban areas. In addition, because of the mismatch between the labor market and vocational training, the need to supply skilled labor in shortage areas through vocational training was strongly recognized. Under the vocational training plan, training of future mid-level skilled workers through increased opportunities for vocational training of young unemployed workers and new graduates was essential.

After the establishment of Museveni's regime in 1986, the industrial sector continued to grow steadily, and the cultivation of self-employed, small industries was set as a priority policy to deal with the situation. Development of small-scale industries through vocational training, especially through long-term training, was expected due to the situation[33]. It is said that large and medium-scale companies that considered BTVET (Business, Technical, Vocational

[31] Byamugisha Bweebare C., A geography of Uganda, 2009
[32] JICA, The Basic Study Report on Nakawa Vocational Training Institute", 1994. (in Japanese)
[33] Ibid.

Education and Training) as appropriate was less than 40%. To deal with this situation, the Uganda Vocational Qualification Framework (UVQF) was introduced recently which includes training based on the technical demands of the labor market, and focuses on vocational training, which emphasizes practical work.

(4) Human Resources Development by Other Donors

1) African Development Bank (AfDB)

AfDB is currently implementing the following projects:

- Support to Post Primary Education Project (Education III Project)（2006-2012）
- Post Primary Education and Training Expansion and Improvement Project- Education IV (2009-ongoing). Education III Project consists of 2 pillars: improved access to post primary education and science education and support for business, technical education and vocational training.

AfDB has just completed the rehabilitation of vocational training institutes in Jinja, Madera, Lukunjiri (US$ 150 million for each) on June 30th, 2011. The rehabilitation of Jinja Vocational Training Institute was a part of the assistance to train trainers.

Education IV Project aims to expand access and improve the quality, relevance and learning conditions for students in Post Primary Education and Training (PPET) as part of the Government's UPPET (Universal Post Primary Education and Training) Program. AfDB and Korea established two secondary schools in every region of Uganda, and two vocational training schools in Dokolo District in the northern part of Uganda and Kabasanda (Mubende District) in the middle part of the country. AfDB and Korea contributed $85 million and $27 million, respectively to the project. In the West Nile region, Korea established a new vocational training institute. The project includes an invitation of the people of Uganda to South Korea, and the dispatch of Korean experts to Uganda, in addition to procurement and maintenance of construction equipment. The assistance of AfDB does not cover Karamoja district, since the EU, Netherlands and Ireland are supporting that area. AfDB also covers public schools only.

In addition, the Education V Project, which targets both technical education and vocational training and science technology, is under preparation. The total amount of assistance will be $105 million and the assistance covers Makerere University (training for oil engineer), Kyambogo University, Mbarara (pharmaceutical sciences), Gulu, Muni, etc.

2) Belgium

Belgium has implemented small-scale projects in the field of vocational training in the northern part of Uganda since 2008. Belgium is implementing the following assistance.

- Cooperation through financial assistance
- Technical assistance for strategy formulation on BTVET

- Assistance to Abilonino Community Polytechnics Instructors College
- Assistance to Mulago Health Tutors College
- Assistance to Jinja Vocational Training Institute in cooperation with ministries, AfDB and JICA

Support for the BTVET strategy was conducted in collaboration with the World Bank. It focuses on youth unemployment measures, focusing especially on youth unemployment and the Arab Spring. BTVET was approved by the Cabinet in December 8th, 2011. (As of June 2012, BTVET has not yet been implemented. It is commonly known that Uganda's policy implementation rate is around 40%). Support for Abironino targets vocational training for fresh graduates (pre-services) amounted to 1,700million euro. Collaboration with JICA will also be implemented.

3) Germany

Germany resumed its cooperation to Uganda in 1968 and has implemented programs on vocational training through GTZ (at the time), DED and KfW for more than 15 years. GTZ has supported vocational training reforms, and formulation of the BTVET law. DED has dispatched experts, and established the UGAPRIVI. KfW has supported the hardware side (compared to the standards of KfW, more machinery and equipment for a smaller amount of money was procured). In addition, 40 curricula have been developed by Germany. The German Federal Ministry for Economic Cooperation and Development (BMZ) declared Uganda as a priority country. The following priority areas were agreed on: financial sector, water sector, and energy sector.

Germany has already withdrawn assistance from the field of vocational training, because of limited awareness about vocational training in the government, the low motivation to work as technical workers, and low recognition of vocational training by Ugandan society. Germany terminated their assistance because it became difficult to explain to the German taxpayer that it took 8 years for the BTVET Act to be approved (approved in 2008), and the situation is that vocational training has not been proposed as a theme for cooperation for the next year.

Germany is currently conducting support through UGAPRIVI[34] on a small-scale. However, Germany is now reviewing the possibility of withdrawing from the management of these activities in vocational training. Although there remains some possibility that Germany will support implementation of vocational training as a part of its assistance in the water and energy sectors in Karamoja of northern Uganda, Germany is considering direct support to the private sector rather than the government[35].

[34] Uganda Association of Private Vocational Institute is a private vocational training institution which. GTZ, DED and Kfw supported to establish.
[35] Based on an interview with GIZ in June 2012.

4) KOICA (Korea International Cooperation Agency)

KOICA set up its branch office in Uganda in December 2010. Construction of the vocational training institute in Kampala is planned at the beginning of 2013. The institute will be handed over and opened by July 2014. The total amount of the project is $450 million.

The four sections that will be installed are: automobile, electrics, plumbing & welding, and sewing. Support covers the all training facilities (administration building, classroom building, computer room, multi-purpose hall), construction of workshops, provision of equipment to all sections, and dispatch of Korean experts to all sections (around 4 months), training in Korea (12 trainers for 3 months, 5 administration staff for 2 weeks). The total amount of support is USD 450 million and the project implementation period is from 2011 to 2014.

Establishment of five schools through co-financing by AfDB and the Export-Import Bank of Korea (Exim Bank Korea) is also planned. [36].

6.2 Outline of the Japanese Cooperation

6.2.1 Objectives of the Project

In Uganda, industrialization was progressing around the time of its independence in 1962. However, the occupancy rate of facilities decreased to less than 20% after a period of political turmoil, and industrial production stagnated. Against this background, Nakawa Vocational Training Institute (NVTI) was opened in 1968 to train skilled workers needed for reconstruction of small and medium-sized enterprises (SMEs) in Uganda. NVTI initially carried out short-term training that targeted employees working for companies. Due to the increased demand to train graduates of lower secondary education (junior high school), enrollment in the two-year upper secondary education (S5 - S6, Secondary School Advanced Level in A-level) course began to increase gradually.

Under the Amin regime, which took power in 1971, civil war became the norm, and Uganda, unlike neighboring Kenya, was unable to continue developing the industry. In addition, since the regime expelled Asian businessmen (India, Pakistan, etc.), the number of intermediate skilled workers became insufficient. Japanese assistance to NVTI ended as planned without any extension in 1974. NVTI had continued courses on a small-scale budget from the Government of Uganda even during the period of civil war which continued for about 20 years. The facilities had become old, and most of the training equipment were out of order due to the lack of spare parts, and the number of annual trainees decreased to 230 people, which was 60 % of the 1994 capacity of 380 people.

[36] The latest information needs to be confirmed. Annual report of Exim Bank of Korea2010 stated about “the Education IV Project”, but the detailed information is not available. The latest annual report of 2011 does not have any latest information.

President Museveni, who came to power in 1986, promoted liberalization of trade and investment, and industry inUganda has continued to develop steadily since 1987.

In the 2nd National Development Plan (1990-1994), reflecting the state of development of the industrial sector, the Government of Uganda stressed the need to promote the continuous development of the industrial sector by fostering SMEs, and pointed out the need to analyze the current shortage of skilled labor, who support industrial development, and to develop vocational skills to achieve the economic growth of the country. The government, which recognized discrepancies between vocational training and industrial needs, requested the Japanese government to assist the renovation of the NVTI, which had been supported before the regime of Amin. Rehabilitation of facilities started in 1995, and a technical cooperation project began in 1997.

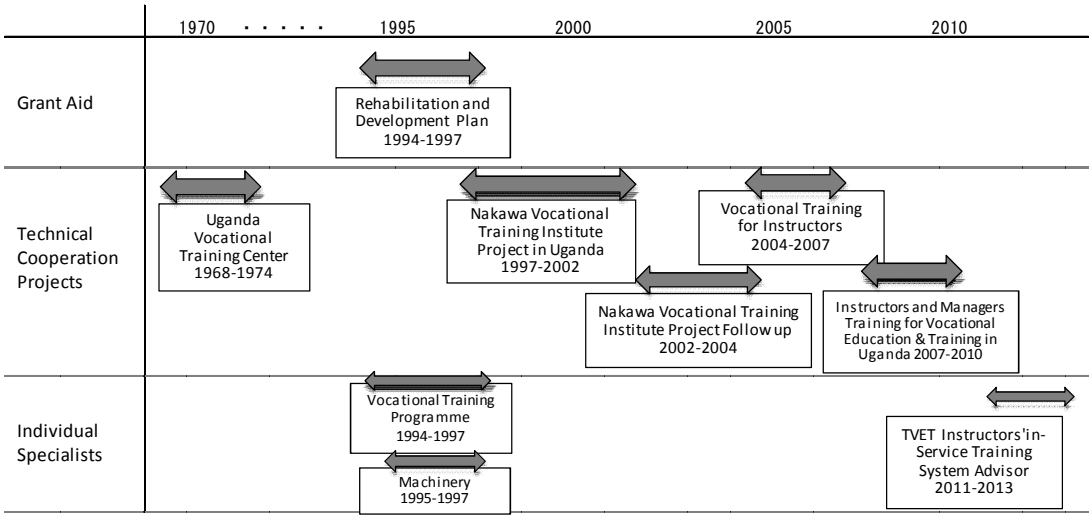
6.2.2 Outline of the Japanese Cooperation

In order to respond to the request of the government of Uganda in 1965, the Japanese government started providing grant aid and technical cooperation, and NVTI started operation in 1971. The Project was aimed at enhancing the skills of instructors in seven fields (machining, electricity, welding, sheet metal, motor vehicles, electronics, and carpentry) and providing guidance and advice on course content and management. The original courses consisted of 5 courses: upgrade, basic craft, apprentice ship, crash training and airforce Ttaining. The first phase of technical cooperation ended in 1974 during the Amin administration. After 20 years of political and social turmoil during the civil war, the government of Uganda requested the government of Japan to rehabilitate and restart NVTI and technical cooperation resumed in 1997 with 8 courses namely, electronics; electricity; machining and fitting, motor vehicle, wood working, sheet metal and plumbing, welding and fabrication and brick/block laying, and concrete practice.

As shown in Figure 6-3, although there was a break of 20 years due to the political and social unrest after the start of 1968, support for NVTI has been carried out without interruption since it was resumed in 1994 until now by utilizing various cooperation schemes. There were a lot of constraints in establishing a training institute in a country with no diplomatic mission at the time. It was also a time of political unrest under the administration of President Amin, thus, “it was cooperation by threatening the lives of Japanese experts while 13 Japanese experts were seconded to NVTI from Japan from 1968 to 1974” (Mr. Yokose, the first leader of the first technical cooperation phase).

As mentioned above, since the first technical cooperation period was implemented during the unrest caused by Amin’s administration, it was not able to keep the outcomes of cooperation that had been produced by the end of the support period in 1974. After political stability was restored, support was resumed in 1994. NVTI strengthened its own capacity through the two phases of technical cooperation. Then, it expanded the range of activities incrementally as

follows: i) basic training (training for fresh graduates), ii) training of trainers, iii) training to neighboring countries, iv) involvement in the formulation of government policy such as certificate criteria.



Source: The study team formulated

Figure 6-3: Major Japanese Cooperation Project for NVTI

6.2.3 Activities

(1) Technical Transfer to the Counterparts (C/P)

In order to resume assistance to NVTI, C/Ps were selected from a variety of human resources, such as teachers at other vocational institutes (VI), and new graduates from Kyambogo University. Japanese experts interviewed instructor candidates for each section (including a practical skills test), then the selected C/P were sent in Japan for 6 months of training to learn not only specific skills, but also pedagogy, Japanese work habits and discipline.

After returning to Uganda, C/Ps and Japanese experts deepened their knowledge of pedagogy by working together to formulate curricula and teaching materials. Compilation of teaching materials is an effective way of gauging the degree of understanding by C/Ps. Japanese experts corrected teaching materials submitted by C/Ps, then C/Ps revised them continuously. C/Ps came to confidently conduct practical work using materials they themselves had compiled.

Photo 6-1: NVTI Trainee Cleaning a Workshop after Class

Most of C/Ps, whom the study team interviewed, said that they had learned a lot from the Japanese way of thinking, values and philosophy and lifestyle. They are utilizing them even after returning to Uganda. They learned mutual respect, to work hard, cleanliness, a high awareness of environmental issues (such as garbage rules), kindness, honesty, discipline (such as staying in line while getting on a bus), activities aligned with "plan, do see, action" cycle, time management and needed action (such as predicting congestion and leaving early), safety management, 5S, maintenance of workshop (returning tools to the place they were used), self-discipline, and loyalty to his/her company. There is also one episode where the former principal of NVTI, who underwent individual training at Chiba Polytechnic, was surprised to see a director of Chiba Polytechnic get in line to buy his lunch and had his lunch with other staff members at the cafeteria. He thought that it would be a good opportunity to communicate with other staff members, and he subsequently opened his office to everyone working at NVTI and started to have his lunch with other NVTI staff members. The current principal also makes it a habit to visit the refreshing room at 10 am break time once or twice a week.

A lot of C/Ps with whom the study team interviewed commented that the Japanese experts' generous cooperation and wholehearted devotion had appealed to their hearts and they came to understand the Japanese way of thinking, culture, and habits through training held in Japan. These C/Ps worked hard together with Japanese experts to make NVTI "Africa's No.1 vocational training institute".

(2) Management of NVTI (introduction of a committee system)

At the beginning of the NVTI project in 1997, the situation that all decision-making authority is concentrated solely on the principal under the English-style system of top-down decision-making disrupted routine work at NVTI. In order to solve the problem, a committee system, which was once described as "very Japanese like" by the other donors, was introduced to NVTI at the initiative of the first project leader, Mr. Takami. C/Ps were first reluctant to introduce the committee system, anxious that the new system might take too much time and limit the authority of the principal.

However, several factors helped the effective introduction and operation of the committee system. They were innovations of the system by Japanese experts (punctuality, time limitation up to a maximum of one hour, drawing conclusions about the agenda with no exception), accelerated decision-making by reducing the work load of the principal, and the C/Ps who learned the committee system via C/P training held in Japan.

At the time when the study team conducted interviews in June 2012, committees such as the Training Committee, Academic Committee, Management Committee, Safety and Health Management Committee, Machinery Committee, Repairing Committee, and Income Generation Committee were held once or twice a month; and every committee was involved in various activities necessary for the management of NVTI. For example, the Machinery Committee

collected requests from each section about machinery and equipment for maintenance, repair, procurement, then discussed the priority of these requests with committee members composed of representatives from each section. The discussion results were compiled into an annual plan, and along with the plan, the committee maintained, repaired, and procured machinery and equipment within their limited budget.

The committee system, which led to the establishment of NVTI's open management structure, was introduced into DTIM (Diploma in Training Institution Management) courses of other vocational institutes, which are implemented under a government budget and trainers of those vocational institutes are trying to implement the system. A former NVTI C/P tried to introduce the system at his new vocational institute, where he transferred as a directing officer.

(3) Training of Trainers at Other Vocational Institutes

Since machinery and equipment and practical training for trainers in most of the vocational training institutes in Uganda were insufficient, NVTI conducted training for trainers within the scheme of a JICA project called Instructors and Managers Training for Vocational Education & Training in Uganda. Six-months courses focused on 4 fields (Electronics, Electric, Automobile, and Metal Work) were provided for both certified level and diploma level. This project was recognized to develop capacities of trainers and managers through adequate trainings, and to contribute to the improvement of quality in the field of vocational training and technical education under the comprehensive framework of UVQF, which the government promoted. This training for trainers is implemented by the own budget of the government after the completion of the JICA project in 2010.

(4) Income Generating Activities

After the resumption of the project, there was a time the C/Ps did not come to NVTI due to unpaid or delayed salaries. Japanese experts encouraged C/Ps to become involved in income generating activities. Through these activities, it became possible for C/Ps to receive direct technical assistance from Japanese experts, and to generate revenue to supplement their salaries. As a result, C/Ps began to come to NVTI again. Income generating activities such as training and repairing/producing parts have continued and it has helped purchase necessary materials and tools for practical work, ensure the salaries of technicians who worked at workshops. In addition, renovating used cars played a role not only generated income for NVTI but also improved the skills of C/Ps and trainees. To balance classes and income generating activities, renovating used cars (processing, repairing, assembling, and painting) using second-hand automobile parts was combined with regular practical work, that helped C/Ps and trainees to acquire skills in car manufacturing. Furthermore, the renovated cars were sold as used cars and generated revenue.

Allocation of income derived from income generating activities is flexible. The Income Generating Activities Committee calculates the monthly income, then after subtracting the

necessary utility costs, the income is divided in half to cover school management costs, and the expenses for each section. The income is allocated to cover personnel expenses, material and utility costs. The ratio of school management cost and the section's expenses differs according to section. However, as shown in Table 6-1, since activities other than regular training of trainees such as training trainers of other vocational training institutes has increased, the percentage of revenue gained from income generating activities of the total revenue has decreased.

Table 6-1: Revenue Structure of NVT (U.Shs.)

	2009/10	2010/22
Government Budget[*1]	182,272,400	260,716,138
Tuition Fee	259,451,688	361,414,450
Income Generation Activities[**2]	64,839,527	25,819,440

Source: NVTI

Note 1: Staff salary is not included, since it is directly remitted into the account of each employee.

Note 2: Training, Repairing, Producing parts etc. Allocation of income is flexible. Income Generating Committee calculates the income every month, and determines the amount to be allocated after deducting necessary utility costs.

6.2.4 Positioning the NVTI within the Development Policy

When the Japanese government resumed its assistance to NVTI in 1990s after a 20-year interval, the objective of assistance was to recover from the civil war and to help resupply an insufficient labor force through vocational training, which was a main pillar of the employment policy. In line with this policy, the production of a skilled labor force, absorption of an increased labor force grew from the rural to urban areas, and training targeted for retired officers was an urgent issue. In addition, it was also recognized that training of future mid-level skilled workers through increased opportunities for vocational training directed at young unemployed workers and new graduates was essential. Cultivation of self-employed small industries was also established as a priority policy to correspond with the situation, and vocational training was regarded as the way to achieve that objective.

NVTI activities are now a pilot project by the government of Uganda. Based on NVTI's experience, the Ministry of Education and Sports formulated the BTVET strategy. The ministry is now at a stage of securing its budget to disseminate the NVTI experience to every vocational training institute. NVTI is now engaged in training of trainers of neighboring countries, pursuing the status of "Center of Excellence" among vocational training institutes in eastern Africa.

6.3 Socio-Economic Analysis

6.3.1 Outputs

(1) Number of Graduates

The number of NVTI students that graduated from 1968 to 1974 was about 600. It decreased to 230, which was equivalent to 60 percent of the total capacity after the 20-year political turmoil in 1994 just before the rehabilitation project started. The total number of graduates was 2,366 from 1998 to 2009. In 2012, the number of day training courses starting from 8:00 to 16:00 increased to 344, and the night course, which started from 16:00 to 19:00 during the weekdays and 8:00 to 13:00 on Saturday, increased to 511.

(2) Number of Applicants

As the industrial sectors started to recognize the value of the NVTI curriculum, applications from all over the country rose as well. NVTI advertised in the newspaper in January and in the "Uganda Universities & Tertiary Institutions Directory," which has been distributed to junior high schools throughout the country. The number of applications for the Woodworking Course has stagnated. This is because parents prefer to send their children to the latest technology courses such as Electronics, Electricity and Auto-Electrical rather than traditional technology such as woodworking.

(3) Employment Rates

The employment rate of NVTI graduates was about 90 percent in 2003. According to the NVTI Principal, presently, 10 percent of NVTI graduates are estimated to proceed to higher educational institutions, while about 20 percent of them remain unemployed. About 60 percent of them found their jobs through industrial attachment.

(4) Training of Instructors and Managers of Other Vocational Institutions

Over 60 instructors and managers of other vocational institutions have been trained at NVTI. Some students of other public vocational institutions such as Lugogo, Kyambogo University and Makelele University come to NVTI to develop and improve their practical skills.

(5) NVTI Students' Passing Rates of National Trade Test and UNEB

Table 6-2 and 6-3 show NVTI students' passing rates of the National Trade Test and the UNEB (Uganda National Examination Board).

The rates are higher than those of other vocational institutions in the case of the Trade Test that focuses on practical skills, whereas the rates meet the national average for the UNEB, which deals with theoretical issues. From 2012, the UNEB is to be transformed into the Uganda Business Technical Examination Board (UBTEB), which is an examination on both theoretical knowledge and practical skills.

Table 6-2: Passing Rates of Trade Test

Department	2009			2010			2011		
	Passed Studenst	Total Students	(%)	Passed Studenst	Total Students	(%)	Passed Studenst	Total Students	(%)
Electronics I	0	0	0%	0	0	0%	0	0	0%
Electronics II	10	17	59%	34	49	69%	27	36	75%
Electricity	3	20	15%	37	57	65%	55	56	98%
Machining	11	15	73%	29	34	85%	30	31	97%
Motor Vehicle	10	10	100%	40	52	77%	12	19	63%
Auto Electrical	-	-	-	16	17	94%	25	33	76%
Wood Working	4	5	80%	1	1	100%	6	8	75%
Plumbing & Sheet Metal	13	18	72%	22	38	58%	22	24	92%
Welding	7	10	70%	17	27	63%	21	21	100%
Building & Concrete Practice	9	9	100%	2	7	29%	6	9	67%
Overall	67	104	64%	198	282	70%	204	237	86%

Source: NVTI

Table 6-3: Passing Rates of UNEB

Department	2009			2010			2011		
	Passed Studenst	Total Students	(%)	Passed Studenst	Total Students	(%)	Passed Studenst	Total Students	(%)
Electronics I	20	96	21%	55	137	40%	21	54	39%
Electronics II	0	0	0%	31	69	45%	10	38	26%
Electricity	9	42	21%	45	111	41%	54	124	44%
Machining	6	27	22%	22	55	40%	31	78	40%
Motor Vehicle	8	28	29%	23	58	40%	32	91	35%
Auto Electrical	–	–	–	0	0	0%	0	0	0%
Wood Working	3	12	25%	1	4	25%	4	14	29%
Plumbing & Sheet Metal	6	31	19%	18	61	30%	16	50	32%
Welding	0	10	0%	0	0	0%	0	0	0%
Building & Concrete Practice	10	32	31%	5	28	18%	20	55	36%
Overall	62	278	22%	200	523	38%	167	450	37%

Source: NVTI

(2) Industrial Attachment

In Uganda, the industrial attachment system has been widely adopted by vocational training institutes, which seconds students to industrial sectors for three months during the two year program in order for them to practice their skills under the system.[37] NVTI has an industrial committee established with support from JICA. The committee consists of the industrial sector, NVTI and the Ministry of Education and Sport; and it functions as a place where information is exchanged about the demands of the industrial sector to help the NVTI provide training that will meet the demands of the industrial sector.

NVTI is well endowed with equipment and machinery for practical lessons. Therefore, it is able to foster human resources that are able to meet the demands of the industrial sectors. Students have been seconded to companies located in Gull, Machindy, Jinja, and others. 39 companies in

[37] Based on Yuki Ushiro, "BTVET: the monitoring report on industrial attachment". August 2010 (in Japanese).

machinery equipment, construction material, sugar refinery, automobile maintenance and construction received trainers from NVTI in 2011. The necessary costs associated with the industrial attachment such as transportation costs, food and accommodation are not covered by NVTI or the companies. However, it is highly likely that companies provide trainees with food during the training period in order to improve the effectiveness of the industrial attachment. Some companies even paid small amounts of money to trainees. Companies benefitted from this attempt to obtain labor at a relatively cheap price and to recruit a skilled labor force without bearing additional costs associated with recruitment.[38] Industrial attachment requires financial means to cover food and transportation costs and students want companies or the NVTI to share these costs to a certain extent.

NVTI has strengthened its link with the private industrial sector and the name of NVTI is now very well known throughout the country. One of the graduates, who used to work at NVTI but retired to establish his own company, greatly appreciates NVTI's activities. However, he also mentioned that "NVTI was not as well known by the general public or by respective companies as I had expected when I worked at NVTI. NVTI's effort to appeal to the industrial sector and society is inadequate. It might be a good idea for NVTI to demonstrate their activities at several exhibitions." A person at the Chambers of Commerce Uganda pointed out, "vocational institutions in general normally do not actively publicize their activities and performance, but they are now well recognized by the general public."

A management member of MTAC (Management Training Advisory Center), which located next to NVTI, made the following proposal. "MTAC has made great effort to raise funds on their own with the introduction of "liberalization and competition among public sectors" under the Museveni administration, as government subsidies allocated for MTAC were reduced to almost zero. Under these circumstances, MTAC actively publicized the school to attract more clients and expand operations. The levels of technology NVTI provides are highly appreciated; however, NVTI is faced with serious problems associated with fund raising. MTAC has great confidence in its ability to earn revenue. NVTI needs to think about other collaborators and strengthen the link with the industrial sector more than ever in order to utilize machinery, equipment and staff members more effectively.

NVTI is recruiting students by advertising the institute on the "New Vision" that is partially sponsored by the government every January. It shows some posters on the wall of the institute near the gate. As advertising costs are high, the public relations section thinks these attempts would be appropriate for the present NVTI. NVTI has participated in the exhibition of UMA: Uganda Manufacturers Association every year. Every August, NVTI organizes "Nakawa Trainees Innovation Day," where trainees present their training results to invited private companies, government officials and families of the trainees. These attempts are good

[38] Ibid.

opportunities for private companies to recruit appropriate people. The public relation section has also engaged in i) building and exploring partnerships with private companies; ii) advertising NVTI to the industrial sectors; and iii) job placement of trainees and follow up. While various attempts have been made, the scale is still limited.

(7) Training for Neighboring Countries

In order for trainees to learn about the Japanese experience without going to Japan, NVTI has provided training to instructors at vocational training institutes in Sudan, Kenya, Tanzania, Eritrea, Zambia etc. within the framework of JICA's Third Country Training Program. These attempts have enhanced South-South cooperation. The level of NVTI instructors are higher than those of other vocational training institutes, therefore, they have helped other instructors formulate curriculums within the context of their respective countries. The Third Country Training Program/In-Country Training Program has been conducted four times thus far and the number of the applicants has continued to increase.

6.3.2 Impacts

Impacts of the capacity development cooperation targeting NVTI was examined from the aspects of capacity development, ownerships and customization of three levels—individual, and institutional or social levels based on the UNDP's conceptual framework on capacity development. Social level includes institutional aspects, the matured level of the society and the social context the project was involved in. Table 6-4 shows the framework.

Table 6-4: Targeted People and Institutes of NVTI Project

	Individual Aspects	Institutional Aspects	Social Aspects
Capacity Development	NVTI Management and staff members NVTI instructors/graduates/trainees Instructors of other VI	NVTI Other VI	Government Other VI Private companies
Ownerships (Sustainability)	NVTI Management and staff members NVTI instructors/graduates/trainees Instructors of other VI	NVTI Other VI	Government
Customization (Application, Adaptation and Dissemination)	NVTI Management and staff members NVTI instructors/graduates/trainees Instructors of other VI	NVTI Other VI	Government Private companies

Source: Prepared by the study team

(1) Capacity Development

Various individuals such as NVTI instructors, graduates, trainees and instructors of other

vocational institutes have developed their capacity. NVTI instructors have not only deepened the theoretical understanding and enhanced practical skills, but also learned about work ethics such as punctuality, working hard, working together and the 5S, which have been taught to the trainees at NVTI. Instructors of other vocational institutes, who participated in NVTI's training courses, focus on practical lessons learned the pedagogy of practical lessons for the first time in their life, "practical lessons" they only knew about from textbooks covering mainly theoretical issues. They were able to start providing practical lessons at their institutes. Graduates improved their skills and knowledge based on theories and adapted them flexibly at workplaces. The work ethics they are familiar with are appreciated by their seniors as well.

The developed capacity of individual stakeholders has contributed to improving institutional capacity as well. The NVTI's curriculum focusing on practical lessons has enhanced and differentiation NVTI from other vocational institutes, and private companies have grown to highly appreciate NVTI. At present, NVTI provides group training for workers at large-scale companies such as Nile Breweries Limited and Tullow Oil at their request.

The improved capacity of various stakeholders of NVTI and the institutional capacity have exerted an influence on Ugandan society. Through the implementation of JICA's "Instructors and Managers Training for Vocational Education & Training in Uganda" projects conducted from 2004 to 2007 and from 2007 to 2010, the Ministry of Education and Sports recognized the high impacts on instructors of other vocational institutes. It launched and continued to provide training for instructors using government budgets even after the termination of JICA projects. The Ugandan government allocated UHS 370 million to construct dormitory and training rooms for instructors for all parts of the country. Furthermore, NVTI's name is mentioned as a training institute of instructors in "Skilling Uganda: BTVET Strategic Plan (March 2012 – February 2021)", which is the government's strategic plan that was approved in December 2011. The government decided to make NVTI a Center of Excellence in its national strategy. NVTI was selected as second in the contest for the Center of Excellence in the field of vocational training in East Africa, which was organized by Forum for COE (Center of Excellence) of Councils/Commissions for Higher Education of the Inter-University Council for East Africa.

NVTI graduates have contributed to society as mid-level technicians and entrepreneurs employing people in the informal sector. Some instructors of other vocational institutes established new vocational institutes in their hometown based on their knowledge and skills, in order to absorb those who cannot enter the existing vocational institutes due to the limited seats available.

(2) Ownership (Sustainability)

Messrs. Ejori and Takami, two Japanese experts who worked at NVTI during the first stage of the rehabilitation project in the middle of the 1990s, repeatedly expressed their dream to

Ugandan counterparts that they want to make NVTI the No. 1 vocational training institute in Africa. The dream raised the awareness of NVTI instructors and staff members and encouraged them to have ownerships in the NVTI management. C/Ps have worked at NVTI with purpose and responsibility to transfer what they learned through Japan's cooperation to those who needed the knowledge and technology. NVTI would not be sustainably operated otherwise.[39]

The "committee system," which was introduced to NVTI's operation and management system after the rehabilitation project started in 1997, transformed the decision-making approach from "top down" to "bottom up." The instructors and staff members were gradually accustomed to make decisions reflecting their views from the bottom through the committee system, which made them actively involved in NVTI operations and management and increased their ownerships.

As previously mentioned, NVTI was selected as the No.2 Center of Excellence in the vocational training sector for eastern Africa. Even though it was not selected as No. 1, NVTI's instructors and staff members have confidence in themselves as NVTI developed. Although NVTI started as a JICA project, the fact that it was operated by the Ugandan government even during about 20-year civil war period on a small scale. Some machinery introduced in the 1970s by the Japanese government are still utilized for practical lessons, and NVTI is deeply rooted in Ugandan society under Ugandan ownership.

Graduates are strongly motivated towards self-employment or entrepreneurships based on their strong confidence in their skills, which attests to their ownership. There are some cases where NVTI graduates jointly established a company, or cooperates with each other utilizing their respective expertise in response to various market needs.

NVTI's operation and management system that reflects institutional ownerships are disseminated to other vocational institutes. After participating in the NVTI training, some instructors developed their own training curriculum taking into account of their endowment of resources. Some instructors started to utilize the unused land for income-generating activities and purchased necessary machinery and equipment for use in practical lessons with their own funds. These attempts are seen as voluntary attempts to improve the operation and management of vocational institutes, which are the ownership of other institutes.

(3) Customization (application, adaptation and dissemination)

There are many cases where NVTI instructors have applied the knowledge and skills they learned from JICA projects into lessons in ways that NVTI can afford to provide. A C/P even explains Japanese history to students as follows. "The key that helped develop Japan into its present superpower country status despite the fact that it was totally defeated in World War II

[39] Mr. Makini, a Japanese expert who worked at NVTI from 1999 to 2010 (April 19th 2012).

was skill development through vocational training. NVTI was established under Japan's cooperation. Therefore, after graduating from NVTI, each graduate should think for themselves as an ambassador or a representative of NVTI and behave with confidence and pride." Moreover, curriculum, work ethics and operation and management systems, which were introduced from Japan, and modified and developed in the context of Uganda, have now been disseminated to other vocational training institutes throughout the country via the instructor training system, namely the Diploma in Training Institution Management (DTIM); Certificate in Vocational Training Instruction (CVTI) and the Diploma in Vocational Training Instruction (DVTI). The NVTI vocational training system is now being disseminated as a model for the country.

Instructors who were trained at NVTI have tried to apply what they learned into their practical lessons taking into account the available resources at their own institutes. For example, an instructor, who learned about the pedagogy of conducting five types of welding practical lessons, took her students to nearby private companies where they saw how the five ways of welding were conducted since her institute has only one type of welding equipment. The other instructor, who studied electric and electricity at NVTI, submitted a list of equipment and materials he needed to provide practical lessons to students to the founder of the vocational institute, as he knew exactly what he needed to provide practical lessons, which he never provided before participating in the NVTI training. The founder purchased an instructor kit and allowed him to purchase the necessary materials at cheap prices. With these, he successfully started giving practical lessons, in addition to the existing theoretical lessons.

A mid-level instructor, who participated in DVTI, was inspired by the "income generating activities" training. After coming back from the training, he arranged to employ an agricultural extension officer in order to start an agriculture course and started maize production on previously unused land belonging to the institute. He started pig rearing by utilizing food residuals from students' dormitories as well. After generating income from this side business, he purchased a generator for computer classes, an automobile engine, a welding machine and a threshing machine, which are now utilized by in practical lessons. He has consulted with the principal and his colleague about introducing a committee system.

The accreditation system is another example of NVTI's application in the context of Uganda. Under the Ugandan system, vocational training institutes are now allowed to provide accreditation. Therefore, the Ugandan government decided to entrust the Directorate of Industrial Training of the Ministry of Education and Sports to provide accreditation for the actual training provided by NVTI to allow the government to respond to NVTI's needs within the existing institutional structure.

Photo 6-2: Purchased Kit

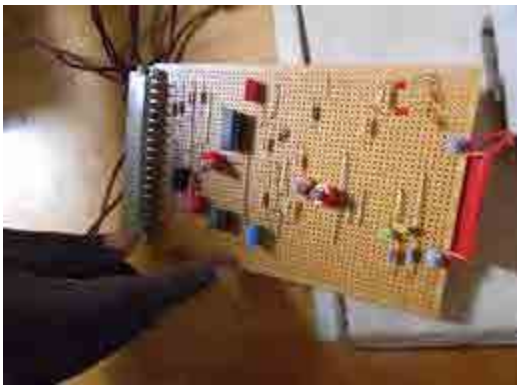


Photo 6-3: Purchased Materials

6.4 Story of Human Resources Development

6.4.1 Inauguration Phase – Beyond the Lost 20 years – (1960s~1980s)

(1) Coup d'état Immediately Following Appointment

It was January 23, 1971 when Mr. Taki Yokose (now deceased), together with four other experts, landed at Entebbe International Airport, 35 kilometers southwest of the capital Kampala to assume his position as the director of NVTI. Traveling via London and Nairobi, the group was met by the Japanese coordination staff, who had been stationed in Uganda for one and a half years in order to select the site and make other preparations, and officials of the Ugandan Ministry of Labor, and they set about unpacking. However, as Mr. Yokose recalled in the General Report on the Uganda Vocational Training Institute (1978), "Revolution broke out and the Amin administration was established two days later on the 25th. Our telephone line with the Japanese Embassy in Kenya was severed, the roads and airports were blocked and we were completely isolated." This coup d'état by Idi Amin, the chief of the armed forces, caught President Obote by surprise while he was attending a summit meeting of the British Commonwealth. Caught up in this turmoil immediately after their arrival, Mr. Yokose and the other members spent a number of days quaking with fear amidst rioting and looting, although the situation calmed down somewhat after about a week.

The project for the Uganda Vocational Training Institute, later known as the Nakawa Vocational Training Institute (NVTI), dates back to when then Prime Minister Obote made a request to Prime Minister Eisaku Satoh during his visit to Japan in 1965, three years after Uganda had gained independence. Following dispatches of the preliminary study team in 1966 and implementation study team in 1967, the two countries signed a four-year cooperation agreement

in June 1968.

The implementing agency was the Overseas Technical Cooperation Agency (the current Japan International Cooperation Agency), and the Employment Promotion Agency of the Ministry of Labor cooperated with staff dispatches. For Uganda, where the promotion of small and medium enterprises and development of industrial human resources were pressing issues, countries such as the United Kingdom, the United States, Canada, West Germany and France were conducting bilateral aid in vocational training, and Japan also joined in. Meanwhile, against the backdrop of the East-West Cold War, President Obote came to power after a coup d'état in 1966, and since he adopted a socialist stance and made approaches to the East, the Soviet Union established and started operating a large-scale agricultural college and cotton flower plant, while Chinese agricultural experts (more than 20) were active in regional areas. There are no remaining materials that can shed light on the background history of vocational training support in Uganda following independence, however, the fact that this project was started during the administration of Prime Minister Satoh, who was staunchly anti-Communist and sought to strengthen the Japan-US security alliance, suggests that this undertaking was not unrelated to the international situation at that time.

The first person to arrive in Uganda as the project team leader was Mr. Yokose, who was already 65 and had previously worked on the South Manchuria Railway. Born in Tsushima, Nagasaki, Mr. Yokose studied at the technical high school of South Manchuria Railway in Dalian, then graduated from the faculty of law at Kyushu University before finding work in the South Manchuria Railway Department. Following WWII, he returned to Japan and was appointed to a series of vocational training posts in the Ministry of Labor. Following retirement, thanks to his proficiency in English, he was consigned by the Overseas Technical Cooperation Agency to lead a project for a vocational training school in the Philippines (1967~1970), after which he was contracted to work on the project in Uganda. Prior to his departure, Mr. Yokose paid a courtesy call to Prime Minister Satoh, who had also come from a railway background, and the two men apparently spoke for 30 minutes about the approach to international cooperation and international issues.

Photo 6-4: President Amin and Mr. Yokose, Attending the Opening Ceremony in 1971

According to his eldest son Ichiro, having been raised on the Asian mainland, Mr. Yokose had a visionary mind-set and was a larger than life character who didn't flinch in any situation "It

seems he didn't think anything about traveling to distant Africa for the first time. He went to his post with his wife, and soon after arrival, their luggage was stolen, but Mr. Yokose would laugh about how the *kimono and obi* belt from the luggage were later found on sale in a local market. I'm sure it was a very hard job, but I never once heard him complain."

As land for the new vocational training institute, the district of Nakawa alongside the Jinja road leading eastwards from the center of Kampala was selected, and construction of the administration block and practical training block was also implemented under Japan's grant aid. Seven training courses, namely machining, machine finishing, sheet metal processing, welding, electrical works, electrical finishing, and motor vehicle maintenance, were established each with a capacity for 10 members, and 10 Japanese experts consisting of the training manager, coordinator and instructors under the director Mr. Yokose were dispatched. After arriving in Uganda, Mr. Yokose and the other team members worked on opening the institute and advertising for trainees from all over the country, however, the initial response was cool. There were still no applicants two weeks before opening, and only 29 students when the institute was eventually opened. It took two years for all seven courses to more or less reach capacity numbers.

The institute's opening ceremony was held on Ugandan Independence Day October 9, 1971. Adorned by the Ugandan and Japanese national flags, the ceremony was attended by more than 400 officials of both countries, as well as President Idi Amin in military uniform together with his wife, and Mr. Yokose busied himself showing the guests around the institute. There is a handwritten memo where he describes about being asked when is a good time to visit Japan and he replied by saying the cherry blossom season.

In his address at the ceremony, President Amin spoke in the Swahili language about how he respected the Japanese people very much. Mr. Yuichi Kashiwada, who was managing a joint venture sewing plant as a resident officer of Yamato Shirts (the current Yamato International) at the time and is now 80 years old, clearly remembers the scene. "Referring to the fighting between the British and Japanese armyies during WWII, he talked about how the Japanese soldiers never ran away and fought to the death for their country even when they ran out of food and bullets. He said that this spirit above all was why Japan had achieved such dramatic post-war reconstruction and economic development, and he expressed his gratitude to the Japanese for coming all this way to Uganda to teach technology." Mr. Kashiwada, who now lives in Kampala, is the most famous Japanese person in Uganda after contributing to the industrial promotion of

Photo 6-5: Living Witness of the Japan-Uganda Relations, Mr. Kashiwada

Uganda for half a century and becoming good friends with numerous government officials including the current President, Yoweri Museveni. Although President Amin became notorious for his dictatorship, Mr. Kashiwada says, “It was significant that President Amin, who boasted popularity in the southern areas including Kampala, paid respect to Japan at the opening of the vocational training institute.”

(2) Training Period of 2 Years 9 Months

The vocational training started from three-month upgrade courses targeting company employees, but it gradually evolved into basic craft courses targeting new graduates. At the same time, as this was the inauguration stage, the team members struggled to adopt and train instructors “by placing emphasis on the development of successors to ensure the continuity and development of the institute more than the training of students.”

Mr. Fabian Wangolobe, who was recruited as a machine department instructor soon after the institute opened, is 67 years old now and still teaches three classes on a part-time basis. Having the temperament of a seasoned artisan who has devoted himself to technical instruction, he is a mild mannered gentleman. Having graduated from Chanboko Polytechnic during the era of British rule, Mr. Wangolobe was dispatched to study in Japan as part of the cooperation project, and he stayed there for nine months from March 1972. He studied Japanese at Tokyo International Training Center (currently JICA in Tokyo), learned machine skills, theory and teaching method at a vocational training facility in Chiba, and visited a “Hitachi plant” on the outskirts of Tokyo during his stay.

“There were four instructors in the machine department, and we each went to Japan at different times. At Chanboko, I learned using British made machine tools, however, the Japanese training facilities had the latest machines and I acquired some technical skills for the first time.” On recalling the scenery of Tokyo, Mr. Wangolobe says, “Everything in Japan was so advanced and the modes of transport were especially impressive. I remember riding on trains, subways and trams for the first time in my life.” When Mr. Wangolobe stayed in Tokyo in 1972, this was around the time most tramcars were abolished, so he probably got to see these trams in their final days.

Photo 6-6: Machine Tools Provided in 1970s and Mr. Wangolobe (right)

Concerning the vocational training institute in those days, Mr. Wangolobe looks back as follows. “It was not as large as it is now. Since only 10 years had passed since Uganda’s independence

and factories were still few, I think that it was a wonderful institution suited to the local environment. At Chanboko, British people operated the school while teaching us industrial technology, however, the Japanese were friendlier and kinder and they taught technology and management with great care. With the arrival of the Japanese, I felt that something new was beginning." Around that time, each department had between 12~15 students for two or three terms, and everybody enthusiastically learned about new technologies with great interest. "I remember the "founding principal" Mr. Yokose. He was a good leader. He staged many meetings, determined policy and encouraged us instructors."

However, under the dictatorship of Idi Amin, the Asian minority (mainly Indians and Pakistanis), who had supported economic activities such as manufacturing and trade, were banished from the country, and 300,000~400,000 people were massacred. There was widespread confusion due to insurrection within the military. Civil order deteriorated so much that even foreign residents went missing, and embargoes imposed by European and American nations led to shortages of supplies and spiraling inflation. The 10 Japanese experts and their families lived in the dormitory that had been specially built close to the institute, however, on one occasion in March 1973, an armed group of 30 people attacked the dormitory and stole valuables. Deciding that safety was the primary concern and work was secondary, Mr. Yokose scrambled to secure the safety of the Japanese officials and their families by negotiating with the Ugandan Ministry of Labor, Ministry of Foreign Affairs and Japanese Embassy in Kenya in order to obtain more secure residences.

Under these circumstances, the cooperation project was completed without being extended beyond the agreed four years, and the Japanese experts and their families were pulled out of the country on June 27~28, 1974. Although local activities had been limited to nine months preparation following their arrival in Kampala and 33 months of actual training, more than 530 students completed courses during this period and the total number of trainees including 65 who were still in training when the Japanese left amounted to roughly 600.

In the general history, Mr. Yokose wrote the following. "Although it wasn't entirely satisfactory, I think we complied with the spirit of the agreement and contributed to the future development of Uganda in that we trained our successors and their assistant staff, established a system so that the Ugandan side could implement training itself, imparted understanding of Japanese industrial technology via the training, taught theory and practical technology with emphasis on training in each vocation, and thereby laid the foundation for trainees to conduct activities in various fields throughout the country. The thing that gave me the greatest joy was the high esteem with which the President and members of government valued our work." On returning to Japan, Mr. Yokose remained active as an international exchange volunteer until he passed away in 1996 at the age of 90.

(3) Protecting the Machine Tools

Operation of the vocational training institute was entirely passed onto the Government of Uganda (Ministry of Labor). From the end of Japanese cooperation in 1974 to around 1978, the International Labour Organization (ILO) offered assistance, but this was limited to technical training for instructors, and there was hardly any supply of equipment. Mr. Wongolobe testifies as follows. “Because the government didn’t provide enough budget, we were unable to upgrade equipment or supply new materials, and we were confronted with a difficult situation as the number of students in each department declined to a few students. However, as the machine tools provided by Japan were very precious assets, we somehow found parts and repaired them whenever they broke down and tried to keep them in good condition.” During this period, since items could not be imported from overseas due to the embargo, “Whenever machines broke down or mechanical troubles occurred, all sorts of companies and factories came to us seeking technical advice and repairs, and they were very grateful for our help. The pay we received from the government was low and we may have switched jobs if better conditions had been available, however, we decided to stay because of the industries that depended on us.”

Because the Amin dictatorship banished Asian citizens from the country, there was a sudden drop in foreman-class technical workers who essentially supported workplaces in various sectors. The institute carried out crash training of Ugandans; however, this didn’t prove very effective. At the request of the Ministry of Defense, it also temporarily carried out training of army and air force personnel. Meanwhile, supplies of previously abundant materials and resources ran short. For example, the supply ratio of teaching materials and tools fell to 60% on average and 20% in the sheet metal department, leaving the institute in a desperate situation.

In 1978, Tanzanian forces attacked Kampala, and Idi Amin was deposed the following year in 1979. Political and social turmoil continued until President Museveni came to power in January 1986. During 15 years of confusion and turmoil, in spite of the fact that many public facilities, factories and ordinary homes in Kampala had been destroyed due to the rioting and looting by militia members, the vocational training institute escaped major damage. A pious Christian, Mr. Wongolobe says, “We were not given any special protection just because we were a government facility. But I think God was looking over us.”

In the machine department of NVTI today, a number of the machine tools that were supplied in the 1970s are still operating. In addition to a drilling machine by KIWA (Kiwa Machinery) and a gear cutting machine by HITACHI SEIKI, numerous items of machinery carry plates of Japanese companies such as WASINO, AOYAMA and KITAMURA. Out of these, Hitachi Seiki, which was a major machine tool maker, fell into decline following collapse of the bubble economy and it was taken over entirely by another company in 2002. It is guessed that the plant that Mr. Wongolobe visited in 1972 was the headquarters of this company located in Abiko City, Chiba Prefecture.

Mr. Wongolobe was transferred to Gogo Vocational Training Institute and temporarily left NVTI in 1990; however, he recalls “I was hopeful but also skeptical about whether or not the Japanese would return to NVTI.” However, Mr. Shigekatsu Suzuki (currently of Kimitsu Polytech), a machinery expert who visited NVTI for the first time in 1995 following the resumption of cooperation, gives the following testimony: “I was surprised that the machine tools such as the lathe, milling machine and drilling machine that had been supplied in the 1970s had no rust at all and had been kept in excellent condition. The machine manuals, instruction manuals and Japanese materials were stored on shelves as though the local side had been waiting for the Japanese to visit again. One could sense the high level of anticipation that the local side held towards Japan.”

Today, there are few remaining people who can testify about NVTI during this period from inauguration through the “lost years,” and it wasn’t possible to find any written records of that time. However, as the beginning point of today’s NVTI, it should not be forgotten that amidst the historical turmoil of a military coup d’état and dictatorship, at a time when there was no Japanese embassy or JICA office in Kampala, Japanese experts led by the “tough samurai” Mr. Yokose (according to Mr. Kashiwada), who was born before WWII, struggled to get NVTI established, and it was subsequently safeguarded by Ugandan counterparts during a pitiless era.

At the start of the 1990s, following the end of the East-West Cold War that had impacted the African policies of the advanced nations, and the bursting of the bubble economy in Japan, the Museveni administration, which had made trade and investment liberalization and promotion of industry its top priority issues, issued a request for assistance to the Government of Japan. Unbeknown to the “hopeful but also skeptical” Mr. Wongolobe, discussions resumed between the governments of both countries with a view to resuming the project.

6.4.2 Revival Phase – Resumption of the Project and Formation of the Organization Structure (1990s)

(1) Resumption of the Project

The NVTI assistance project was suddenly resumed in the 1990s as though it were trying to make up for the “lost” 20 years. An interesting feature of this period, when the outline of today’s NVTI was formed, was that the building of friendships and mutually frank human relations crossing professional boundaries between officials on the Japanese and Ugandan sides became the driving force for the project. Two cases in point were the relationships between Mr. William Kizit, the Director of NVTI and employee of the Ministry of Labor (transferred to the Ministry of Education and Sports in 1998) and the expert, Mr. Takeru Ejiri (dispatched from 1995 to 1997), and between Mr. Tuzinde Abasi, the Principal of NTVI, and the expert, Mr. Toshiaki Takami (dispatched from 1997 to 2000).

Following graduation from high school, Mr. William Kizit, who was born in Mukono District on the eastern outskirts of Kampala, was dispatched for six years to an agricultural machine college

in Kiev under a technical cooperation program run by the Soviet Union, and he was appointed as an instructor in the motor vehicle department of NVTI on returning home in 1974. He became the superintendent in charge of both vocational training institutes at Nakawa and Lugogo in 1976, and he was appointed director of the Directorate of Industrial Training in 1995~2005, and was involved with the vocational training department for many years. Mr. Kizit recalls the time he visited Japan around 1993 in order to hold discussions geared to the resumption of support for NVTI as follows. “On visiting the Ministry of Labor and JICA and making a request for cooperation, the Japanese officials acquiesced and said, ‘We shall do it.’ I remember the feeling of encouragement I had at the time.”

This coincided with the staging of the first Tokyo International Conference on African Development (TICAD I, October 1993), when the Japanese government made an international pledge to expand its involvement in Africa. Moreover, since the political situation in Uganda had stabilized, there was no reason not to resume the NVTI project that was a case of “unfinished homework.”

Mr. Takeru Ejiri, on the other hand, entered the employment promotion agency in 1969 and spent the next eight years in the field of industrial machinery working on the Shubra maintenance vocational training institute in Egypt and CEVEST vocational training project in Indonesia. After that, he was dispatched to Uganda as a member of the study team for the NVTI improvement project (grant aid) in 1994. When the two met in 1995, Mr. Kizit was 47 and Mr. Ejiri was 51; moreover, the two men had similar rugged features and hit it off from the start (according to Mr. Ejiri).

Photo 6-7: Mr. Kizit (left) and Mr. Abasi (right)

At the Directorate of Industrial Training that was established in Lugogo VTI alongside the main road leading from central Kampala to Nakawa, Mr. Ejiri and Mr. Kizit had adjoining desks and worked side by side. Mr. Kizit recalls, “I soon became friends with him, and we discussed numerous issues such as how to improve the motivation of instructors and prepare training programs and so on. Mr. Ejiri always had a scary face, but he often made us laugh by telling us jokes and he was passionate about his work. The Japanese experts lived in the dormitory inside the compound and we would often visit each other’s homes for dinner and family exchanges.”

At that time there were four reasonably equipped vocational training institutes in Uganda, namely NVTI, Lugogo VTI and two more (one of which was a YMCA) in Jinja, and Mr. Ejiri recalls the state of NVTI, to which Japanese assistance had been suspended as follows. “The

building was in tatters and leaked rain, and although the institute had machine tools, they had poor accuracy. It wasn't possible to use electricity as required due to planned power cuts, and conditions were poor." In reality, around 12 instructors were teaching between 60~70 students in the four departments of electricity, mechanics, carpentry and motor vehicles. Following resumption of the project, the institute was closed for a year in order to carry out construction of the practical training block, installation of equipment and training of instructors under the grant aid. Mr. Ejiri coordinated the contents of the assistance in close liaison with the employment promotion agency, which offered backup for all components of the assistance including compilation of each department's curriculums, listing of equipment and construction of the practical learning block. He also decided the specifications for machine tools, woodworking machines, electrical testers and motor vehicle maintenance equipment. In addition to securing Japanese and German made items, he says that he tried to procure equipment locally as much as possible.

Mr. Shigekatsu Suzuki, who was dispatched at the same time, recalls those days as follows. "In the mechanics department, we mainly taught how to manufacture repair parts (spare parts), for example, parts for agricultural tractors, gears and axes for machines in sugar refining plants and so on, however, basic items such as ironround bars and square bars that are so readily available in Japan couldn't be procured. We used to go around scrap merchants in Kampala looking for training materials and haggling dealers for cheaper prices for the institute."

Mr. Ejiri coined the following catchphrase while assigned to NVTI. "Make NVTI the number one vocational training institute not only in Uganda but all of East Africa." This was repeated at morning assemblies and meetings and according to Mr. Kizit, "We all gradually came to believe it." The concrete objectives of assistance were as follows: i) development of an East Africa vocational training center, ii) implementation of vocational training worthy of the trust of industry, and iii) development of industrial human resources who can attach added value (make import substitution possible) to the resources of Uganda. For example, at that time, because Uganda didn't even have woodworking technology for making furniture, it cut down its own ample timber resources, exported them to Kenya and imported furniture back from them at inflated prices. Mr. Ejiri recalls how Ugandan officials at the ministerial level said, "This is absurd. We have to be able to at least make our own furniture."

For Mr. Ejiri, who believed in the maxim that "experts work for 24 hours a day," his "second office" was the clubhouse of the famous golf course in the center of Kampala. His goal here was to cultivate ties with high-ranking officials. "On eating the famous steak chops and drinking beer in the evening, ministers and bureau director-class officials from the counterpart Ministry of Labour, Ministry of Foreign Affairs and Ministry of Finance would come and go, and we soon became acquainted. We would greet each other on first meeting and I would later visit their offices. Although such connections didn't immediately lead to work, I built a network of contacts and relationships with people I could go to when looking for favors concerning budget

or human resources a year or so down the road." Mr. Kizit also fondly recalls that time: "Since I had been trained to drink hard during my days studying in the Soviet Union, I was often invited to the clubhouse for drinks." In addition to the golf course, Mr. Ejiri strived to maintain both public and private exchange with officials on the Ugandan side by attending weddings, funerals and other ceremonial functions.

The thing that the Japanese experts valued the most at NVTI was "practical skills capability." When the cooperation was first resumed, many of the instructors had mainly studied in classroom settings and they lacked practical skills. Mr. Ejiri and the other experts adopted a tough stance by inviting experienced and skilled engineers from the private sector to serve as ad hoc lecturers and made the instructors take practical examinations.

Mr. Suzuki gave the following testimony. "We brought in Japanese teaching methods, however, we had to customize instruction to the local conditions in cases where there were no tools or resources. At the beginning, because some of the instructors came to work wearing sandals and low-hem overalls that placed them at risk of being caught up in machines, before conducting technical guidance, we had to start from the basics such as telling the instructors to wear shoes and work clothes. Moreover, because the instructors tended to want to monopolize the technologies they learned and teaching materials that were provided, it was important to make everything open by having them share information on PCs and storing literature in book storerooms for anybody to see. Otherwise, things would have reverted to the old ways after the Japanese experts went home. We wanted to make sure that technology would be smoothly conveyed even when the Japanese experts were not there."

The promotion of NVTI as a center for East Africa was another issue that required much effort. A lot of funding and experts were intensively invested in NVTI as a "model" vocational institute, and Mr. Ejiri made the following proposal to JICA. "Since projects of similar scale cannot be implemented in the surrounding countries, and it is wasteful to utilize NVTI for Uganda alone, how about utilizing it as a core institute for East Africa?" This was only an idea at the time, however, just before Mr. Ejiri went back to Japan, government officials and business figures from Kenya, Tanzania and Rwanda were invited to a seminar on technical cooperation in Kampala, where the Japanese side introduced the NVTI project.

Just as Makelele University of Uganda was regarded as the top university in East Africa, Mr. Ejiri was proposing that NVTI should be the number one vocational training institute in East Africa, however, in reality, "Uganda at that time was at a lower level than Kenya and Tanzania and didn't seem to have the respect of other countries. We were actually thinking about accepting trainees from Rwanda at that time." On learning that wealthy citizens of Rwanda were sending their children to schools in Uganda during the period of ongoing genocide in 1994, Mr. Ejiri proposed to the Rwandan Ambassador in Kampala that NVTI accept Rwandans, and this was met with a cordial response.

Mr. Kizit looks back on these times as follows. “The Japanese practiced “Less Talking, Hard Working” and they took their work very seriously. Once they started working they never seemed to rest. I think this attitude provided a good stimulus to the surrounding Ugandans, albeit not all of them. Around that time, assistance was also provided by the United Kingdom and Germany, however, the Japanese seemed to be more open than their European counterparts and were willing to share all their skills.” Moreover, many school officials and instructors were dispatched to Japan to learn the latest skills and teaching methods, and they were like totally different people on the job after they returned to Uganda. “The Japanese experts stressed emphasis on practical skills, and that has undoubtedly become the fundamental tenet of NVTI until today. In the JICA NVTI project, not only were lots of equipment and machines supplied, but instructors and trainees acquired practical skills and this had an impact on vocational training in Uganda as a whole.”

In line with the reorganization of government ministries in 1998, the transfer of the Directorate of Industrial Training from the Ministry of Labor to the Ministry of Education and Sports had a subtle impact on the NVTI project. As Mr. Kizit recalls, “Top officials who had no knowledge of conditions on the ground haphazardly decided to transfer control without consulting me as the department director. At the time I thought it was just a case of reorganization, however, I later realized that this decision was a major mistake. Since officials in the Ministry of Education naturally had a strong academic orientation, they failed to properly understand the importance of more practical industrial technology and vocational training, and they tended to neglect the vocational side.”

Mr. Kizit urged the ministry officials to pay greater attention to the importance of vocational training, however, unlike officials of the Ministry of Labor, they failed to understand. “Really, the Ministry of Labor or Ministry of Commerce and Industry, which have understanding of technology and links with industrial circles, should have been given jurisdiction.” Concerning this point, Mr. Ejiri is in agreement. “In the sense that vocational training is intended to impart practical skills for linkage with industry and creation of employment, it shouldn’t be treated as ordinary education but should be supervised by the Ministry of Labor. The transfer of jurisdiction to the Ministry of Education happened after I had returned to Japan so I don’t know where the misunderstanding occurred, however, I think it’s a shame it happened.” Officials of the Ministry of Labor felt a lot of confusion about this decision; however, examination has not been conducted on what kind of concrete effects were imparted by the transfer.

(2) Start of Income Generation

Succeeding Mr. Ejiri, who formed the successor project, Mr. Toshiki Takami was dispatched from 1997 to 2000 as leader of the NVTI project (technical cooperation). Mr. Takami, who majored in casting at vocational training college, worked at a vocational training institute in Japan before being dispatched (from the Overseas Technical Cooperation Agency (OTCA)) to the Kaohsiung vocational training institute in Taiwan between 1970~1973, and then became

involved with technical cooperation at the Centre for Instructor & Advanced Skill Training in Malaysia from 1984 to 1988. He was appointed to work on the NVTI project in his capacity as section manager at the Japan International Training Cooperation Organization (JITCO).

This was the year in which Mr. Tuzinde became the deputy principal of NVTI (he became principal in 2000). While studying at Chanbogo, Mr. Tuzinde won a scholarship to study abroad at West Ontario University in Canada, and he was recruited as an instructor at NVTI in 1975, the year after the Japanese experts had pulled out. Together with the aforementioned Mr. Wongolobe, he experienced the harshest era at NVTI, however, he subsequently advanced to an administrative course, received an opportunity to study in Italy (1978) thanks to the International Labor Organization (ILO), became the vice principal of Maslita vocational training institute (Wakiso District) and then became the principal of NVTI. After being promoted to the post of principal, he received management training at the JICA training center in Hachioji for three months in 2002.

Photo 6-8: Mr. Takami, a Former JICA Expert

When he arrived at NVTI in June 1997, JICA had dispatched the leader (Mr. Takami), the sub-leader in charge of training, the coordinator and 10 experts in seven departments, making this the largest project in terms of personnel dispatch among the projects being handled by the JICA social development cooperation division. Following closure, the institute was being rebuilt and the former practical learning block was knocked down and only waste iron materials earmarked for recycling remained. Since the institute was still closed, most of the teachers were working part-time jobs elsewhere, and only the principal and a few other teachers were there and morale was low. Mr. Takami recalls the atmosphere as follows. “The first principal had been dismissed after it had been revealed he was illegally selling slate for the new institute building, and it was later revealed that the person who had exposed him was also engaged in wrongdoing.” Machine tools couldn’t be operated because there was no electricity or water supply, and tariffs were only paid for supply during seminars held once every two months or so.”

In addition to the quality of the staff, their numbers were also lacking. According to Mr. Tuzinde, “On resumption of the Project, we explained to the Ministry of Labor that it was necessary to replenish the instructors, but staff members were recruited not as full-time public servants of the government but rather as part-time employees recruited by the institute.” Having been told that they would receive training and could be recruited full-time later on, more than 40 instructors were recruited at this time, and many of them later became full-time civil servants and played

central roles at NVTI.

The greatest achievements during the era of Takami and Tuzinde were income generation and introduction of the committee system. The past experiences of Mr. Takami provided the background for both these developments.

Mr. Takami says that his involvement with vocational training assistance in Taiwan, which he came into contact with in his late 20s, was the thing that helped him realize the importance of generating income. The opportunity presented itself when he revisited the project 10 years later. “Whereas there were only eight courses during my time there, this number had increased to 30 and the buildings had also been expanded. On inquiring how this had happened, I was told that the institute vigorously staged seminars of interest to industry, that it had introduced a legitimate system for sharing revenues between the principal, section managers and officers, and that this proved to be an incentive for bringing revenue into the school.” However, on visiting there again after another 10 years, the place was so quiet that you could hear a pin drop. “That was because the jurisdiction for vocational training had been shifted from the Ministry of Economy to another government agency and income generating activities had been suspended in order to concentrate on only industrial human resources development.”

After arriving in Nakawa, Mr. Takami spent three months touring other vocational training institutes in the country. He says, “When I saw broken equipment being left discarded in a state of disrepair at a school that had been supported by the World Bank, I realized more than ever that institutes had to become self-supporting through their own earnings.”

At first cautious opinions were expressed about utilizing equipment that had been supplied through ODA in order to generate income, however, the atmosphere became more tolerant from around the time the developing countries suffered major setbacks in the Asian currency crisis of 1997. When it came to introducing income generating activities to NVTI, Mr. Takami gave bold instructions saying, “You can go there any time of the day apart from lesson times. You are free to use the facilities, equipment and any other resources inside the institute, so go ahead and earn some money.” It was an unfettered and flexible promotion measure; however, far from leading to confusion, it encouraged instructors who had been working part-time elsewhere in order to boost income to return to the institute and the absentee rate declined. As a result, the experts were able to pay attention to the guidance.

In return, the following rules were codified: i) 20~30% of income will be pooled to pay for staging seminars in each department, and ii) 20% will go to the administrative department (principal management) and the remainder will be shared among department managers, instructors, assistants and storeroom staff, etc. The guidelines were compiled and all activities were made open in order to make the income generating activities legitimate. It was decided not to share the total income equally among the departments because this would diminish motivation, so independent accounting for each department was adopted. The most lucrative

activities were sheet metal processing and welding, where more income than the public budget allowance was earned by receiving orders for iron gates, fences and others from government offices, companies and households.. Mr. Takami also says, “I recommended the woodworking department to make coffins, for which there was a high demand, however, for some reason or other they didn’t want to do it.” Once these income generating activities got on track, the entire institute was revitalized.

Moving forward a little in time, here we take a look at one example of an income generating activity. Mr. Toshio Takeno (currently belonging to the Advanced Polytech Center of the Employment Promotion Organization for Elderly, Handicapped and Job Seekers) was dispatched as an expert to the motor vehicle department from 2000 to 2003. When he first arrived, NVTI was behind in paying its electricity and water bills as well as staff salaries, and it was essential that it generate income through its own efforts. “We purchased use car parts that had been imported as scrap, assembled a car, painted it and sold it. Around that time, Japanese and Chinese car parts were widely available in Uganda. In addition, vehicle maintenance work spread by word of mouth and we took orders from the Embassy of Japan, the American and Belgian embassies, United Nations agencies and even the Ugandan police department. United Nations vehicles were even brought in from neighboring Kenya and Somalia.” However, Mr. Takeno also warned that “the ratio of generated income must not become too great for a vocational training institute.” Accordingly, these activities were categorized as “applied practical training” and customers’ vehicles were treated as teaching resources when disassembling and repairing them.

Photo 6-9: Motor Vehicle Department at NVTI

(3) Introduction of the Committee System

Introduction of the committee system in order to take a bottom-up approach to discussing and handling various issues related to institute administration also originated out of Mr. Takami’s experience in Malaysia. When he was instructed to establish a committee by the leader at that time, he struggled because he had no reference materials available, however, after returning home, he incorporated a method for launching a committee when he compiled the PROTS instruction technique for the Overseas Vocational Training Association (OVTA). This is the technique that Mr. Takami put into practice at NVTI.

Committees at NVTI covered a variety of areas such as administration, financial affairs, training, safety, welfare, generating income, sports, dormitory and discipline. The committees basically

served to make rules concerning, for example, working hours, lesson times, dormitory discipline and the aforementioned income generating activities. The Japanese experts gave advice, however, the committees held the power to make decisions. According to Mr. Takami, this was to ensure that the decisions made by the committees would be upheld even after the Japanese experts had gone home. For example, the committee decided that the work arrival time should be 08:00 and that anybody arriving late should wait outside the gates for 30 minutes, and because the rule was equally applied to the Japanese experts, one sometimes witnessed a late coming expert being kept waiting outside.

Perhaps the person who was most helped by the committee system was Principal Tuzinde. “There was always a mountain of paperwork to be done and I struggled with this from early morning to late at night. Mr. Takami would often invite me to have a cup of tea when it got to 10:00 at night. I think he was worried about me overworking and tried to get me to relax.” In introducing the committee system, Mr. Takami suggested to Principal Tuzinde the following. “Why don’t you just look after budget and personnel affairs and leave other matters to the committees?” Mr. Tuzinde accepted the offer without worrying about losing authority. According to Mr. Tuzinde, “Through creating a system whereby the teachers themselves took responsibility for running the school, my excessive load was lightened and to be honest I was relieved. The committees submitted written proposals and the principal gave advice. Visitors from other vocational training institutes came to observe the committee system in action.”

When Mr. Takami first proposed the committee system, the staff members responded negatively because they didn’t want to have time taken up in meetings and they were averse to added responsibility and workload. However, Mr. Takami and the other Japanese experts made sure that the committees would be run efficiently with clear objectives and the requirement for conclusions to be reached in no longer than an hour, and they stressed that having each member engage in the running of the institute would enhance the sense of belonging to NVTI. In reality, all the members came to realize this effect and their autonomy was enhanced.

Photo 6-10: Coconut Trees at NVTI

Japanese tone was also permeated through NVTI. According to Mr. Tuzinde, “When I went to Japan for training, I was surprised to see department managers lining up with other employees for lunch in the canteen. In Uganda, it is common for school principals to have their lunch brought to their office, where they eat alone. It was a case of culture shock, however, I thought that such an open and frank approach could prove useful at NVTI, so I started having lunch together with the other employees after I returned home.” In addition, Mr.

Tuzinde says that he also actively introduced other aspects of Japanese working culture such as punctuality, deeds rather than words, and leading by example. “As a result, an environment was nurtured whereby the principal and other employees could work together and have respect for each other. Usually, the principal is a distant figure who doesn’t have much communication with the other employees, however, as is also the case with the committee system, NVTI created an atmosphere in which anybody is free to talk, and visitors from other institutes looked on this with envy.”

The road leading from the main gate of NVTI to the office building is lined on both sides by around 20 coconut trees. Among them are some relatively young trees, however, the tallest trees were purchased and planted by the garden-loving Mr. Takami and other experts out of their desire to “make the institute more beautiful.” These huge coconut trees, which have their roots in the ground and rise to the sky, are symbolic of the spirit of the Japanese experts that was planted in NVTI.

6.5.3 Expansion Phase – Various Contributions to Economic Growth (2000s)

(1) Instructor Training and Qualification System

As a result of the generous support that was provided to NVTI in order to turn it into a “model institute,” it naturally acquired better facilities and equipment and a higher level of teachers than other institutes. Having attained undisputed status as the top vocational training institute in Uganda, UVTI came to assume new duties as a core institute after 2000. Specifically, these were training of teachers (ToT) for teachers in Uganda, introduction of the qualification system for vocational training in general, and third country training for instructors from surrounding countries.

Mr. Jou Makino, a former member of the JOCV, was dispatched to NVTI three times as a technical cooperation work project coordinator and expert from 1999 to 2004, from 2004 to 2006, and from 2007 to 2010, and he has had a firsthand view of recent developments at NVTI in recent times. According to Mr. Makino, NVTI has expanded its range of activities during this period from basic training of newly graduated trainees to include training of instructors in Uganda, instruction for vocational training institutes of neighboring countries, and involvement in compiling policy for the Ugandan government (compilation of qualifications and criteria).

In order to support the process for training instructors of some 600 public and private vocational training institutes, two technical cooperation projects, namely the vocational training instructor training project (2004~2006) and the vocational training instructor development project (2007~2010) have been consecutively implemented together with the advisor dispatch for construction of an in-service training system for vocational training instructors (2011~2013).

Considering that NVTI had become the outstanding institute in terms of both hardware and software, it was inevitable that the Government of Uganda should seek instructor training and

manager development functions from it. At the same time, according to Mr. Makino, “Background factors were that the Japanese experts constantly sought to brush up their skills and conducted upgrade training to ensure that the acquired skills didn’t become obsolete, and that the instructors who had learned much via the Japanese cooperation held a sense of mission and responsibility that they must themselves convey their knowledge and skills to others in order to keep it themselves.”

Photo 6-11: Mr. Muwanga, Deputy Principal of Jinja Vocational Institute

Mr. Fred Godfrey Muwanga, the deputy principal of Jinja Vocational Institute, served as the deputy principal of NVTI until 2011. After obtaining a diploma at Chanboko University, Mr. Muwanga worked in a brewing company before entering NVTI as an instructor in the metal processing department in 1994. This was during the time of facilities construction and Mr. Muwanga learned about curriculum formulation and teaching methods by undergoing six months of training in Japan and instruction by Japanese experts. After he was promoted to head the sheet metal department, he also studied at Dar es Salaam University in Tanzania under Japanese support. When he subsequently worked as coordinator for the instructor and manager training programs, he implemented a national survey of vocational training institute instructors in which it was revealed that more than 60% of instructors lacked technical skills. Mr. Muwanga sought to persuade the Ministry of Education and Sports about the importance of technical skills, in addition to the need for better equipment and teaching resources, however, the ministry initially displayed a negative reaction saying that programs would require huge investment.

As systems for enhancing the skill levels of instructors, JICA supported the introduction of the CVTI (Certificate of vocational training institutions) as a qualification for teaching trainees at vocational training institutions, and the Diplomat of vocational training institutions (DVTI) as a qualification for instructing instructors of the CVTI. Mr. Muwanga explains as follows. “The government also judged that these qualification systems would function beneficially. Since NVTI was not qualified to present state qualifications, we struggled to acquire CVTI/DVTI qualifications in four fields (electricity, electronics, motor vehicles, sheet metal), however, eventually the Directorate of Industrial Training became the qualification award body, a complete assessment and training package for each department was prepared in seminars for officials from government, industry and other vocational training institutes, and the qualifications were finally acquired.”

Mr. Kiyoshi Umemoto worked as an expert in building the concept for the three qualifications for CVTI/DVTI and management for roughly two years in three dispatches between 2007 and 2010. After graduating from vocational skill college, he experienced vocational training projects in Indonesia, Malaysia and Jordan. As he recalls, “In those three countries, Japanese instructed the counterparts, who then taught the local people. In Uganda, however, the instructors of NVTI were selected to undergo training in Japan; they then taught instructors from other vocational training institutes on returning home, and those instructors further instructed even younger trainees in a cascade system. This was my first experience with such an approach and it was a little confusing.”

Meanwhile, from before the start of instructor training by Japan, Germany had applied technical level (Levels 1 and 2) criteria to vocational training in roughly 50 job types in Uganda, however, Mr. Umemoto and the other Japanese experts thought that the even higher engineer level 3 was required for nurturing instructors. Accordingly, they compiled level 3 instruction methods for four job types and implemented instructor and manager training based on them.

Mr. Umemoto experienced the greatest hardship in competing with the vocational training institutes that followed the German model. Japan conducted overseas vocational training based on the PROTS (mentioned above) prepared by OVTA and “Theory and Practice of Guidance in Vocational Training” certified by the Ministry of Labour, however, when Mr. Umemoto first arrived at NVTI in 2007, NVTI was using the instructor training technique devised by the German Agency for Technical cooperation (GTZ). In terms of concrete differences, whereas the Japanese instructor training curriculum lasted for six months (two months on instruction technique + four months on expert skill guidance), the German model was for two years (including mock lessons corresponding to practice teaching). At the time, NVTI had many instructors who had been taught at Jinja VTI, which had received support from GTZ over many years, and there was a clear distinction between the Japanese faction and the German faction. There was some friction with the German side, but the Directorate of Industrial Training of the Ministry of Education and Sports eventually decided to approve the level 3 qualification system based on six months of training. Workshops were staged for officials of related government ministries and private sector enterprises. In these, job profiles were compiled and activities were identified for 10 stages of modules in each job category.

Mr. Makino adds the following explanation. “Japan proposed the setting of qualifications based on technology and instruction technique, however, the German side, which had jointly implemented the preliminary study on qualification certification, changed its policy and proposed a qualification configured through instruction technique without considering skills. There was a major difference between the Japanese and German approach, and as a result of negotiations, JICA taught skills and conferred CVTI or DVTI qualifications to those persons who received the German instruction.”

As of 2012, the CVTI/DVTI program that was constructed by Mr. Makino and the other experts

is implemented in four fields of instructor training at NVTI. CVTI qualification holders who have completed the latter phase of senior high school are recruited as general instructors, while DVTI instructors who graduated junior college or higher are recruited as ToT instructors after first gaining real work experience. The training period is one year and around 30 trainees sit each course, so between 100~200 trainees obtain qualifications every year.

Mr. Geofery Erima, who is chief of the motor vehicle section at Jinja Vocational Institute, received the NVTI instructor training for one year in 2009. “NVTI was equipped with a car maintenance lift, the latest measuring devices and audio teaching materials, none of which were available at Jinja, and the equipment situation was good. I directly received guidance from the Japanese experts and learned about the latest knowledge and skills necessary for a car mechanic as well as about safety control and the 5S. On returning to Jinja, since old and useless equipment was still lying around, I immediately put the 5S into practice and cleaned up the place.” The practical training block that was tidied in this way is today home to the latest engine models and other teaching materials that were supplied under assistance from the African Development Bank.

Incidentally, there are moves to spread the “Nakawa DNA” that was established by Japan during the period from the aforementioned revival phase to the 2000s to other institutes. Mr. Muwanga, who like Mr. Tuzinde, “learned a lot from Mr. Takami,” attempted to introduce the committee system to Jinja too. “We first established an academic committee. Most of the instructors at Jinja didn’t have lesson plans at the start. Remembering the time I chaired the training promotion committee at NVTI, I made spot visits to lessons to check on conditions regarding lesson plan preparation, and in cases where the instructor hadn’t properly prepared a plan, the instructor concerned was summoned to the committee at a later date to explain why.” He also introduced the student diary that he had learned from Mr. Takami. Based on this, the principal checks reports on student progress and requests section chiefs to conduct additional lessons where necessary. Moreover, as an original idea, a “reverse evaluation” system has been adopted whereby randomly selected trainees are asked to report on lessons given by instructors; these reports are checked by the principal and section chiefs and, if any problems exist, improvements are sought through the academic committee. In this way, effort has been made to improve the level of the entire institute.

(2) Third Country Training

Another development in recent years has been the full-fledged implementation of Third Country Training. In the vocational training instructor training project (technical cooperation) that was conducted from 2004 to 2006 during the era of Principal Tuzinde, training for in-service instructors was implemented in order to extend the know-how and experience of NVTI to vocational training instructors in the rest of Uganda and in neighboring countries. Four courses in three departments were provided, namely 1) microprocessor control (electronics department), 2) PLC control (electric department), 3) electronically controlled fuel injection engine

maintenance (automobile department), and 4) automatic transmission maintenance (ditto). A total of 155 trainees, consisting of 72 Ugandans, 24 Kenyans, 24 Tanzanians, 24 Zambians and 11 Eritreans, completed the courses. At this time, Mr. Muwanga worked as coordinator for the third country training, and the above four courses were well received among the trainees as a "new field of learning." In respect to the development as a core facility for East Africa, this development finally brought to fruition Mr. Ejiri's 1997 vision to accept trainees from neighboring countries.

In South Sudan, which gained independence in July 2011, ever since the age of self-rule following the comprehensive peace agreement to resolve the civil war, NVTI commenced cooperation for the basic skill and vocational training strengthening project (SAVOT) based on the national vocational training center (MTC) supported by JICA in the capital, Juba. After MTC instructors were invited and the vocational training center was opened in November and December 2006, instructor training and curriculum development courses were implemented. In 2008, NVTI instructors visited MTC to conduct training in accordance with actual location conditions.

The Vice Principal (training manager) of MTC, Mr. Albert Okoya, received instructor training at NVTI for six weeks in 2007. "MTC has finally resumed full-scale operations after the end of the civil war and five courses had been prepared in the fields of electricity and electronics, motor vehicles, metal processing and welding, woodworking, and architecture. The main contents of training at NVTI were, i) development of teaching materials and syllabus; ii) school management and instructor training; and iii) technical training for improving the skills of personnel. The differences between NVTI and MTC that I most keenly felt were that instructors at NVTI had accumulated ample experience and possessed qualifications, and the facilities and equipment were totally different. For example, it had numerous latest model machines that MTC didn't possess. Syllabus development and curriculum preparation at NVTI were based on the Japanese vocational training system and were made to fit with actual conditions in Uganda, however, in order to make the content consistent with the conditions in the more impoverished Juba, the NVTI instructors visited MTC to follow-up and help with designing curriculums for each course."

In 2011, instructors from vocational training institutes in the provincial South Sudanese cities of Malakal and Wau received training at NVTI. Mr. Okoya says, "NVTI is infused with Japanese technology and vocational training know-how, and I think it is highly significant that NVTI now acts as the core agency in East Africa in contributing to improving technology in surrounding countries like South Sudan, Kenya, Tanzania and others."

(3) Towards New Advances

Japan's assistance to NVTI came to an end in 2010, however, currently an instructor training construction advisor (expert Mr. Atsunori Kawashima) was dispatched to the technical

education and instructor education training department (TIET) of the Ministry of Education and Sports, and JOCV members are dispatched to NVTI. Meanwhile, the over 40-year experience of the project since the signing of the agreement in 1968 has come to have an impact on the vocational training policy of the Government of Uganda.

The Ministry of Education and Sports is currently aiming to develop high-level engineers who hold degrees at vocational training institutes based on the vocational training national curriculum BTVET (vocational assistant, technical assistant, business assistant) strategy that received Cabinet approval in December 2011. A central figure in this is Dr. Jane Egau Okou, the Assistant Commissioner of Instructor Education at TIET. According to her, "Certification level is insufficient for instructors. In future we hope to bring everybody up to the diploma level. As is indicated in the BTVET strategy, we are trying to elevate NVTI and Jinja to university status. We will initially make them into junior colleges but eventually hope to make them into information universities." If the process goes smoothly, the institutes will become junior colleges in 2013 and based on the CVTI/DVTI programs, there are plans to make Jinja a center for pre-service training (new recruit training) and NVTI a center for in-service training (in-service retraining).

Photo 6-12: Dr. Okou, The Ministry of Education and Sports

Dr. Okou said, "NVTI introduced the concept of instructor training to Uganda. Until then, instructors were referred to as technical teachers and they mainly taught theory, however, NVTI taught instruction methods to well-trained instructors and this contributed to the nurturing of instructors who are endowed with both theory and practical skills. The training curriculums of CVTI/DVTI also originated out of NVTI, and its management training is having a major impact on the management of other vocational training institutes too." Thanks to the efforts made at NVTI over many years, the Government of Uganda today recognizes the importance of instructor training and it has changed its vocational training policy by establishing a qualification system and taking budget measures.

Mr. Ilahi Mansoor, who works as the assistant coordinator and right hand man to Dr. Okou in the technical education department, voices the following expectations. "The BTVET strategy for the coming 10 years includes the provision of equipment, expansion of vocational training institutes, preparation of curriculums and training of instructors, so it will be necessary to involve industry in implementing strategy. We look forward to Japan's continued cooperation in the vocational training field, however, we especially hope for help in raising the level in the mechatronics field. The speed of technical innovation is fast and our country is introducing the

latest machines from overseas, however, we cannot repair them ourselves. More factories such as water packing companies are introducing fully automated machines and it is necessary for NVTI to establish a mechatronics department in order to train human resources in this field."

Photo 6-13: Mr. Matovu, Principal of NVTI

NVTI is currently implementing new initiatives under its principal, Mr. Musoke Matovu, who assumed the position in 2009. For example, three or four "tailor-made" upgrade training (company training) courses geared to needs are always being implemented as an element of income generating activities, and practical skills training utilizing the institute's facilities and equipment is implemented in the areas of welding technology, machine maintenance and electronic theory. According to the NVTI staff member in charge of company liaison, 188 trainees were accepted in 11 courses in 2011. As a noteworthy point, against a background of rapid increase in human resources development needs in the oil industry following the start of oilfield development in the north of Uganda, the British owned company Tullow Oil plc. reached an agreement with the Ministry of Education and Sports in May 2012 to implement engineer training in collaboration with NVTI. The company bears the costs for NVTI instructors to teach basic skills concerning machine maintenance and pipeline welding, and the company also dispatches its own engineers to teach specialist technology to the Ugandan staff. This is the first time that vocational training funded by a major corporation is being conducted under the jurisdiction of a central government ministry; thus, it may be called a pilot case. Petroleum companies from Belgium and the Netherlands have made inquiries about similar activities and it is expected that NVTI will be the ideal partner in all cases.

Following the end of Japanese assistance in 2010, the Government of Uganda (Ministry of Education and Sports) has funded its own project. For example, the effects of instructor training that has been promoted by Japan have been recognized, and training for instructors from all over the country is being continued under the government budget. In addition, a three-story instructor training block (classrooms and accommodation facilities) is being constructed within the grounds of NVTI (scheduled for completion in November 2012) at a cost of 370 million Ugandan shillings (approximately 11 million yen). Moreover, in line with the government policy of retraining human resources who have dropped out of education, NVTI has established short-term training courses in base sectors such as electricity, electronics and motor vehicles and is contributing to a nationwide project that is being implemented at core vocational training institutes throughout the country. This is a concrete example of a sustainable initiative being advanced under the self-help of the Ugandan side with a view to continuing and extending the

achievements of Japan's cooperation.

To bring this story to an end, the following paragraphs introduce two examples of young NVTI graduates who are diligently helping to support industry in Uganda.

Mr. Godfrey Orech (32 years old), who completed the metal processing and welding course in 2006, works as a work supervisor in the British-owned company, Special Welding Service Co., which is a metal and plastic processing company in Kampala. This company was founded in 2005 when a Danish metal processing company concluded a three-year memorandum with NVTI and a workshop was established on the premises as part of a vocational training support project of the Danish International Development Assistance (DANIDA) program. Recruiting around 15 graduates from the NVTI metal processing and welding department, the company mainly supplied pipes and other equipment to beverage companies, and it was then purchased by a British businessman resident in Kampala in 2008. Out of 40 employees, 17 are graduates of NVTI, and as Mr. Orech says, "Since NVTI graduates have learned practical skills and are immediately useful, they are recruited every year. In addition to their skills, other traits they picked up at NVTI such as cleaning and housekeeping, punctuality and diligence prove useful." Mr. Robin Yvick, who is a manager, says, "It is hard finding good engineers in Africa, not just Uganda. However, because NVTI graduates have received basic technical training, they can be immediately effective after undergoing short-term in-company training (OJT). In addition, they have good professional ethics, enjoy their work and are willing to learn new skills. We hope to maintain good relations with NVTI from now on." In relation to the aforementioned oil field development, orders for pipelines are growing and the opportunities for NVTI graduates like Mr. Orech to display their skills are widening.

Next we look at the case of an entrepreneur. Kobhood Co., which is located on a side road that branches off from the main road in the south of Kampala, was established in 2006. Rather than a company, it has the appearance of a makeshift kiosk by the roadside. The joint representatives of this company are Mr. Joseph Otoef (30 years old) and Ms. Margaret Kawaland (29) who are both graduates of the NVTI electronics department. They say, "On looking at colleagues from Nakawa who possessed skills but couldn't find work, we launched our own company in the hope of generating business in our own field of expertise." Out of 30 employees, 20 are graduates of NVTI (electricity, electronics, metal processing and welding, and carpentry departments), while the other members are graduates of vocational

Photo 6-14: NVTI Graduates, Mr. Otoef (left) and Ms. Kawaland (right), founder of Kobhoold Co.

training institutes such as Lugogo and Jinja. Our strengths are our expertise and high mobility as we can respond to wide ranging needs in companies and homes for repair and maintenance of electric wiring, machine tools, generators, motor vehicles and domestic electrical appliances, while staying in contact with each other by email and mobile phone. When technical problems arise today, they still talk to and obtain advice from their former instructors at NVTI. Although their company is still small, they have high hopes of advancing overseas in the future and their vision is symbolized in the company logo that is modeled on a globe.

* * *

Nakawa Vocational Training Institute, which is the crystallization of cooperation between Japan and Uganda, has so far delivered approximately 3,000 trainees to industries and nurtured roughly 4,000 instructors at home and abroad. As of May 2012, it has 344 trainees studying in daytime courses and 511 in nighttime courses. When it was first opened 41 years ago, it struggled to assemble 29 trainees, however, it taught technology, nurtured human resources and supported industry throughout Uganda's harshest age and today continues to grow as one of the most important vocational training centers in East Africa.

(Reported by Hiroaki Nakatsubo)

6.5 Features and Lessons Learned of Japan's Assistance to NVTI

6.5.1 Assets generated by "*Hito-zukuri*" cooperation

Japan's long term cooperation to NVTI has generated the following various assets.

- Reputation that NVTI could provide high levels of technical training.
- More than 4,000 graduates are working in the industrial sector. They are well endowed with skills based on theory and work hard and follow "5S". These human resources are highly appreciated by the industrial sector.
- Built a trust between NVTI and Japan
- More than 60 instructors of other vocational institutes have been trained.
- Instructors who not only improved their skills and knowledge through technical cooperation, but also learned about Japan's work ethics such as punctuality, work hard, work together and 5S, reflect these qualities in their daily training classes.
- Private sectors' appreciation of NVTI's high training capabilities and institutional management skills that allowed NVTI to provide customized group training for large companies.
- NVTI instructors' and staff members' strong ownerships to NVTI.

6.5.2 Promoting and Hindering Factors related to *Hito-zukuri*

The most important factor that has enhanced the impacts of NVTI is that it has clearly been positioned as a part of the government. After its inauguration in 1971, NVTI kept operating

even during the 20-year political and economic turmoil since 1974 without external support including that of Japan, because continuous government budgetary support. After Japanese cooperation resumed in the 1990s, NVTI has played an important role as a governmental body and reflect their results in national vocational training strategies. NVTI has trained instructors of other vocational training institutes and disseminated the experience into a national vocational training strategy.

Some of the ex-NVTI instructors, who were assigned to work at other vocational training institutes as civil servants, are now attempting to disseminate NVTI's experiences and enhance the impacts. The way NVTI has conducted instructor training within the framework of Uganda Vocational Qualifications Framework (UVQF) was also a reason why the government allocated budgets.

It became a driving force for NVTI to further promote the government's high appreciation and belief in Japanese technology. C/Ps fully understood the values and purpose of the training, which put strong emphasis on practical lessons based on communication with Japanese experts both in Japan and in Uganda openly and frankly. They learned about Japanese work ethics as well, which promoted NVTI's effective operation and management. In particular, training curriculums with special emphasis on practical lessons sometimes helped students understand the theoretical background such as mathematics, physics and chemistry while their ability to understand these subjects were lower than those of ordinary school students. The practical skills based on theoretical background helped improve private company evaluations of NVTI graduates.

C/Ps fully understood the intentions of the effort made by Japanese experts such as introduction of the committee system and income generating activities; thus, they could think about NVTI as their own institute, which enhanced C/P's ownerships. As a result, NVTI instructors and staff members have been actively involved in its operation and management and aspired to making NVTI the No.1 vocational training institute in Africa, as Japanese experts repeatedly said after cooperation was resumed. NVTI is now as the second best Center of Excellence in Africa.

Whether the government can keep updating the necessary machinery and equipment of NVTI with own budget is a major concern of NVTI as its impact is disseminated further. In addition, another concern is whether NVTI can continue to respond to the various needs of the industrial sector with their limited number of instructors and staff members. The demand for training specifically developed for private companies such as the emerging oil refinery industry has increased, while NVTI provides pre-service training. It is not easy for the government to increase the number of instructors and staff members at NVTI. In order for NVTI to further disseminate its impact effectively, it is crucial for the government to allocate adequate budgets to NVTI to fulfill the expected increasing roles.

Furthermore, government bureaucracy sometimes prevented cooperation to NVTI from being

effectively implemented, such as delayed budget disbursement and the long process of making decisions by various stakeholders. In addition, while the status of NVTI as a government body increases sustainability, it loses its "hungry spirit" as well. In order to keep meeting the demands of the private sector, which have changed with technological innovation and adequate human resources, it has become necessary to be actively involved in Ugandan industrial development and to aggressively strengthen links with the private sector. However, due to limited human resources, NVTI is waiting for requests to come in.

6.5.3 Features of *Hito-zukuri* Cooperation and the Issues to be Considered

NVTI remained in operation from 1974 and 1994 when Japan could not provide cooperation, the government, allocated small-scale financial and personnel support to NVTI. Some machinery introduced almost 40 years ago are still utilized in 2012. As this fact shows, NVTI is deeply rooted in Ugandan society and fulfills a governmental function, although it was established under Japan's cooperation.

Specific characteristics of Japan's cooperation, namely "to help build an implementation structure within the framework of a recipient country" would explain the sustainability. Mr. Yokose, who was the first leader when the project started in 1968, clearly declared three objectives of the cooperation: i) build a structure that enables Ugandan people to operate and manage it by themselves (enhance the spirit of self-help); ii) xueyong bingjin (Ou Yangming), matching one's words with one's actions, deepening understanding about Japan's industrial technology through training, and iii) master theory and practical skills according to type of occupation[40]. In order to achieve these objectives, the project team put strong emphasis on developing Uganda human resources who could utilize machinery and equipment Japan provided. A specific approach in Japan's cooperation was to recruit technicians and teach them pedagogy instead of recruiting teachers and teaching them technology since Japan considered trade skills and practical competency crucial to becoming instructors at vocational training institutes. The same recruiting approach was adopted by CFPT in Senegal. After cooperation was resumed in 1994, Japan helped NVTI provide appropriate training by maintaining the necessary machinery and equipment through regular monitoring. It is one of the characteristics of Japanese cooperation to contribute to fostering human resources who would meet the changing demands of the industrial sector flexibly in the face of ongoing technological innovation.

A distinctive feature of Japan's cooperation, "building an implementation mechanism which was a part of the institutional structure of the recipient country," helped the government of Uganda to utilize NVTI's activities as pilot projects and disseminate the obtained experience to other vocational institutes in the country. The above mentioned training, targeting instructors

[40] JICA, "Uganda shokugyou kunren center sogo houkokusho", February 1978 (in Japanese).

nationwide which was initiated by JICA projects, has been expanded under government budgets. Furthermore, the government included instructor training in the government strategy called "Skilling Uganda: BTVET Strategic Plan 2012/3-2021/2." As these case examples show, being developed as a governmental body, NVTI could reflect the activities and experiences into the government policies.

However, it is rather difficult to evaluate the impacts of personnel changes in NVTI instructors and staff members. Being civil servants, some NVTI C/Ps, mainly administrative staff members, who were trained outside of Uganda such as Japan through JICA projects, were moved to other vocational training institutes, or sometimes quit the job at NVTI. In the former case, some of the transferred C/Ps have already tried to introduce NVTI's experiences in the other vocational training institute in order to improve operations and management. In the latter case, some established companies utilizing their expertise and employed people. Japan's cooperation has had impact on the society in these cases.

The promotion of vocational training with strong emphasis on trade skills and practical competency is Japan's distinctive cooperation feature as well. The basic policy of "providing lessons which strengthen trade skills and practical competency based on theories" has helped students whose track record in mathematics, physics and chemistry was lower than those of ordinary courses, where "understanding by observing the real phenomenon" is gained through practical lessons. As a result, NVTI has successfully produced graduates who have both a theoretical background and trade skills as well as practical competency, which has differentiated NVTI from other institutes and encouraged the faster promotion of graduates.

Most vocational training institute in Uganda are not well equipped with machinery and equipment. Therefore, instructors mainly teach theories without conducting lessons in practical skills. Many of the instructors have no experience in practical skills lessons and cannot teach them to students. The CVTI/DVTI training programs were developed in a way that participating instructors could develop his/her own practical skills lessons curriculum taking into account the endowed resources of his/her institute. It was the first time instructors coming from all over the country experienced lessons in practical skills. The training opened their eyes by providing new knowledge, technology and ideas. After returning from the six-month CVTI/DVTI courses, instructors made great effort to implement lessons in practical skill based on their own curriculum developed with available resources through CVTI/DVTI.

NVTI's instructor training has provided needed and adequate knowledge about machinery, equipment and materials for lessons in practical skills, which elaborates exactly what Mr. Takami, the first leader of the resumed cooperation in the 1990s believes about vocational training. "It is more important to develop appropriate curriculum suitable for the respective vocational training institutes' conditions than just providing hardware. Providing the minimum equipment and raw materials to vocational training institutes throughout the country is only one solution."

It should be pointed out that Japan's cooperation became a chance to change people's mentality of discriminating against "blue-collar workers." In Uganda, while white collar workers, who graduate from universities and become elites such as doctors, lawyers and accountants, have been respected, students who study at vocational training institutes have been looked down on as less intellectual. Therefore, they could not continue studying in the ordinary course. In general, people looked down on artisans wearing work uniforms. Therefore, some C/Ps changed from their work uniforms to suits when purchasing raw materials and equipment for practical skills lessons.

Liberalization of trade and investment started in 1986 coupled with successive and rapid globalization gradually changed the "discrimination against technicians and mechanics." More skilled workers were required to cope with modern technology introduced by foreign countries, which gradually changed people's mentality about vocational training and blue-collar workers. In particular, in Uganda, foremen and mid-level technicians such as Asians were deported during the Amin administration. Therefore, technicians and mechanics capable of adapting to new technology from abroad were missing. Due to these conditions, a higher demand exists for graduates from vocational training institutes including NVTI, while graduates from universities began to have difficulties finding white-collar jobs.

The issues that need to be considered about Japan's cooperation are the future direction of the approach which heavily supports an institute, and raising awareness about vocational training in Ugandan society. Japanese cooperation has concentrated on NVTI in terms of hardware and software in order to make NVTI as a model institution in the country. As a result, the gaps between NVTI and more than 600 other national vocational training institutes such as Lugogo and Jinja are large. One of the Japanese experts even pointed out "it is a problem that NVTI has stood out from other vocation training institutes in terms of facility, equipment and level of instructors. If you visit vocational institutes in rural areas, you will see that instructors, who received training at NVTI, cannot utilize their acquired knowledge and skills without the latest computers and facilities." One instructor of another institute mentioned, "it is very difficult to provide practical skills development lessons using the knowledge obtained from NVTI. The levels of students are not that different. However, it is very hard to improve the trade skills and practical competency of our students." An expert of automobiles working at other vocational institutes pointed that out as well. "For example, computer-controlled instruments used to lift recent new models are essential to safe operations. Hybrid vehicles do not exist at our institute, whereas they do at NVTI. Teaching technology in this environment is quite difficult.

In recent years, other donors such as the World Bank and the AfDB actively support other vocational training institutes in rural areas by establishing facilities and providing machinery. Therefore, it is not necessary for Japan alone to support all the vocational training institutes. However, taking into account that NVTI is expected to provide training to instructors of other institutes as the top vocational training institute in Uganda, it needs to consider how to

cooperate with other institutes in collaboration with other donors in order to effectively disseminate its experiences and knowledge.

In the past under the British colonization, Britain imported raw materials such as tobacco, cotton and copper and processed and exported the product to Uganda. Therefore, it was not necessary to develop human resources in Uganda. People learned skills such as machinery fixing, welding, furniture making and foundry through on the job training (OJT) or apprenticeships.

In such a society, various attempts made by NVTI were epoch-making and gradually changed the public's mentality about blue-collar workers. Even highly educated people cannot find jobs easily. An expert of a human resource development institute stated, "even teenagers realize that technical skills are important to finding jobs or even starting one's own business to earn income."

But, NVTI stakeholders point out that "there was strong prejudice against practical works based on the belief that white-collar workers are superior. We would like to change that mentality. Without technicians, industrial development will not be achieved. The government of Uganda finally started to realize the importance of vocational training and some signs of change have been observed. However, it will take a few more years to really change the mentality of the society." The government of Uganda has begun to consider vocational training as important. This is a turning point for Ugandan society. Japan should not be just satisfied with the status of "foremost vocational training institute in the country", but should consider further about appropriate cooperation in order for vocational training and practical technical persons to be respected from now on too.

CHAPTER 7: COMPREHENSIVE ANALYSIS OF THE FINDINGS FROM THE CASE STUDY OF THE FOUR HRD COLLABORATION

7.1 Lessons Learned from "Human Resources Development in Africa" Seminar

The Study held the "Human Resources Development in Africa" Seminar in Dakar, Senegal for two days, 27 (Thu) and 28 (Fri) September 2012, and an outline is introduced in Chapter 1.

Photo 7-1: Plenary Session of the Seminar

During the seminar, the experiences in the JICA's human resources development (HRD) projects in the higher education and vocational training sub-sectors in the African countries were exchanged as well as information about their current progress and future plans. The participants from Thailand and Indonesia gave a presentation about their experiences working with JICA for HRD and institutional building in their universities, namely King Mongkut Institute of Technology in Thailand and the The Electronics Engineering Polytechnic Institute of Surabaya in Indonesia.

Through presentations and discussions among the participants from the African and Asian countries, we were able to understand 1) what they had learned from Japan's HRD collaboration, 2) what kind of outputs and outcomes were produced, 3) how they had utilized them, and 4) what type of problems they had faced. Some features of Japan's HRD, which the Japanese side had not realized, were pointed out by the participants.

The achievements and the impacts, which are the precious "assets" of the four HRD collaborations, are explained in Chapter 3 to Chapter 6. The participants agreed that, in order to utilize the assets, effective partnership rather than full-scale support would be needed between African and Asian countries and Japan.

The following are the major suggestions provided during the Seminar.

(1) Japan's technology transfer in capacity development of industries appears to be similar to Germany's. Both provide technical assistance in the field; however, there are a few differences. Japan gives priority to capacity development as a team, while Germany tries to enhance the individual's capacity.

(2) It is necessary to develop some mechanism to share and to relay what the counterparts

learned from Japanese technical assistance to the next generation.

(3) This seminar provided the first opportunity for African government officers and academic persons to gather and share the knowledge and experience in vocational training and higher education, which should be continued to strengthen the network.

(4) How to establish the mechanism to utilize and improve the output and the outcome produced by the past human resource development should be considered, as well as how to collaborate during actual implementation of the mechanism.

(5) Promote collaborative studies and research to develop and disseminate proper technologies among the relevant academic, research and government establishments in Japan and African and Asian countries.

(6) Further Japanese collaboration is desirable in order to further improve school management and business ethics in higher education and vocational training. Joining in the training in Japan is the most effective way to learn from soft-type technology transfer.

Photo 7-2: Discussions by the Seminar Participants

Before holding this seminar, it was anticipated that there might be many requests for JICA collaboration from the participants; however, they were more interested in sharing knowledge and experience with each other and discussing how to utilize the output and the outcome they had already produced. This may be because most of the participants were the counterparts in the Japanese human resources development collaboration and they already understood the positive points and the limitation of Japanese collaboration through their own experience. Furthermore, it was really valuable that the participants discussed and agreed on the need to improve soft-type skills in higher education and vocational training. Their unanimous request for JICA's technical collaboration was included in "the Synthesis of the Seminar Report."

Some of the participants from Uganda, Indonesia and Nigeria visited CFPT and had discussions with Principal Gueye and the teachers after the Seminar ended. All of the visitors were interested in the facilities, equipment, maintenance system, curriculum and school management of CFPT and they were eager to ask questions and take notes. Principal Gueye of CFPT and Principal Matovu of NVTI (Uganda) discussed how to improve their exchange program during the visit.

Many lessons were learned from the presentations of Thailand and Indonesia. The Electronics

Engineering Polytechnic Institute of Surabaya, Indonesia, has promoted effective collaboration with the companies owned fully or partly by Japanese nationals through the use of a good human network and relationships created by JICA's human resources development cooperation. This collaboration has contributed to improving quality education and research and increased f job opportunities for graduates, which greatly impressed the participants from the African countries.

Collaboration with the emerging donors has started in the area of human resources development. In Uganda, a new vocational training center will be established near NVTI with financial and technical support from Korea. The curriculum and education/training content are similar to NVTI. The Government of Uganda expects to learn something fresh and updated, which Korea has gained through its own experience in socio-economic development over the past 20 to 30 years.

The "human resource development network", which was established at this Seminar, between the participants from the African and the Asian countries, should be further strengthened by sharing information through the Internet as we move towards TICAD V that will be held in June 2013.

7.2 Impact and Assets of Japanese *Hito-zukuri* Cooperation

Based on the socio-economic analysis and collected information focused on human networks developed through four case study projects, the impact and assets of the Japanese *Hito-zukuri* cooperation are described below.

7.2.1 Higher Education

Impacts from the human resources development cooperation for JKUAT and SVM-UNZA are summarized in Table 7-1. JKUAT and SVM-UNZA was established from ground zero. These organizations achieved education for Africans by Africans, producing graduates who were active in the field. They are also recognized as a research and education center by neighboring countries. Impacts on individual and organization levels were seen as high because sustainable operation of JKUAT and SVM-UNZA for research and education was achieved. They have been expanding on their own and they also enhanced links between other universities and industrial sectors.

Meanwhile, the Governments of Kenya and Zambia supported JKUAT and SVM-UNZA by receiving the graduates. The graduates performed well utilizing their skills and expertise gained at JKUAT and SVM-UNZA, and they have had an impact on government and industrial sectors. However, the study team did not find any results that showed that this successful human resources development affected the policy and system of the country.

In both projects, the organizations, JKUAT and SVM-UNZA per se, are the invaluable assets. Furthermore, the management personnel and teaching staff that understand the Japanese spirit of

Hito-zukuri and *Mono-zukur*, and the relationship of mutual trust are precious assets for Japan, Kenya and Zambia.

Table 7-1: Impacts and Assets of *Hito-zukuri* Cooperation in Higher Education

	Individual	Institution	Society
Capacity Development	(1) Management of the university and schools gained the capacity of the operation. (2) Teaching staffs gained capacity to conduct practical education. (3) Teaching staffs gained research capacity. (4) Students improved their knowledge and skills in theory as well as practice. (5) Built trust between management/teaching staffs and Japanese experts helped understand the spirit of *Hito-zukuri* and *Mono-zukuri*.	(1) Equipment and facilities for practical education and research were developed. (2) Autonomous management by the homegrown staffs. (3) Most of the lecturers and teaching staffs became homegrown. (4) Graduates performed well in the related industries. (5) Became the "Center of Excellence" of the country in higher education sector.	(1) Graduates gave technological impacts to the government and research institutions where they worked.
Ownership (Sustainability)	(1) Management, teaching staffs, and students are proud of their organizations.	(1) School expanded department, faculty and research institutions. (2) Network with other educational institutions such as academic exchange and joint research was developed.	(1) The related Ministries (Ministry of Agriculture etc.) have strong ownership to support the institutions by receiving the graduates etc.
Customization (Application, Adaptation and Dissemination)	(1) Graduate performed well to meet industrial needs.	(1) Practical lessons in enterprise were introduced (2) Linkage between industries was established. (3) Research collaboration with Japanese universities and enterprises.	(1) Foundation of the industry was developed (Agriculture and Livestock) as technology advanced

Source: Study Team

7.2.2 Vocational Training

As in the case of higher education institutions mentioned above, two cases from vocational training namely, CFPT and NVTI were established from scratch and achieved autonomous management by counterparts in Senegal and Uganda, respectively. They produced graduates who work successfully in society and provided training to vocational training instructors of neighboring countries. They have developed the institutions into Centers of Excellence with high reputations.

As Table 7-2 shows, impacts of Japan's cooperation to these vocational training institutes are specifically high in the case of individuals and institutions. Counterparts in these countries and Japanese experts have made great effort to apply the experience gained by establishing vocational training institutes from scratch in Japan to these countries with appropriate modifications to enable the system to take root in the respective societies. Through this process, counterparts have gradually come to understand the spirit of *Mono-zukuri* and a strong trust with Japanese experts was built. This helped them operate, manage, educate and train students of the institutes autonomously. These institutes have generated income by organizing seminars targeting private companies and conducting training for workers in the informal sector.

Since these institutes are highly reputed as the Centers of Excellence, the experiences shared with these institutes have exerted a strong influence on government policy on vocational training and on the industrial sector. In the vocational training subsector, both projects have successfully generated assets such as CFPT and NVTI per se, management members and instructors that fully understand the spirit of *Mono-zukuri*, as well as practical skills lessons and a strong trust between the counterparts and Japanese experts. This is a precious asset of Japan's *Hito-zukuri* cooperation.

Table 7-2：Impacts and Assets of *Hito-zukuri* Cooperation in Vocational Training

	Individual	Institution	Society
Capacity Development	(1) Management capacity of instructors and staff members are improved. (2) Instructors have improved capacity of conducting practical skills lessons. (3) Graduates are endowed with practical skills based on theories. (4) Built trust between management/instructors and Japanese experts helped	(1) Facilities suitable for practical skills lessons are prepared. (2) Autonomous management. (3) Improved expertise and pedagogy of instructors. (4) Generated well skilled graduates meeting the industrial sectors' demand. (5) Training of instructors of other vocational training	(1) Influenced government policies based on the experiences as a "Center of Excellence".

	understand the spirit of *Mono-zukuri*.	institutes both inside and outside of the country	
Ownerships (Sustainability)	(1) Management members and instructors have proud of and ownerships in the institutes. (2) Graduates have confidence in obtained knowledge and skills. They teach to colleagues what they learned and share relevant industrial sectors' information with the institutes.	(1) Income generating activities utilizing owned machinery and equipment and organizing seminars for private companies.	(1) Provision of vocational training targeted at workers in both formal and informal sectors.
Customization (Application, Adaptation and Dissemination)	(1) Graduates work successfully in response to industrial sectors' demand.	(1) Appropriate modification of Japan's vocational training system in the context of recipient countries, which made institutes rooted in the society. (2) Encouragement of practical skills lessons based on the available resources by other vocational training institutes.	(1) Technical and ethical influence on other vocational training institutes as a center of excellence. (2) Contrived degree conferment system based on recipient countries' system.

Source: Study Team

7.3 Lessons Learned from Case Studies

7.3.1 Higher Education

(1) Importance of establishment of intellectual basis and continuous relations

JKUAT and SVM-UNZA have developed the capacity to implement cooperation in their field of expertise for other institutions in the country as well as in neighboring countries. Counterparts who were fostered in the long-term technical cooperation are now engaged in the management of universities. They are the supporters of the Japanese *Hito-zukuri* cooperation and trust Japan. They can be said to be an asset achieved and fostered not by simple technical cooperation, but by sincere and long-term relations.

About ten years has passed since the completion of technical cooperation for both projects. The

next generation of leaders capable of utilizing the asset and sustain relations with Japan were not fostered, though some research collaboration projects have been conducted.

(2) Important role of the Advisory Committee

Advisory committees were formed and organizing universities were pointed out in both projects. Chairmen of the advisory committees served in the projects for long-term periods, and members, who attended monitoring and evaluation, provided advice from the academic and long-term viewpoint. Main members of the advisory committees were appointed from the organizing universities, and experts were recommended through the network of universities. There were cases cooperation was achieved through Ministry of Education and veterinary medical association with the coordination of the organizing university. The advisory committees played an important role to help projects perform well in their area of expertise in addition to ensuring the quality and a variety of activities. Some of the organizing universities and cooperating universities concluded an academic exchange agreement with JKUAT or SVM-UNZA and participated in research collaboration.

(3) Needs for project operation from a long term perspective

It takes long time for human resources development. The experts engaged in both projects did not have a clear long-term vision, although they understood that it was important. It was not clear “what should be achieved by the established schools over the long term”, “how they will contribute to industrial promotion in the country” and “what kind of role Japan should play.”Both projects started constructing facilities without sharing any views on industrial needs, educational content, existence of teaching staff and their availability, and an exit strategy for the graduates. Technical cooperation was planned and conducted later

As mentioned earlier, the experts understood the importance of continuous cooperation, and strove to continue the activities even though projects were divided into several phases. The advisory committees contributed to project continuity and output through long-term engagement and advice. Nevertheless stakeholders in JICA changed within two or three years. *Hito-zukuri* cooperation should be operated based on a long-term perspective, although it seems impossible to conduct a large-scale project with long span like JKUAT.

(4) Capacity development in conducting countermeasures for depreciated facilities

Universities and governments of both countries strove to secure a budget to cover operation costs including personnel costs. However, the facilities and equipment introduced were depreciated after more than twenty years of use. They did not have enough financial capacity to replace them. As a result this remains as a challenge.

Through the technical assistance, it is necessary to develop capacity of universities in planning and taking actions for the countermeasures for the obsolete facilities: such as marketing and promoting advocacy to the government and donors to get subsidies or supports or developing

the collaborative relationship with the private sector.

(5) Approach to bear impacts from human resources development cooperation

For human resources development cooperation to have an impact, the trained human resources need to contribute to the society. In the cooperation for JKUAT and SVN-UNZA, impact was not seen in some sectors. One of the reasons is because the industry in that sector had a structural problem which could not be overcome by the human resource development project. As a result, there were no employment opportunities for graduates in that sector.

It seemed possible to create a link between the development of human resources and development of the industry itself during the cooperation period. For example, both of the universities created a system to reflect the needs of the industrial sector and private companies in their curricula. However, the career paths of graduates were not analyzed and career guidance was inadequate. The alumni network is effective in identifying needs of the industry and enhancing links as well as obtaining information from overseas and entrepreneurs. It might be also effective for providing employment opportunities for graduates. However, there were graduates where their careers were not developed although the alumni network. In addition to the cooperation in research and education, a career guidance system and alumni network might be taken into account in future cooperation.

(6) Support for networking

ICT revolution brought about easy acquisition of knowledge and further division of labor. This revolution might also change education and research style in the near future.

In the case of study projects, research networks (publication of science journal and establishment of academic societies) and networking with industrial sectors were seen. Further networking would be beneficial for effective management and greater impact. Some examples of networking are as following.

1) Research Network
2) Inter- regional Network (Asia and Africa)
3) Network for similar sectors
4) Network for similar type of organizations
5) Network of organizations and people supported by JICA
6) Alumni Network
7) Network of higher education institutions

7.3.2 Vocational Training

Six aspects of vocational training were discussed in the POVNET task team on Employment

and Labor Markets of OECD during 2007 and 2008.[41] They are:

1) Vocational training should respond to the needs of the informal economy and be inclusive because in developing countries people work and trade predominantly in the informal economy.
2) Links between education and vocational training from employment point of view should be strengthened.
3) Vocational training should include all relevant stakeholders.
4) Mechanisms need to be designed that are sustainable, tailored to each situation and ensure shared responsibility between stakeholders (households, employees, enterprises and the State).
5) Vocational training should be part of a strategy to put countries on the paths of sustainable development.
6) Vocational training systems are generally inadequate in size and inadequately relevant to the needs of the labor markets in poor countries. Recently, Technical and Vocational Education and Training (TVET) reforms are conducted in small-scale. The challenge is to scale-up after the pilot phases.

Taking these aspects into consideration, we summarized the expected roles and needed improvement in Japan's human resources development cooperation in the field of vocational training as follows.

(1) Responding to the needs of an informal economy

In Senegal, 90 percent of employment including agriculture is in the informal economy. Most vocational training institutes have mainly responded to the needs of the formal economy and have not adequately met the needs of the informal economy. The informal sector accounted for 50 percent of the GDP, and 90 percent of the total employment, covering all the industries from first, second to third. Therefore, demand for human resources development in the field of vocational training targeted at informal sectors is high. Japan has provided vocational training to people working in the informal sector through agriculture development projects and CFPT's informal sector training utilizing ONFP. However, the number of beneficiaries is limited. In Uganda, vocational training has mainly been provided to people working in the formal sector. Although, the number is still limited, some instructors, who received management training at NVTI, established private vocational training institutes in their hometown in order to provide vocational training to people working in the informal sector. Recognizing the high demand for vocational training targeted at the informal sector, Japan needs to consider the feasibility of providing vocational training targeted at informal sectors with the current endowment of resources.

[41] Armand Rioust de Largentaye, "Vocational Training and the Informal Economy ", OCED, "Promoting Pro-Poor Growth: Employment", 2009.

(2) Strengthened links between education and vocational training from an employment viewpoint

Both the governments of Senegal and Uganda intend to strengthen the link between technical education and vocational training. CFPT and NVTI are now strengthening links with technical universities so that they can utilize the latest machinery and equipment that they have and provide practical skills lessons to students. However, normally technical education and vocational training have different final goals students should aim for and vocational training institutes are normally supervised by the Ministry of Labor or Ministry of Industry. In such circumstances, when vocational training institutes are supervised by the Ministry of Education, or jointly supervised by Ministries of education and labor/vocational training, theories and degrees tend to be prioritized, which are considered to superior to practical skills. While both CFPT and NVTI are transforming themselves into higher education institutions, it is critically important to carefully observe whether these institutes will keep providing human resources with practical skills based on theories.

(3) Vocational training should include all relevant stakeholders

JICA projects have actively encouraged strengthening the link between vocational training institutes and the industrial sector. Since both CFPT and NVTI are endowed with limited staff members, how to actively publicize the institutes so that they will attract more talented students and industries where CFPT and NVTI could send students as interns, and providing customized seminars for private companies and promoting the employment of graduates, are other issues to be considered further.

(4) Mechanisms need to be designed that are sustainable, tailored to each situation and ensure shared responsibility between stakeholders

The Japanese experts and counterparts have learned by trial and error and modified the Japanese system of establishing vocational training institutes based on the context of recipient countries to help vocational training institutes to take root in society. While hard-type technology such as practical skills is easily transferred, soft-type technology such as “5S”, hygiene and safety controls, work ethics at the workplace are not easily transferable because they are closely related to the culture, practices and customs of recipient countries. In particular, to what extent will soft-type technology take root in personnel without any experience of training in Japan or collaborating with Japanese experts, is the big challenge. This is an issue Japan’s human resources development cooperation needs to consider.

In order to provide training of skills needed in a dynamic economy, vocational training institutes need to regularly replace the obsolete machinery and teach new technology. However, vocational training institutes in developing countries are faced with financial constraints associated with limited government budgets when purchasing expensive machinery. Japan has regularly monitored CFPT and NVTI and provided the necessary machinery and equipment.

The thorough support from Japan has enabled these institutes to gain a high reputation among industrial sectors that they have fostered a highly skilled labor force. However, such thorough support would threaten the independence of these institutes and make them even more dependent on Japan's assistance. Without Japanese cooperation, these institutes would not be able to operate over the long run.

The expected roles of vocational training institutes have gradually changed in accordance with the historical changes in the economic and social situation, changes the industrial structure and the impact of globalization. Countries like Senegal and Uganda where new technology has rapidly developed urgently require human resources that can deal with the new technology, rather than those who can produce something made in Senegal or Uganda based on the spirit of *Mono-zukuri*. Taking into account the expected roles vocational training institutes should play in the country, Japan needs to consider how to renew machinery and procure consumable supplies in a sustainable manner during the cooperation period. Cooperation from other donors and the private sector can be taken into consideration, as well as follow-up cooperation plans by Japan.

(5) Vocational training should be part of a strategy to put countries on the path of sustainable development

Prior to or at the beginning of the projects, neither CFPT nor NVTI had a clear long-term prospectus and entrance and exit policy. Both institutes are now recognized to be leading vocational training institutes in their respective country; and their outputs and experience have been reflected in government vocational training strategies. Although vocational training is now included in the national industrial promotion strategies of these countries, it is necessary to clarify the appropriateness of vocational training in the industrial promotion strategy to allow needed human resources to be defined concretely, i.e. in which sectors and at what level. Only then will it become possible to develop a concrete training courses and curriculum that meet the demand for human resources in the areas and levels where they are needed.

(6) Vocational training systems are generally inadequate in size and inadequately relevant to the needs of the labor markets in poor countries.

Instructor training conducted by NVTI was first initiated by JICA projects. After recognizing the impacts of the pilot activities, the Ugandan government allocated budgets and it is now expanding the activities to cover the whole nation. CFPT has developed a curriculum within the framework of a competence-based approach, which is commonly shared by other vocational training institutes. With limited endowed human resources, neither CFPT nor NVTI could expand the pilot phase; therefore, the governments need to cope with as the problem of allocating more human resources. JICA needs not only to support technical transfers and institutional building for a targeted institute, but also to consider "advocacy cooperation" which will enhance the use of existing cooperation assets and scenario formulation to further expand the pilot phases to enable the government and other donors to share ideas.

CHAPTER 8: RECOMMENDATIONS TO IMPROVE JAPANESE COLLABORATION FOR HUMAN RESOURCES DEVELOPMENT IN AFRICA

Based on the results of the Study, the Study team created the following recommendations from the comprehensive and cross-cutting viewpoints.

(1) JICA needs to understand that it takes a longer time to produce substantial outcome and impact through human resources development (HRD) collaboration in higher education and vocational training sub-sectors. When starting HRD cooperation, it is desirable for JICA to be well prepared for long-term cooperation with a vision of what the target institution would be like in 20 years.

(2) It is desirable for a HRD cooperation project to have a supporting organization in Japan such as a university, research/training institute, which provides human resources with proper technical backgrounds and advanced technical information, and various assistance for the project and functions as “a home port” for the Japanese experts in Japan.

(3) The Study saw that there had been various “physical and spiritual assets,” produced through Japan’s past HRD projects. These assets include educational establishments; research facilities and equipment, teaching and management staff members, students, graduates and their human networks. These assets have contributed to creating the basic foundation of human resources development for socio-economic growth in each country, which Japan should be proud of. Furthermore, Japan needs to have a strong sense of leadership to utilize and bridge these assets for further socio-economic development in the African as well as Asian countries.

(4) When Japan promotes the utilization and the networking of these assets produced through HRD projects, it is expected that Japan will play the role of coordinator and/or facilitator. In order to make the link between assets more effective, Japan needs to make the effort to invite more stakeholders to its HRD collaborative network, especially stakeholders from the private sector in Japan as well as in the African countries.

(5) When formulating and designing a HRD cooperation project, it is necessary to consider how to strengthen the capacity of the education establishments in marketing their graduates to the private sectors and/or to the relevant sectors. Through establishing collaborative relationship with the private sectors, the education institutes can provide technical education and vocational training more effectively with showing the students their concrete directions and targets of what they should learn and obtain knowledge and skills of.

(6) Science technology has improved rapidly, which higher education and vocational training organizations need to cope with. However, it is difficult for these institutions to maintain

and update their equipment to keep up with ever-progressing technology. When conducting a HRD cooperation project, it is necessary for JICA to develop the capacity of the education institutions in preparing a long-term facility/equipment updating and maintenance plan, in promoting advocacy activities to gain subsidies and support from the government and donors, and in establishing collaborative relationship with the private sectors.

(7) Follow-up and/or aftercare activities for the graduates of higher education and/or the vocational training institutions, established/enhanced through Japan's HRD collaboration, should be provided by Japan with proper information, consultations for scholarships and introductions to private companies through the HRD collaborative network.

(8) In order to make optimum use of "the experiences of the recipient countries" for emerging ASEAN donors, it is desirable for Japan to strengthen the collaborative relationship with these emerging donors and to assist the bridge between the African countries and emerging donors.

(9) It is necessary to evaluate properly the value of the assets produced by Japan's HRD collaboration, which developed "the Technical and Academic Human Network Corridor" in higher education and vocational training between Japan and the African countries and promoted intangible national interests for Japan.

APPENDIX

Appendix-1: List of JICA's HRD Collaboration Projects for Industrial Development in Africa[1]

No.	Country	Project Title	Area	Type of Assistance	Period	Project Period
						60's 70's 80's 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18
1	Angola	The Project for Renovation of Viana VTC	Vocational	Grant	2010–13	
		The Project for Equipment Renovation of Viana VTC	Vocational	Grant	2011–13	
		VT Program in the Republic of Angola	Vocational	TA	2012–14	
		Support Program for Rice Development	Agriculture	Training	2012	
		Revitalization of Rice Production in Angola – (Training)	Agriculture	Training	2012	
		Project for Rice Development	Agriculture	TA	2012–17	
		Revitalization of Rice Production in Angola	Agriculture	Expert	2012–13	
		Capacity Building of Institute of Geology of Angola	Mining	Training	2012–14	
		Basic Techniques of Remote Sensing in Mineral	Mining	Training	2011	
2	Benin	Upland Rice Variety Selection for Africa	Agriculture	Training	2010	
		Improvement and Modification of Agricultural Machinery for Africa	Agriculture	Training	2011	
		Database Management for E-Government Promotion	Agriculture	Training	2011	
		Administrative Adviser for Fishery Sector	Fishery	Expert	2008–11	
		Project for the Extension of Inland Aquaculture	Fishery	TA	2010–13	
3	Botswana	Industrial Policy Advisor	Private	Expert	2010–12	
		(JSTS) Design of Regionally Adaptable Energy System in Botswana	Energy	Expert	2011–13	
4	Burkina Faso	Adviser for Agriculture and Rural Development	Agriculture	Expert	2007–09	
		Adviser for Agriculture and Rural Development	Agriculture	Expert	2011–13	
		Project for Dissemination of Improved Seeds in Burkina	Agriculture	Expert	2008–12	
		Rice Production Adviser	Agriculture	Expert	2009–10	
		Participatory and Sustainable Forest Management in the Province of Comoe	Forestry	TA	2007–12	
		Project of Support for Seedling Production Sector	Forestry	Ta	2010–13	
		Project for rural Development through Aquaculture	Forestry	TA	2009–12	
5	Burundi	–				
6	Cameroon	Technical Advisor for the Medium and Small Company Development Policies	Private	Expert	2010–13	
		Formulation of MP for SME Development in Cameroon	Private	Dev. Study	2007–09	
		Upland Rice Development of the Tropical Forest Zone in Cameroon	Agriculture	TA	2011–14	
		Technical Advisor for Fishery Development and	Fishery	TA	2007–08	
7	Cape Verde	Training on Management of Vocational Training Center	Vocational	TA	2006	
8	Central African Republic	–			–	
9	Chad	–			–	
10	Comoros	Project for Capacity Development of the National School of Fisheries	Fishery	TA	2011–14	
11	D.R. of the Co	Technical Advisor for Vocational Training	Vocational	Expert	2010	
		Vocational Training Advisor	Vocational	Expert	2011–14	
		Project on Development of Capacity of Instructors at National Institute of Professional Preparation (INPP)	Vocational	TA	2011–13	
		Conseiller Technique Charge de l'Organization Strategique de la Formation Professionnelle	Vocational	Expert	2011	
		Le Projet d'Amenagement de la Direction Provinciale de Kinshasa de l'Institut National de Preparation	Vocational	Grant	2012–15	
12	Rep. of Congo	Project on Improvement in the Value Chain of Maritime Products in Pointe Noire	Fishery	TA	2012–16	
13	Cote d'Ivoire	–			–	
14	Djibouti	Improvement of the Agricultural Production and the Food Security	Agriculture	Expert	2012–14	
		The Master Plan Study Project for Sustainable Irrigation and Farming in Southern Djibouti	Agriculture	Dev. Study	2012–14	

[1] This list is based on the projects listed in the JICA Knowledge Site.

Appendix-2

No.	Country	Project Title	Area	Type of Assistance	Period	Project Period
						60's 70's 80's 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18
15	Ethiopia	Project for Strengthening Farmer Support System through Farmers Research Group Activity in Ethiopia	Agriculture	TA	2004-09	
		Agriculture Development Advisor	Agriculture	Expert	2008-10	
		Agriculture Development Advisor	Agriculture	Expert	2011-13	
		Development Study on Strengthening Agricultural Marketing System in Southern Nations, Nationalities and People's Region	Agriculture	Dev. Study	2009-12	
		Strengthening Agricultural Marketing System in SNNPR (CP Training)	Agriculture	Training	2010-12	
		Quality Seed Promotion Project for Smallholder Farmers	Agriculture	TA	2010-14	
		Project for Enhancing Development and Dissemination of Agricultural Innovation throughy Farmer Research Groups	Agriculture	TA	2010-15	
		The Project for Strengthening of Agricultural Pesticide Residue Analysis System	Agriculture	TA	2011-15	
		Food Security Program Implementation, Coordination, Graduation	Agriculture	Training	2012-14	
		Chief Advisor/Capacity Building/Coordination/Graduation	Agriculture	Expert	2012-14	
		Capacity Building Programs for Community-based Irrigation Development in Central Oromia Region	Agriculture	Dev. Study	2003-05	
		Project for Irrigation Farming Improvement	Agriculture	TA	2005-08	
		Project for Capacity Building in Irrigation Improvement	Agriculture	TA	2009-14	
		The Study on Quality and Productivity Improvement (KAIZEN) in Ethiopia	Private	TA	2009-11	
		Project on Capacity Building for Dissemination of Quality and Productivity Improvement (KAIZEN)	Private	Dev. Study	2011-14	
		One Village One Product Promotion	Private	Dev. Study	2010-14	
		Project on Community Tourism Development through Puclic-Private Partnership in Simien Mountains National Park and Surrounding Areas	Private	TA	2011-14	
		Tourism Development Advisor	Private	Expert	2012-14	
		Assistance of Basic Metal and Engineering Industry Firm Level Study	Private	Expert	2010	
		Industry Development and Technology Transfer Promotion through Protection and Utilization of Intellectural Property Rights such as Copyright, Trademark and Patent	Private	Training	2009-12	
16	Equatorial Guir	-				
17	Eritrea	Basic Training for Reintegration of Demobilized Soldiers	Vocational	TA	2005-07	
		Coordination Expert for Higher Education Assistance Programme and Resident Officer of JICA	Higher Ed.	Expert	2009-13	
18	Gabon	Developing Rice Crops	Agriculture	Expert	2011	
		Fisheries Development	Fishery	Expert	2004-09	
		Artisanal Fishing Community Development	Fishery	Training	2008-11	
		The Project for Capacity Building of Fishery Vocational Center in Gabon	Fishery	TA	2006-08	
		Formation for Inspectors of Marin Product	Fishery	Training	2011	
19	Gambia	Sustainable Tourism Development in African Countries (Natural and Cultural Tourism Development) / TICAD IV Follow-up	Private	Training	2011	

Appendix-3

No.	Country	Project Title	Area	Type of Assistance	Period	Project Period																																
						60's	70's	80's	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18
20	Ghana	Study for Development of a Master Plan to Strengthen Technical Education in Ghana	Vocationa	Dev. Study	2000–01																																	
		Technical and Vocational Education and Training Support Project	Vocationa	TA	2007–11																																	
		The Project for Human Resource Development	Vocationa	Grant	2012–16																																	
		MP Study on Rural Electrification by Renewable Energy Resources in the Northern Part of Ghana	Energy	Dev. Study	2005–06																																	
		The Project on Human Resource Development for Disseminating PV System	Energy	TA	2008–11																																	
		The Project on Electical Engineers Training for African Countries (EETA)	Energy	TA	2010–15																																	
		SME Promotion Development Project	Private	TA	2005–08																																	
		SME Development	Private	Expert	2010–12																																	
		The Study on Promotion and Development of Local Industries	Private	Dev. Study	2006–08																																	
		Tourism Development Project through Strengthening Public–Private–Partnership	Private	TA	2006–09																																	
		Industrial Development Service	Private	Training	2010–13																																	
		Industrial Development Service	Private	Training	2012																																	
		Project for Formulating a Strategic Model for Quality/Productivity Improvement through Strengthening BDS for MSEs	Private	TA	2012–15																																	
		The Small–scale Irrigated Agriculture Promotion Project in Ghana	Agriculture	TA	1997–02																																	
		Project for Improvement in Irrigation Management System with Farmers' Participation	Agriculture	TA	2004–06																																	
		Project for Sustainable Development of Rain–fed Lowland Rice Production in Ghana	Agriculture	TA	2009–14																																	
		Plant Breeder (Rice) for WACCI	Agriculture	Expert	2010–12																																	
		Rice Promotion	Agriculture	TA	2010–13																																	
		Expert in Veterinary Science	Veterinary	Expert	2012–13																																	
		Coastal Fishing Technique for Sustainable Resource Use	Fishery	Training	2012																																	
21	Guinea	Advisor for Agriculture Development	Agriculture	Expert	2006–09																																	
		Fishery Technical Adviser (Community Development through Promotion of Extensive Aquaculture)	Fishery	Expert	2007–09																																	
		Improvement of Existing Fish Smoking Methods, Value Added Product	Fishery	Expert	2009–09																																	
22	Guinea–Bissau	Sustainable Tourism Development in French–speaking African Countries / TICAD IV Follow–up	Private	Training	2011																																	
		Fisheries Plant Management / Marketing Promotion	Fishery	Expert	2012–14																																	
23	Kenya	Small–scale Industry Technology Training Center	Vocationa	TA	1964–72																																	
		NYS (National Yourth Service) Senior Technical Training Center	Vocationa	TA	1975–80																																	
		NYS Engineering Institute Project	Vocationa	TA	1988–94																																	
		Follow–up Cooperation for the Construction Project of the NYS Engineering Institute (Equipment Procurement)	Vocationa	TA	2003–04																																	
		Follow–up Cooperation for the Construction Project of the NYS Engineering Institute (Mechanics for Reparing)	Vocationa	TA	2004																																	
		Project for Establishment of JKUAT	Higher Ed.	Grant	1977–80																																	
		Jomo Kenyatta University of Agriculture and Technology (JKUAT)	Higher Ed.	TA	1980–90																																	
		Project for Improvement of JKUAT Agriculture Facilities	Higher Ed.	Grant	1983–83																																	
		Project for Improvement of JKUAT Facilities	Higher Ed.	Grant	1989–91																																	
		JKUAT Phase 2	Higher Ed.	TA	1990–00																																	
		African Institute for Capacity Development (AICAD)	Govern.	TA	2000–02																																	
		AICAD Phase 2	Govern.	TA	2002–07																																	
		AICAD Phase 3	Govern.	TA	2010–12																																	

Appendix-4

No.	Country	Project Title	Area	Type of Assistance	Period	Project Period
						60's 70's 80's 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18
	Kenya	Project for Capacity Development of Promoting Rural Electrification Using Renewable Energy	Energy	TA	2011-15	
		Establishment of Rural Electrification Model Using Renewable Energy	Energy	TA	2012-15	
		Strengthening of Financial System	Finance	TA	2005-08	
		Master Plan Study for Kenyan Industrial Development	Private	Dev. Study	2006-08	
		Trade Training Programme for SME Exporters	Private	TA	2007-10	
		Trade Training Programme for SME Exporters Phase 2	Private	TA	2010-12	
		Industry Development and Technology Transfer Promotion through Protection and Utilization of Intellectural Property Rights	Private	Training	2009	
		Industry Development and Technology Transfer Promotion through Protection and Utilization of Intellectural Property Rights	Private	Training	2010-12	
		One Village One Product (OVOP)	Private	Expert	2008-11	
		Project for Improving OVOP Services	Private	TA	2011-14	
		Project on Productivity Improvement in Kenya	Private	Dev. Study	2012-14	
		Promotion of Sustainable Community Based Small-Holder Irrigation	Agriculture	TA	2000-03	
		The Project for Sustanable Smallholder Irrigation Development and Management in Central and Southern Kenya	Agriculture	TA	2005-10	
		Sustainable Smallholder Irrigation Development and Management in Semi-Arid Lands Project	Agriculture	Dev. Study	2012-15	
		Community Agricultural Development in Semi Arid Lands	Agriculture	TA	2005-10	
		Smallholder Horticultural Empowerment Project	Agriculture	TA	2006-09	
		Strengthening the Capacity of Grassroots Women for Socio-Economic Development	Agriculture	Training	2009-12	
		Smallholder Horticulture Empowerment and Promotion Project	Agriculture	TA	2010-15	
		The Project for Enhancing Community Resilience against Drought in Northern Kenya	Agriculture	Dev. Study	2012-15	
		Rice Promotion Advisor	Agriculture	Expert	2010-13	
		Rice-baased and Market-oriented Agriculture Promotion Project	Agriculture	Loan TA	2012-17	
		Social Foresty Training Project Phase 1	Forestry	TA	1987-92	
		Social Foresty Training Project Phase 2	Forestry	TA	1992-97	
		The Social Forestry Extension Model Development Project for Semi-arid Areas in Kenya	Forestry	TA	1997-02	
		Intensified Social Forestry Project in Semi-arid Areas	Forestry	TA	2004-09	
		Training Project "Enhancing Adaption of Social Forestry in Africa"	Forestry	TA	2005-09	
24	Lesotho	-			-	
25	Liberia	-			-	
26	Madagascar	The Geological Mapping and Mineral Information System Project for Promotion of Mining Industry	Agriculture	Dev. Study	2009-12	
		Technical Adviser on Agriculture and Rural Development	Agriculture	Expert	2008-10	
		Project for Rice Productivity Improvement in Central Highland	Agriculture	TA	2009-14	
		Aquaculture Development Project in the Northwest Coastal Region of Madagascar	Fishery	TA	1998-03	
		Rural Development Project through the Diffusion of Aquaculture of Tylapia in the Region of Boeny, Mahajanga	Fishery	TA	2011-14	

Appendix-5

No.	Country	Project Title	Area	Type of Assistance	Period	Project Period
						60's 70's 80's 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18
27	Malawi	Advisor for Electric Power Development Plan	Energy	Expert	2010–13	
		Malawi Rural Electrification Promotion Project	Energy	TA	2006–09	
		Project for Establishment of Integrated Geographic Information System (GIS) Database for Mineral Resources	Mining	Dev. Study	2012–13	
		Institutional and Human Resource Development Project for OVOP Programme	Private	TA	2005–10	
		Malawi OVOP Seminar	Private	TA	2007–08	
		Strengthening the Capacity of OVOP Programme for Delivering Services to OVOP Group in Malawi	Private	TA	2011–16	
		Irrigation Infrastructure Management	Agriculture	TA	2005	
		Development of Smallholder Irrigation Schemes Technical Cooperation Project	Agriculture	TA	2006–09	
		Project for Development of Medium Scale Irrigation	Agriculture	TA	2011–14	
		Sustainable Land Management Promotion Project	Agriculture	TA	2011–15	
		Project for Community Vitalization and Afforestation in the Middle Shire	Forestry	TA	2007–12	
		Forest Management and Conservation Advisor	Forestry	Expert	2012–14	
		The Project on Aquaculture and Technical Development of Malawian Indigenous Species	Fishery	TA	1999–04	
28	Mali	Technical Adviser for the Fisheries Distribution Based on Bamako Central Fish Market	Fishery	Expert	2011–13	
29	Mauritania	Strategic Plan Survey of Mineral Resources Development in Mauritania	Mining	Dev. Study	2003–06	
		Project for the Reinforcement of Mineral Exploitation Research	Mining	TA	2007–08	
		Adviser in Fisheries Administration	Fishery	Expert	2010–13	
		Fish Food Processing and Diversification	Fishery	Expert	2008–09	
		Training for the Marines Products Processing	Fishery	Expert	2012	
		Classification and Quality Control of Cephalopod Products	Fishery	Expert	2011–12	
30	Mauritius	Coastal Resources and Environment Conservation Project F/U	Fishery	TA	1995–00	
46	Mozambique	Project on Implementation of Mid-level ICT Diploma Course in Mozambique Information and Communication Technology Institute	Telecom	TA	2007–10	
		Rural Economic Development (OVOP Movement)	Private	Training	2012	
		Regional Industrial Promotion through OVOP Project	Private	TA	2012–16	
		The Project for Enhancement of the Capacity of Destination Marketing and Promotion through Strengthening the Linkage among Tourism Related	Private	TA	2012–15	
		Integrated Agricultural Development Project for Small Scale Farmers in Chokwe Irrigation Scheme	Agriculture	TA	2007–10	
		Project for Rice Productivity Improvement in Chokwe Irrigation Scheme	Agriculture	TA	2011–14	
		Irrigation Advisor	Agriculture	Expert	2012–14	
		Project for Improving Research Capacity for Nacala Corridor Agriculture Development	Agriculture	TA	2011–16	
		Support for Agricultural Development Master Plan for Nacala Corridor in Mozambique	Agriculture	Loan TA	2012–13	
		Seminar on Agriculture Promotion Technology	Agriculture	Training	2011–13	
		Project for Improvement of Techniques for Increasing Rice Cultivation Productivity in Nante, Maganja da Costa District, Zambezia Province	Agriculture	TA	2011–15	
		Advisor for Strengthening of Forestry Management in Mozambique	Forestry	Expert	2010–13	
		Sustainable Production of Biodiesel from Jatropha in Mozambique	Agriculture	SATREPS	2011–16	

Appendix-6

No.	Country	Project Title	Area	Type of Assistance	Period	Project Period																																	
						60's	70's	80's	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18
32	Namibia	Advisor on SME and Entrepreneurship Development and Promotion in Namibia	Private	Expert	2011-13																																		
		OVOP Advisor	Private	Expert	2012-14																																		
		OVOP Promotion	Private	Training	2012																																		
		Farmers Participatory Extension Technique Course for Mixed Cropping of Rice and Pearl Millet	Agriculture	Training	2012-13																																		
		(SATREPS)半乾燥地の水環境保全を目指した洪水－干ばつ対応農法の提案	Agriculture	SATREPS	2012-13																																		
33	Nigeria	Follow-up Cooperation of the Project for Improvement of Federal Fisheries School	Vocationa	TA	2003																																		
		Follow-up Cooperation of the Project for Improvement of Federal Fisheries School	Vocationa	TA	2004-05																																		
		Follow-up Cooperation of the Project for Improvement of Federal Fisheries School	Vocationa	TA	2006-06																																		
		The M/P and F/S for Rural Elecctrification by Solar Power and Other Solar Technology	Energy	Dev. Study	2005-07																																		
		Solar Energy Utilization	Energy	TA	2007-07																																		
		Technical Cooperation for Development Planning on One Local Government One Product Programme for Revitalizing the Rural Economy in Nigeria	Private	Dev. Study	2010-11																																		
		Rice Post-Harvest and Marketing Pilot Project in Nasarawa and Niger States	Private	TA	2011-15																																		
34	Niger	－																																				
35	Rwanda	The Skills Training for the Reintegration of Demobilised Soldiers with Disabilities	Vocationa	TA	2005-08																																		
		Skills Training and Job Obtainment Support for Social Participation of Ex-Combatants and Other People with Disabilities	Vocationa	TA	2011-14																																		
		Strengthening the Capacity of Tumba College of	Vocationa	TA	2007-12																																		
		TVET Industrial Attachment Specialist	Vocationa	Expert	2010-12																																		
		Support for NICI-2015 Implementation	Telecom	Expert	2011-12																																		
		IT Human Resources Development Advisor	Telecom	Expert	2010-11																																		
		IP Network Development and Management for E-Government Promotion	Telecom	Training	2012																																		
		System management for e-Government Promotion	Telecom	Training	2012																																		
		Capacity Development for OVOP Program	Private	Expert	2010-12																																		
		Irrigation Advisor	Agriculture	Expert	2011-13																																		
		Advisor for Micro Organism Utilization	Agriculture	Expert	2012-14																																		
		Project for Increasing Crop Production with Quality Extension Services in the Eastern Province	Agriculture	TA	2010-13																																		
		Agricultural Mechanization Advisor	Agriculture	Expert	2012-14																																		
36	Sao Tome and Principe	－																																				
37	Senegal	Senegal Vocational Training Center (CFPT)	Vocationa	Grant	1982-84																																		
		CFPT	Vocationa	TA	1984-91																																		
		CFPT Follow-up	Vocationa	TA	1991-93																																		
		Vocational Training Advisor	Vocationa	Expert	1994-97																																		
		The Senegal-Japan Vocational Training Center After-care	Vocationa	TA	1995-96																																		
		High-level Technical (BTS) Training Project at the Senegal-Japan Vocational Training Center	Vocationa	TA	1999-04																																		
		High-level Technical (BTS) Training Project at the Senegal-Japan Vocational Training Center	Vocationa	Grant	2003																																		
		Project for Vocational and Technical Training for African Countries Phase 1	Vocationa	Training	1999-03																																		
		The Senegal-Japan Vocational Training Center After-care	Vocationa	TA	2002-03																																		
		Project for Vocational and Technical Training for African Countries Phase 2	Vocationa	Training	2004-08																																		

Appendix-7

No.	Country	Project Title	Area	Type of Assistance	Period	Project Period																																
						60's	70's	80's	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18
	Senegal	Training Instruction and Course Certificate	Vocationa	Expert	2005-07																																	
		Project for Entrepreneurship Development (CFPT)	Vocationa	TA	2006-07																																	
		Project for Vocational and Technical Training for African Countries Phase 3	Vocationa	Training	2009-14																																	
		Le projet de renforcement du centre de formation professionnelle et technique Senegal-Japon	Vocationa	Grant	2011-13																																	
		Project for Reinforcement of CFPT Senegal-Japan	Vocationa	TA	2011-15																																	
		Advisor for the Definition of a Strategy to Attract Japanese Investment	Private	Expert	2012-13																																	
		Promotion of Rice of Good Quality	Agriculture	Expert	2007-11																																	
		Project for Sustainable Rural Development	Agriculture	TA	2008-12																																	
		Technical Advisor on Agricultural Sector	Agriculture	Expert	2012-14																																	
		Project on Improvement of Rice Productivity for Irrivation Schemes in the Valley of Senegal	Agriculture	TA	2009-13																																	
		Project for Promotion of Artisanal Activities through OVOP Programme	Private	TA	2011-14																																	
		Project on the Integrated Community Forestry Development Project Extended Phase	Forestry	TA	2000-05																																	
		Project on the Capacity Building for the Artisanal Fisheries Organization and the Leaders in Fisheries Villages	Fishery	TA	2009-13																																	
		Project for Dissemination of Fishery Product Processing Technology	Fishery	TA	2007-09																																	
		Project on the Capacity Buildings for Children and Women at the Fisheries Villages in Saint-Louis	Fishery	TA	2008-11																																	
		Project for Capacity Development of Tourism Administration in Senegal	Private	TA	2012-14																																	
38	Seychelles	-																																			
39	Sierra Leone	Power Planning Advisor	Energy	Expert	2009-111																																	
		Master Plan Study on Power Supply in Western Area	Energy	Dev. Study	2008-10																																	
		The Project for Capacity Development for Maintaining Power Supply Facilities	Energy	TA	2011-14																																	
		Agriculture Strengthening in Kambia Project	Agriculture	TA	2006-09																																	
		Sustainable Rice Devleopment Project	Agriculture	TA	2010-14																																	
40	Somalia	-			-																																
41	South Africa	Expert for Human Resource Development	Vocationa	Expert	2011-13																																	
		Human Development Advisor for AICAD-SA	Govern.	Expert	2007-11																																	
		Energy Efficiency Improvement	Energy	Dev. Study	2011-13																																	
		IP Management, Administration, Registration and	Private	Training	2009-12																																	
		Industry Development and Technology Transfer Promotion through Protection and Utilization of Intellectual Property Rights such as Copyright, Trademark and Patent	Private	Training	2009-09																																	
		(SATREPS)鉱山での地震被害低減のための観測研究プロジェクト	Mining	SATREPS	2010-15																																	
42	South Sudan	Project for Improvement of Basic Skills and Vocational Training in Southern Sudan Phase 2	Vocationa	TA	2010-13																																	
		Project for Comprehensive Agricultural Development Master Plan	Agriculture	Dev. Study	2012-14																																	
		Project for Irrigation Development Master Plan	Agriculture	Dev. Study	2012-14																																	
		Agriculture Extension	Agriculture	Dev. Study	2012-14																																	
43	Sudan	Project on Improvement of Basic Skills and Vocational Training	Vocationa	TA	2006-09																																	
		The Study on Vocational Training System Development	Vocationa	Dev. Study	2008-10																																	
		Project for Strengthening Vocational Training	Vocationa	TA	2011-13																																	
		Capacity Building Project for the Implementation of the Executive Programme for the Agricultural Revival	Agriculture	TA	2010-14																																	
		Project on Improvement of Food Security in Semi-arid Regions of Sudan through Management of Root Parastic Weeds	Agriculture	SATREPS	2010-15																																	

Appendix-8

No.	Country	Project Title	Area	Type of Assistance	Period	Project Period
						60's 70's 80's 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18
44	Swaziland	–				
45	Tanzania	Follow-up Cooperation for Mtwara Training Centre	Vocationa	TA	2004-05	
		African Institute for Capacity Development Phase 3	Govern.	TA	2007-12	
		The Project for Capacity Development of Efficient Distribution and Transmission System	Energy	Loan TA	2009-14	
		Follow-up Cooperation for Kilimanjaro Industrial Development Center Phase 2 in Tanzania	Private	TA	2004	
		Advisor on Industrial Development	Private	Expert	2008-15	
		Project for Improving Quality and Productivity in Manufacturing Companies in Tanzania	Private	TA	2013-16	
		Kilimanjaro Agricultural Training Centre	Agriculture	TA	1994-99	
		Kilimanjaro Agricultural Training Centre Phase 2	Agriculture	TA	2001-06	
		Technical Cooperation for CD for the Promotion of Irrigation Scheme Development under the District Agriculture Development Plans (DADPs)	Agriculture	TA	2010-13	
		Technical Cooperation for CD for the Promotion of Irrigation Scheme Development under the District Agriculture Development Plans (DADPs)	Agriculture	Loan TA	2010-13	
		Formulation and Training of the DADP Guidelines on Irrigation Scheme Development	Agriculture	TA	2007-10	
		Technical Cooperation in Supporting Service Delivery Systems of Irrigated Agriculture	Agriculture	Loan TA	2007-12	
		Design of Irrigation Scheme	Agriculture	Expert	2011-14	
		Construction of Irrigation Field and Structure	Agriculture	Expert	2011-14	
		Project for Supporting Rice Industry Development in Tanzania	Agriculture	Loan TA	2012-18	
46	Togo	–			–	
47	Uganda	Uganda Vocational Training Center	Vocationa	TA	1968-74	
		The Project for Improvement of Nakawa VTI	Vocationa	Grant	1994-97	
		Vocational Training Program	Vocationa	Expert	1994-97	
		Mechanics	Vocationa	Expert	1995-97	
		Nakawa VTI Project in Uganda	Vocationa	TA	1997-02	
		Nakawa VTI Project in Uganda Follow-up	Vocationa	TA	2002-04	
		Vocational Training for Instructors	Vocationa	TA	2004-07	
		Instructors and Managers Training for VET in Uganda	Vocationa	TA	2007-10	
		TVET Instructor's In-Service Training System Advisor	Vocationa	Expert	2011-13	
		African Institute for CD Phase 3	Govern.	TA	2007-12	
		TA for Promotion, Development and Dissemination of NERICA Rice in Uganda (Rice Breeding)	Agriculture	TA	2007	
		NERICA Rice Promotion Project in Uganda	Agriculture	TA	2008-11	
		Project for Construction of Rice Research and Training Center	Agriculture	Grant	2009-11	
		Agricultural Planning Advisor	Agriculture	Expert	2010-13	
		Rice Promotion Project for Hunger and Poverty Reduction in Uganda	Agriculture	TA	2011-16	
		The Study on Improvement of Post-harvest Processing and Marketing System	Agriculture	Dev. Study	2003-06	
		Study on Poverty Eradication through Sustainable Irrigation Project in Eastern Ugandfa	Agriculture	Dev. Study	2003-07	
		TA for Sustainable Irrigated Agriculture Development Project in Eastern Uganda	Agriculture	TA	2008-11	
		TA to Enhance Technical Capacity of Animal Disease	Agriculture	TA	2007-09	
		TA to Improve the National Capacity of Animal Disease Diagnoses and Control	Veterinary	TA	2010-13	
		Production of OVOP	Private	Expert	2009-12	
		Training course for CD of OVOP Program	Private	Training	2012	

No.	Country	Project Title	Area	Type of Assistance	Period	Project Period																																
						60's	70's	80's	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18
48	Zambia	Technical and Vocational Improvement Project in Zambia	Vocationa	TA	1987-92																																	
		Technical and Vocational Improvement Project in Zambia (Aftercare)	Vocationa	TA	2001-03																																	
		Establishment of University of Zambia, School of Veterinary Medicine (UNZA, SVM)	Higher Ed.	Grant	1983-85																																	
		Strengthening of UNZA, SVM	Higher Ed.	TA	1985-92																																	
		Strengthening of UNZA, SVM Phase 2	Higher Ed.	TA	1992-97																																	
		Diganosis and Disease Control of Animal Husbandary in Tropical Area	Higher Ed.	Training	1999-00																																	
		The Study for Development of the Rural Electrificaion in Zambia	Energy	Dev. Study	2006-08																																	
		Study for Power System Development Master Plan	Energy	Dev. Study	2008-09																																	
		The Project for the CD for Rural Electrification	Energy	TA	2009-13																																	
		Power System Development Advisor	Energy	Expert	2012-14																																	
		Geological Mapping and Mineral Information Service Project for Promotion of Mining Industry in Zambia	Mining	Dev. Study	2007-09																																	
		Capacity Building in GIS Database Management	Mining	Expert	2011-12																																	
		Zambia Investment Promotion Project - Triangle of Hope	Private	TA	2009-12																																	
		Development of an Industry Strategy	Private	TA	2011-13																																	
		Improvement of Investment Promotion Environment through South-south Coopeartion	Private	TA	2006-09																																	
		Master Plan Development Study on Establishnent of Multi-facility-economic-zone (MFEZ)	Private	Dev. Study	2007-09																																	
		Agriculture and rural Development Advisor	Agriculture	Expert	2009-13																																	
		Rice Seed Multipliction Advisor	Agriculture	TA	2009-10																																	
		Food Crop Diversification Support Project Focusing on Rice Production	Agriculture	TA	2012-15																																	
		Project for Improvement of Animal Health and Production Delivery through Extension Services	Agriculture	Expert	2006-09																																	
		Food Crop Diversification Support Project for Enhancement of Food Security	Agriculture	TA	2006-11																																	
	Zambia	Project for CD for rural and Extension System with Agriculture-centered Micro-project	Agriculture	TA	2009-14																																	
		Improvement in Quality and Productivity (KAIZEN) Promotion Project	Private	Dev. Study	2012-15																																	
		Regional Industry Promotion Project (OVOP)	Private	TA	2012-15																																	
		(SATREPS)結核及びトリパノソーマン証の診断法と治療薬開発プロジェクト(2009-13)	Veterinary	SATREPS	2009-13																																	
		(SATREPS)アフリカにおけるウイルス性人獣共通感染症の調査研究(2012-17)	Veterinary	SATREPS	2012-17																																	
49	Zimbabwe	Small and Medium Enterprises Policy Seminar Advisor	Private	TA	2004																																	
		Horticultural Crop Cultivation and Extension	Agriculture	Training	2012-13																																	
		Irrigation Development and Management Advisor	Agriculture	Expert	2012-14																																	

Appendix-2: List of the Interviewees during the Data Collection in Japan

Appendix 2-1: Interviewed Japanese related to JKUAT (titles, omitted)

Name	Responsibility	Interview Date
Prof. Hiroji NAKAGAWA	Professor emeritus at Kyoto University Key person for faculty of technology, participated in the appraisal mission of technical cooperation in 1978 and many others, Chair person of the Advisory Committee	PM, March 8, 2012
Prof. Yutaka FUKUI	Professor emeritus at Tottori University Key person for the network in electric/electronic courses in Japan, short term experts in 1984, participated in basic design for expansion of JKUAT and evaluation mission in 1989 and many others	PM, March 9, 2012
Prof. Hisataka TANAKA	Dean of faculty of engineering at Tottori University, short term expert in 1994, Receiving Kenyan students and responsible for cooperation agreement with JKUAT	PM, March 9, 2012
Prof. Minoru FUKUDA	Professor emeritus at Okayama University, sub learder of Grant Aid appraisal mission in 1977, participated in other missions as well	PM, March 10, 2012
Prof. Junkichi IWASA	Professor emeritus at Okayama University, Key person for faculty of agriculture, member of Grant Aid basic design mission in 1978, evaluation mission in 1984, and many others, academic adovisor (1992-94, 1995-96)	PM, March 10, 2012
Mr. Hatashi MORIYA	Former expert in horticulture (1980-1988), Constibuted to the establishment of faculty of agriculture	PM, March 10, 2012
Mr. Sadanori TAGUCHI	Team Leader for the project (1994-1997)	PM, April 4, 2012
Dr. Manabu TSUNODA	Former expert (1986-1993) Has been supporting JKUAT as senior Advisor in Higher/Technical Education/S&T, JICA HQ	April – November 2012
Mr. Mitsuru SUEMORI	Officer in charge of the JKUAT Project at the JICA Kenya Office for three years from 1985 Currently, Senior Advisor, JICA	April – November 2012
Mr. Ippei	Responsible for JKUAT at JICA headquarters	AM, April 2, 2012

HATTORI	(1983-1986), participated in the evaluation mission in 1984	
Prof. Akihiko SAITO	Short term expert (1984, Assistant professor at Tottori Univ, faculty of engineering), continuing support to Kenya as a lecturer at JKUAT related colleges and various activities, visiting Kenya once in a year (Currently, President of YMCA Fukuoka)	PM, April 27, 2012
Mr. Eiryo SUMIDA	JICA Kenya Office (1976-1979), participated in Implementation Design Study Team of the technical cooperation in 1980	PM, June 14, 2012
Mr. Renzo IZAWA	Deputy Director (responsible for grant aid), Department of Economic Cooperation 2, Economic Cooperation Bureau, Ministry of Foreign Affairs (1977), participated in Grant Aid appraisal mission in 1977	PM, June 22, 2012
Mr. Syoji HASEGAWA	Former JOCV in Kenya (1984-1987)	PM, August 14, 2012

Appendix 2-2: School of Veterinary Medicine, UNZA (titles, omitted)

Name	Responsibility	Interview Date
Mr. Yusuke TADA	Long-term expert (1985-1987) Team leader (1995-1997), engaged in the UNZA assistance as a JICA Advisor (Animal Health and Livestock)	PM, March 29, 2012
Prof. Takeshi MIKAMI	Short-term expert (1986-1987, Assistant professor at Hokkaido Univ., school of veterinary medicine), proposed project approach in the progress report (Currently, professor emeritus at Tokyo Univ.)	AM, April 17, 2012
Mr. Koji URANO	JOCV in Zambia (1986-1989), involved in the set-up of the courses in collaboration with Japanese experts (Currently, Central Institute of Experimental Animals)	PM, April 18, 2012.
Prof. Mutsuyo KADOHIRA	JOCV in Zambia (1981-1983) Long-term expert (1995-1997) Follow up activities after technical cooperation as a long-term expert (1997-1999) (Currently, Professor at Obihiro University of Agriculture and Veterinary Medicine)	PM, April 22, 2012
Prof. Hiroshi KANAGAWA	Professor emeritus at Hokkaido University, Member and the 2nd chairman of the Advisory Committee (1985-1997), Member of the grant aid basic design team in 1983, evaluation mission in 1989 and 1996, and many others. Engaged in the assistance in Zambia over a long period.	AM, April 23, 2012
Prof. Nobuo HASHIMOTO	Professor emeritus at Hokkaido University, Member of the grant aid basic design team in 1983, Short term expert (1986, 1994), prepared long term project perspective.	PM, April 23, 2012
Dr. Toshihiko NAGABAYASHI	Dispatched as a long term expert twice (1988-1989 and 1994-1997)	AM, April 24, 2012
Prof. Takashi UMEMURA	Short term expert (1989), promoting cooperation with SVM, UNZA as a former dean of the Graduate School of Veterinary Medicine, Hokkaido University	PM, April 24 2012

Prof. Chihiro SUGIMOTO	Short term expert (1994), promoting research collaboration with SVM, UNZA as a professor of the Research Center for Zoonosis Control, Hokkaido University	PM, April 24, 2012
Mr. Hiroaki NAKAHORI	In charge of the project “Promoting Improvement of Animal Health and Production Delivery through Extension “at JICA headquarters (2005), Currently, at Dept. of Human Resources for International Cooperation, JICA headquarters.	PM, April 20, 2012
Prof. Jun YASUDA	Short term expert (1991) Member of the terminal evaluation mission of the 2nd technical cooperation project (1996, Hokkaido Univ., School of Veterinary Medicine), Promoting research collaboration by utilizing grant-in-aid for scientific research programme three times, Currently, faculty of agriculture, Iwate Univ.	PM, May 8, 2012
Prof. Hiroshi KIDA	Short tierm expert (1988), , promoting research collaboration with SVM, UNZA as the head of the Research Center for Zoonosis Control, Hokkaido University	PM, September 2, 2012

Appendix 2-3：Interviewed Japanese related to Vocational and Technical Training Center in Senegal (CFPT)(titles, omitted)

Name	Responsibility	Interview Date
Takanobu Misho	First leader (1984-1987)	PM, May 10, 2012
Toshikazu Bito	Second Leader (1987-1989)	PM. April 11,2012
Atsushi Fujimoto	Third Leader (1989-1991)	PM, April 10, 2012
Denichi Sato	Long term expert (electronic) (1984-1986)	AM, April 24, 2012
Hiroshi Kusunoki	Individual Expert (electronic, machinery) (2005-2007)	PM, April 24, 2012
Mami Kushida	Human Development Department, JICA	PM, March 28, 2012 AM, April 27, 2012

Appendix 2-4: Interviewed Japanese related to Nakawa Vocational Training Institute (NVTI) (titles, omitted)

Name	Responsibility	Interview date
Ichiro Yokose	Son of the first leader, the deceased Mr. Taki Yokose (1971-1974)	PM, April 14, 2012
Takeshi Ejiri	Member of the Basic Study(1994) Individual expert (1995-1997)	March 8, 2012 May 29, 2012
Toshiaki Takami	First leader of the resumed project (1997-2000)	PM, May 8, 2012
Shigekatsu Suzuki	Ling term expert (machinery) (1995-96, 1997-99)	PM, April 19, 2012
Hirotake Iida	Long term expert (sheet metal) (1997-2000)	PM, April 19, 2012
Kiyoshi Umemoto	Individual Expert (Instructor Training) (2007, 2008, 2009)	PM, April 23, 2012
Susumu Makino	Coordinator, Leader (1999-2010)	PM, April 19, 2012
Kazuaki Sato	Ling term expert (electronic, electricity) (2000-2003)	PM, April 19, 2012
Kiyoshi Kusumoto	Long term expert (instructor training) (2007, 2008, 2009-2010)	PM, April 23, 2012
Mistuko Kumagai Aya Omura	Human Development Department, JICA Domestic Offices, JICA	PM, April 16, 2012
Masahiro Yoshikawa	Human Development Department, JICA	PM, April 23, 2012
Minoru Tanoue	Former Resident Representative, JICA Kenya office	April 26, 2012
Takashi Shimizu	Human Development Department, JICA	PM, March 21, 2012

Appendix-3: Survey Schedule and Interviewee List in the Case Study Countries

Appendix 3-1: JKUAT

(1) Survey Schedule

Date	Organizations/Persons Visited	Venue/Remarks
May 14	Arrival at Nairobi	Kuwabara (IN)
May 15	Ministry of Higher Education, Science & Technology (Prof. Dr. Ing. Harry L Kaane, Dr. Salome Gichura OGW, Mr. S.Wanyonyi, HSC)	Kaneko (IN) Ministry of Higher Education, Science & Technology
May 16	Prof. Rosalind Mutua (Former DVC of JKUAT)	Kikuyu town
	Prof. Ratemo Michieka (Former VC of JKUAT) Prof Henry M. Thairu (Former DVC of JKUAT)	JICA Kenya Office
May 17	Commission for Higher Education (Joel M. Mberia)	Commission for Higher Education
	JKUAT (Prof Mabel Imbuga, Prof. Esthur Murugi Kahangi, Phd,EBS, Mr. Weru, Mr. Joseph Oreo)	JKUAT
	Prof. Eshiwani	Panafric Hotel
May 18	Graduates of JKUAT (Arc. Christopher Naicca, Mr.Churchill Saoke, TA , Ms. Cecilia Mwangi)	Ngong Rd.
May 19	Dr. Jiro Nozaka (AICAD)	Fairview Hotel
May 20	Data analysis	
May 21	Campus Visit (Dean of Faculty of Agriculture, Principal of College of Engineering)	Video Crew (IN) JKUAT
May 22	Graduates of JKUAT (Mr. Kagai Eric , Mr. James Ndegwa, Mr. Daniel Ndunda)	Nairobi
May 23	Graduates of JKUAT (Mr. David Kuria, Wilson A. Songa, PhD, Amb, Dr. Joseph Kiplagat)	Nairobi
	Mr. Kita (NGO: CORE Community Road Empowerment)	Nairobi
May 24	Campus Visit (Faculty of Agriculture, Faculty of Engineering)	Araki (IN), Ishida (IN) JKUAT
	Oishii Project	
	Dr. Nozaka Misiono	Nairobi
May 25	Horticulture Authority	Horticulture Authority
	EKO Toilet	Nairobi
	Embassy of Japan	Nairobi
May 26	Video Shooting for the Nairobi City	Nairobi
May 27	Data analysis	Araki (OUT), Ishida (OUT), Kaneko (OUT), Video Crew (OUT)
May 30	FAO	Nairobi
May 31	Workshop	JKUAT
June 1	Data analysis	
June 2	Data analysis	
June 3	Leave for Zambia	Kuwabara (OUT)

(2) Interviewee List

Organization	Name	Position
JKUAT	Prof. Mabel imbuga Prof. Esthur Murugi Kahangi, Ph.D. Prof. Romanus Odhiambo Otieno, Ph.D. Prof. Francis M. Njeruh, Ph.D.	Vice Chancellor Deputy Vice Chancellor (Research, Production and Extension) Deputy Vice Chancellor (Academic Affairs) Deputy Vice Chancellor (Administration, Planning and Development
	Mr. Joseph Oreo Prof. Alfred O. Mayabi Prof. John N. Nderu Prof. Glaston M. Kenji Dr. Stanley I. Kamau Prof. Kamau Ngamau Dr. Willis O. Owino Prof. Simon Muhoho Njoroge Mr. Weru	Dean, Faculty of Agriculture Agricultural Principal, College of Engineering and Technology Dean, School of Electrical, Electronic & Information Engineering. Director of Laboratories & Environmental Management Chairman, Dept. of Electrical and Electronic Engineering Dean, Horticulture Dept. Food Scientist/Postharvest Scientist, Dept. of Food Service & Technology Manager, Food Technology Center Lecturer, Faculty of Agriculture
	Prof. George S. Eshiwani Prof. Rosalind Mutua	Former Vice Chancellor (JKUCAT) Former Deputy Vice Chancellor (JKUCAT)
	Arc. Christopher Naicca Mr. Churchill Saoke, TA Ms. Cecilia Mwangi	Graduate Graduate Graduate
University of Nairobi	Prof. Ratemo W. Michieka	Professor (Former VC of JKUAT)
Inooreo University	Prof. Henry M. Thairu	Vice Chancellor (Former DVC of JKUAT)
Ministry of Higher Education, Science & Technology	Prof. Dr. -Ing. Harry L. Kaane Dr. Salome Gichura OGW Mr. S. W. Wanyonyi, HSC	Secretary Director of Higher Education Directorate of Technical Education
Ministry of Agriculture	Wilson A. Songa, Ph.D.	Agriculture Secretary
Ministry of Industrialization	Amb. Dr. Joseph K. Kiplagat	Director of Industrial Information & Research Dept.
Horticultural Crops Development Authority	Ms. Grace W. Mbuthia	General Manager/ Horticultural officer, Technical & Advisory Services(Graduate of JKUAT)
Commission for Higher Education	Mr. Joel M. Mberia Prof. Florence K. Lenga	Deputy Commission Secretary Deputy Commission Secretary
AICAD	Mr. Jiro Nosaka	Chief Advisor (Former JKUAT Expert)
Michi Bushinbito (Japanese NGO)	Mr. Kiyoshi Kida	Vice President (Former JKUAT Expert)
ECOTACT	Mr. David Kuria	Chief Executive
Huawei Technologies Co. Ltd	Mr. Kagai Eric Gathogo	TBU AMS Manager, Kenya/Assurance & Managed Service Development
Multimedia University College of Kenya	Prof. Walter Odhiambo Oyawa	Principal

Organization	Name	Position
The Kenya National Chamber of Commerce & Industry	Mr. Peter G. Muiruri Mr. James Mwangi Ndegwa Mr. Raphael N. Omusi	Chief Executive Officer Programme Officer Senior Trade Officer
Bamburi Cement plant	Mr. Daniel Ndunda	Plant Manager, Nairobi Grinding Plant
Nissin Foods Holdings	Mr. Daisuke Okabayashi	Kenya Oishii Project Leader
JICA Kenya Office	Mr. Hideo Eguchi	Chief Representative

Appendix 3-2: SVM-UNZA

(1) Survey Schedule

Date	Organizations/Person Visited	Venue
June 4	Dr. Joseph Mubanga, Director of Department of Veterinary Service Dr. Francis M. Mulenga, Chief Veterinary officer Prof. Aaron Mweene, Dean, School of Veterinary Medicne, UNZA Prof. Girja S. Pandey, Dept. Disease Control	Min Agriculture and Livestock SVM,UNZA
June 5	Prof. Simukanga, Vice Cancellor, UNZA Dr. Bernard Haangombe, Dept. of Paraclinical Studies, SVM, UNZA Prof. Boniface Namangala(PhD) Head, Dept. of Paraclinical Studies, Ved School, UNZA Dr. Harvey K. Kamboyi, Veterinary Dr. Davie Square Mr. Shiro Nabeya, Chief Representative, JICA Ms. Kaoru Ozeki, JICA	UNZA Headquarter Office SVM,UNZA SVM,UNZA ZAWA JICA Zambia Office
June 6	Mr. Ackim Banda, Progaramme Manager, Ms. Daisy Banda, Progaramme Manager, British Council Dr. Choongo, K., Lecturer, Dept. of paraclinical Studies, SVM, UNZA Dr. Chitambo, Lecturer, Dept. of paraclinial Studies, SVM, UNZA	British Council
June 7	Dr. Nawa, Mazabuka District Veterinary Officer and Livestock Dr. Belinda Chilala, Senior Training Officer, Zambia Institute of Animal Health Dr. Phanuel Nyimba, Monze District Veterinary Officer and Livestock	
June 8	Ms. Madrine Bbalo Mbuta, Chief Planning Officer, Ministry of Education Ms. Florence C.H. Mweemba, Principal Education Officer, Ms. Jane Mubanga Shinkusu, Ministry of Education(Science and Technology and Vocational Training) Mr. Felix Nkulukusa, Director, Economic Management Dept. Ministry of Finance and National Planning Dr. Syakalima S Michielo, Lecturer, Dept. Disease Control, Ved. School, UNZA	Ministry of Education Ministry of Education (Science and Technology and Vocational Training Ministry of Finance UNZA
June 9	Dr. E. Oparaocha, Veterinary Surgeon, Showgrounds Veterinary Clinic	
June 11	Ms. Thomas Yuka, Hokudai Center for Zoonosis Control in Zambia(HUCZCZ) Five Student, Focus Group Interview	
June 12	Mr. Kashila, Zambeef Dr. Nsongolo, WHO Dr. Martha Himasuki Private Veterinarian NGOs) or Lusaka vet Office	Head office, Ndeke House, Lusaka Head house, Lusaka UN Building Lusaka Opposite Levy Park shopping centre
June 13	FAO Section in charge of Cooperation for Livestock industry	FAO

Date	Organizations/Person Visited	Venue
	Mr. Chipeta, Greg Chikwanka Deputy Programme Manager in the Wealth Creation Team, DFID	DFID
June 14	Focus Group Interview for Technician, Visit Lecturers Dr. Simunza Move to Choma (with Prof. Pandey)	UNZA UNZA Stay at Choma
June 15	Field visit for general condition on livestock farming Prof Panday Visit non-stakeholders Mr. D.M. Mubita, GART Return to Lusaka	Choma
June 18	Dr. Aaron Mweene for Video Prof Pandey (2nd) Mr. Mulonda Mate, Deputy Director, Disease control, Ministry of Health Mr. Wamupu S. Akapelwa, Monitoring Dept, Ministry of Finance and National Planning Monitoring Section	UNZA
June 19	JICA. Mr. Patrick Chibbamulilo Dr. Francisi(2nd Visit, Ministry of Agriculture and livestock) Prof. Chitambo, 2nd Visit,	JICA
June 20	Mr. Alex Mwanakasale World Bank Mr. Mubita, SVM, UNZA 2nd Visit for Lecturers	
June 21	AM Workshop Preparation Workshop	
June 22	Reporting to JICA Dr. Simkoko, Vice Dean od SVM, UNZA Dr. Michielo SyakalimaLecturer, SVM, UNZA	JICA Zambia Office SVM, UNZA SVM, UNZA

(2) Interviewee List

Organization	Name	Position
UNZA	Prof. Simukanga	Vice Chancellor
	Prof. Aaron Mweene	Dean, School of Veterinary Medicine
	Dr. Simunza	Head, Dept. of Disease Control, SVM
	Prof. Girja S. Pandey	Professor, Dept. of Disease Control
	Dr. Syakalima S Michielo	Lecturer, Dept. of Disease Control, Ved. School
	Prof. Boniface Namangala(PhD)	Head, Dept. of Paraclinical Studies, Ved School
	Dr. Bernard Haangombe	Dept. of Paraclinical Studies, Ved School
	Dr. Choongo, K	Lecturer, Dept. of Paraclinical Studies, SVM
	Dr. Chitambo	Lecturer, Dept. of Paraclinical Studies, SVM
	Dr. Careen Hankanga	Dept. of Clinical Studies, SVM
	Mr. Mubita	SVM
	Dr. Simkoko	
	Focus Group Interview with 8 technicians	Technician, SVM

Organization	Name	Position
	Focus Group Interview with 5 current students	Current student(5th and 6th Grade)
Hokudai Center for Zoonosis Control in Zambia	Ms. Thomas Yuka	
Ministry of Agriculture	Dr. Joseph Mubanga	Director, Department of Veterinary Service
	Dr. Francis M. Mulenga	Chief Veterinary Officer, Department of Veterinary Service
Ministry of Education	Ms. Madrine Bbalo Mbuta	Chief Planning Officer
	Ms. Florence C.H. Mweemba	Principal Education Officer, Dept. of Science and Technology and Vocational Training
	Ms. Jane Mubanga Shinkusu	Principal Education Officer, Dept. of Science and Technology and Vocational Training
Ministry of Health	Mr. Mulonda Mate	Deputy Director, Dept. of Public Health and Research
Ministry of Finance and National Planning	Mr. Felix Nkulukusa	Director, Economic Management Dept.
	Mr. Wamupu S. Akapelwa	Monitoring Dept
Mazabuka District Veterinary Office	Dr. Nawa	Mazabuka District Veterinary Officer and Livestock
	Dr.Martin Simwanza	Mazabuka District Veterinary Officer and Livestock
Monze District Veterinary Office	Dr. Phanuel Nyimba	Monze District Veterinary Officer and Livestock
Zambia Wildlife Authority	Dr. Harvey K. Kamboyi	Wildlife Veterinarian
	Dr. Davie Square	Wildlife Veterinarian
Zambia Institute of Animal Health	Dr. Belinda Chilala	Senior Training Officer
Showgrounds Veterinary Clinic	Dr. E. Oparaocha	Veterinary Surgeon
Zambeef	Mr Chalwe Kashila	Head, Human Resources Group
GART	Mr. D.M. Mubita,	
JICA Zambia Office	Mr. Shiro Nabeya	Chief Representative
	Ms. Kaoru Ozeki	Assistant Resident Representative
	Mr. Patrick Chibbamulilo	
DFID	Mr. Greg Chikwanka	Deputy Programme Manager, Wealth Creation Team
British Council	Mr. Ackim Banda	Progaramme Manager
	Ms. Daisy Banda	Progaramme Manager
WHO	Dr. Olusenguna A. Babaniyi	Representative
	Dr Petr Nsongolo	DPC Office
FAO	Dr. Ad Apijkers	Representative
	Mr. Crispln Pumulo Kapunda	Food Security and M&E officer
	Mr.Eric Chipeta	Programme Officer
World Bank	Mr. Alex Mwanakasale	

Appendix 3-3: CFPT

(1) Survey Schedule

Date	Activities	
May 17	Ar. Dakar	
May 18	JICA Senegal Office - Mr. Hisatoshi Okubo, Représentant Résident - Mr. Kazunao Shibata, Chef de Bureau	
	CFPT (visit accompanied with the Ambassador of Japan in Senegal) - Mr. Ousseynou Guèye , Director, CFPT	
	CFPT (CFPT teachers who conducted Third Country Training) - Mr. Mamadou Yoro BARRY - Mr. Amadou MBODJI	
	EBI - Mr. El Hadj Malick SAKHO, Responsable Informatique, (the CFPT graduate who established their own business)	
	Interview for the 6 JOCVs (at the dinner invited by the Ambassador of Japan) (Araki, Ishida, Tamagake, and Shishido)	
May 19	CFPT - Mr. BAlla TIMERA, Directeur des Etudes - Mr. Massaher Kébé, Chef des Travaux	
	Lunch Meeting organized by JICA Senegal Office inviting the Ambassador of Japan in Senegal, Mr. Guèye and Mr. Kébé of CFPT (Mr. Guèye, Mr. Kébé, Araki, Ishida, Tamagake, and Shishido)	
May 20	Record keeping	
May 21	Ministry of Youth, Vocational Training and Employment - Mr. Saliou Diouf, Director of Technical Education & Vocational Training - Mr. Joseph Mbissane Gning, Chef de la Division de la Formation Technique, Direction de la Formation Professionnelle et Technique	
	Centre d'Entrepreunariat Développement Technique (CEDT)－G15 - Mr. Abdoul Ba, Director	
	Centre National de Qualification Professionnelle (CNQP) - Mr. Pape Magatte TALL	
	Komatsu Training Center（Courtesy visit）	
	CFMPL - Mme. Awa Ndiaye Sanga, Director	
May 22	SONATEL Médina - Mr. Ndiaga Seck, Head of International telecommunication (CFPT Graduate)	
	PATISEN (Food company) - Mr. Malik Gueye, Director Industrial	
	Centre de formation privée: Institut Supérieur d'Informatique(ISI) (Private vocational training school) - Mr. Abdou Sambe, General Manager	
	Femme Auto - Ms. NDèye Coumba Mboup, Directrice (CFPT Graduate)	
May 23	Agence Nationale pour l'Emploi des Jeunes(ANEJ) - Mr. Abdou Khafor Toure (Director General) - Mr. Babou Faye Tél.77644 2151 - Ms. Mame Diarra Diouf - Mr. Assane Ba	16:20 Leave for Kenya (Ishida and Araki)
	Mr. Kiyoshi Yotoriyama, Conseiller en Chef, CFPT	
May 24	AFD	

Date	Activities	
	- Mr. Ibrahima Diallo	
	ENSETP - Mr. Ibrahima Wade, Director - Mr. Diagine Olivier EKE, Director of Studies_	
May 25	Banque Régionale de Solidarité(BRS) - Mr Diam DIALLO Directeur du Crédit et du Partenariat	
	Lycée d'Enseignement Technique et de la Formation Professisonnelle de Thiès - Mr. Ousmane COULIBALY, Trainer (CFPT Graduate) - Mr. Mamadou NDIAYE, Director of Studies	
May 26	Interview with 10 CFPT graduates at CFPT	
May 27	Record keeping	DVD team ar. Dakar
May 28	FEMME AUTO workshop (DVD recording) DVD recording around Dakar City	
May 29	Mr. Ahmadou Falla FAYE, BTS Electromécanique 2009 devenu Formateur en Fabrication Mécanique au CEDT G15 (DVD recording) Interview with Mr. GUEYE, Director, CFPT KOMATSU Dakar - Mr. Yoshiki Tanaka, General Manager - Mr. Joachim Bouchard, Senior Trainer, BIA Dakar Training Center	22:25: Ms. Tamagake leaves Dakar
May 30	Demonstration with Mr. Mamadou BARRY, CFPT Trainer (DVD recording)	
May 31	Interview with Mr. GUEYE, Director, CFPT (DVD recording) SONATEL - Mr. Amadou Lo (CFPT Graduate) - Mr. Ndiaga Seck, Head of International telecommunication (CFPT Graduate) (DVD recording)	
June 1	Record keeping & DVD recording around Dakar	DVD team leaves Dakar
June 2	WORKSHOP at CFPT	
June 3	Record keeping	
June 4	ONFP - Mr. Momar GUEYE, ONFP Director	
	Luv Dev - Mr. Malèye DIAGNE	
June 5	CIDA -Mr. Ibrahima Diome, Sr. Advisor to CIDA (education sector) ENSETP (facility tour) -Mr. Ibrahima Wade, Director	
June 6	Report to JICA Senegal office -Mr. Hisatoshi Okubo, Représentant Résident	16:20 (flight cancelled) (Toriumi and Tsutsumi)
June7	Leave Dakar for Uganda (Toriumi and Tsutsumi)	

(2) Interviewee List

Organization	Name	Position
Ministry of Youth, Vocational Training and Employment	Mr. Saliou Diouf	Director of Technical Education & Vocational Training
	Mr. Joseph Mbissane Gning	Chef de la Division de la Formation Technique, Direction de la Formation Professionnelle et Technique
CFPT	Mr. Ousseynou Gueye	Directeur
	Mr. Balla Timera	Directeur des Etudes
	Mr. Massaher Kébé	Chef des Travaux
	Mr. Abdoul Ba	Directeur
	Mr. Mamadou Yoro BARRY	Trainer
	Mr. Amadou MBODJI	Trainer
	Mr. Kiyoshi Yotoriyama	Conseiller en Chef（JICAexpert）
AFD	Mr. Ibrahima Diallo	
CIDA	Mr. Ibrahima Diome	Conseiller en Education
LuvDev	Mr. Malèye DIAGNE	
Centre d'Entrepreunariat Développement Technique (CEDT)	Mr. Abdoul Ba, Director	Director
	Mr. Ahmadou Falla FAYE	Trainer
Centre National de Qualification Professionnelle (CNQP)	Mr. Pape Magatte TALL	
Centre de Formation aux Metiers Portuaires et a la Logistique (CFMPL)	Mme. Awa Ndiaye Sanga	Directrice
l'Ecole Normale Supérieure d'Enseignement Technique et Professionnel (ENSETP)	Mr. Ibrahima Wade, Director	Director
	Mr. Diagine Olivier EKE	Director of Studies
Lycée d'Enseignement Technique et de la Formation Professisonnelle de Thiès	Mr. Mamadou NDIAYE	Director of Studies
	Mr. Ousmane COULIBALY	Trainer (CFPT Graduate)
Centre de formation privée: Institut Supérieur d'Informatique(ISI)	Mr. Abdou Sambe	General Manager
Banque Régionale de Solidarité(BRS)	Mr Diam DIALLO	Directeur du Crédit et du Partenariat
Office National de Formation Professionnelle (ONFP)	Mr. Momar GUEYE	Director
Agence Nationale pour l'Emploi des Jeunes(ANEJ)	Mr. Abdou Khafor Toure	Director General
	Mr. Babou Faye	Directeur de la Promation de l'Esprit d'Enterprise
	Mme. Mame Diarra Diouf	Cahrgee du Partenariat
	Mr. Assane Ba	
Patisen	Mr. Malik Gueye	Director Industrial
KOMATSU Dakar	Mr. Yoshiki Tanaka	General Manager
	Mr. Tatsuya Sato	
BIA Dakar Training Center	Mr. Joachim Bouchard	Senior Trainer
Experts Bureautique Informatique (EBI)	Mr. El Hadj Malick SAKHO	Responsable Informatique (CFPT Graduate)
Femme Auto	Ms. NDèye Coumba Mboup	Directrice (CFPT Graduate)
SONATEL Médina	Mr. Ndiaga Seck	Head of International telecommunication (CFPT

Organization	Name	Position
		Graduate)
BCEAO, Kaolack Branch	Mr. Papa Fara	(CFPT Graduate)
SUNEOR	Mr. Mamadou Niang	(CFPT Graduate)
Phillips Moris	Mr. Ousmane Merico	(CFPT Graduate)
	Ms. Aida Diop	(CFPT Graduate)
	Ms. Aigsata Malelle Gaye	(CFPT Graduate)
	Ms. Aissatau Lodiane	(CFPT Graduate)
Huawey Technology	Mr. Mamadou Diop	(CFPT Graduate)
Ministère Finances	Mr. Serigne Aamdou NIANG	(CFPT Graduate)
Ciments du Sahel	Mr. IsmaIla FABOURE	(CFPT Graduate)
Horizon TIC	Mr. Adama NDIR	(CFPT Graduate)
Diandalma.com	Mr. Seynabou GUEYE	(CFPT Graduate)
COSTAM	Mr. Mansour NDIAYE	(CFPT Graduate)
DANGOT	Mr. Birama BA	(CFPT Graduate)

Appendix 3-4: NVTI, Uganda

(1) Survey Schedule

Date	Activities
June 6	Flight cancelled (delayed)
June 7	Departure from Senegal
June 8	JICA office - Mr. Egashira, Ms. Ushiro NVTI - Mr. Musoke Matovu A.K., Principal - Mr. Mubiru David Luyima, Deputy Principal, Training. - Mr. Omoo Francis, Deputy Principal DIT(Directorate of Industrial Training) - Mr. Masolo sam, Deputy Director, Assessment and Certification (formerly vice principal NVTI) - MR. Kiwungulo George Stephen, Principal Qualifications Officer Assessment and Certification
June 9	Record keeping
June 10	(Nakatsubo Arrive Entebbe) Mr. Yuichi Kashiwada, PHOENIX LOGISTICS LTD Record keeping
June 11	(DVD Team Arrive Entebbe) Belgium Development Agency - Jan de Ceuster, Education Advisor MoES/TIET - Dr Jane Egau Okou, Assistant Commissioner-Instructor & Tutor Education MoES/BTVET - Mr Mansoor, Assistant Commissioner-Tech. Education
June 12	Mr. Musoke Matovu A.K., Principle, NVTI Mr. Wangolobe Fabian Mr.Tuzinde Abasi, fomer principal NVTI Mr. Giruli Michael Senior Instructor/HOD, Instructor & Managaer Training (Pedagogy), NVTI Special Welding Service LTD Mr. Yvick Robin（Operation Manager） Mr.Orech Godfrey (Workshop Supervisor, NVTI graduate) (DVD Team)
June 13	(whole day at NVTI) Interview with heads of 7 departments
June 14	Jinja Vocational Institute -Mr. Mugisha Alexander, Principal - Mr. Muwanga, Deputy principal (formerly principal at NVTI) Jinja Vocational Institute - Mr. Erima Geofery（Automobile Sction Cheaf, CNTI graduate） (DVD Team) Jinja Vocational Institute-Mr. Ebusu Michael Emaa, Head of Mechanic Section (CVTI, DVTI graduate) Nile Breweries LTD(DVD Team) Visit To The Source of the Nile(DVD Team)

Date	Activities
June 15	Kakira Community Polytechnic - Mr. Mwastanje Sendi Fred (DTIM graduate) Nile Vocational Training Institute - Mr. Baigulanira Stephen, Dean of Studies Mayondo Engineering Works LTD - Mr. Seyondo Mansuli（Owner, NVTI graduate） - Mr. Mulunba Simon (Production Manager, NVTI graduate) (DVD Team) Palmech Enterprise - Mr. Kaganzi Paul（Managing Director） - Mr. Semwaya Hebart (Mechanic Engineer, NVTI graduate) (DVD Team) PHOENIX LOGISTICS LTD - Mr. Simon Drapari (Splinning Manager） - Mr. Kasiita Daniel (Engineer, NVTI graduate) (DVD Team)
June 16	Unikas Engineering Co. Ltd. - Mr. Sali Isaac (NVTI Graduate) Record keeping
June 17	(DVD Team Leave Entebbe) Record keeping
June 18	JICA Office-Ms.Ushiro, Mr. Egashira(Nakatsubo) St. Marks College Namagoma-Mr. Daniel Ddamulira (Director) Kyambogo University - Mr. James Bulenzibuto, Public Relations Officer - Mr. Madete Lawrence, Public Relations Officer - Dr. Katigo J. Kaheeru, Dean, Faculty of Education - Mr. Ali Kyakulumbye, Head, Technical Teacher Education - Mr. Gidongo Francis, Dean, Faculty of Engineering
June 19	Chamber of Commerce - Mr. Mwesigwa Didas, Director-Membership Servces UGAPRIVI - Mr. Ogwang James, Programme Coordinator Namunalda Training Insitute (Graduates of NVTI) - Ms. Bukirwa Cathy, Principal) - Mr. Opiyo (CVTI graduate) AfDB - Dr. Mochache Jason Mosomi, Education Specialist and Architect MTAC（Management Training and Advisory Centre） - PhD George Tumwesigye, Executive Director (Nakatsubo)
June 20	Bbira Vocational Training Institute - Mukooli Henry Moses, Principal - Innocent Kemigisha, Trainer (CVDI graduate) KOICA Uganda Office - Ms. Youn Hwa KANG (Resident Representative) (Nakatsubo) GIZ - Mr. Brenke Benedikt, Coordinator, Economic and Employment Promotion New Vision - Mr. Conan Businge (Correspondent) (Nakatsubo)
June 21	JOCV - Mr. Masaki HASEGAWA, NVTI TOYOTA Uganda - Mr. Futsum Yosef Mr. William Kaaya Kizit

Date	Activities
	Panta Media Technique Ltd. - Mr. Massa Jaones Peter
June 22	MTN (Graduates of NVTI) Mr. Leonard Othieno, Ministry of Gender, Labour and Social development - Mr. David A Mugisa, Principle Occupational Hygienist Collecting data & Record keeping (Mr. Nakatsubo Leave Entebbe)
June 23	Record keeping
June 24	Record keeping
June 25	JICA Office -Mr. Egashira, Ms. Ushiro
June 26	Workishop at NVTI
June 27	JICA Office Leave Entebbe

(2) Interviewee List

Organization	Name	Position
Minstry of Education and Sports	Dr. Jane Egau Okou	Deaprtment of Teacher and Instructor Education and Training (TIET), Assistant Commissioner-Instructor & Tutor Education
	Mr. Mansoor Ilahi	Business Technical, Vocational Education & Training Department (BTIVET), Assistant Commissioner-Tech. Education
	Mr. Takanori Kawashima	JICA Advisor for TVET Instructor's in-Service Training System, Deaprtment of Teacher and Instructor Education and Training (TIET)
	Mr. Masolo Sam	Deputy Director, Assessment and Certification (Formerly Vice Principal NVTI)
	Mr. Kiwungulo George Stephen	Principal Qualifications Officer Assessment and Certification
	Mr. William Kaaya Kizit	Former Comissioner of DIT, Superintendent of Nakawa &Lugogo VTI, Ministry of Labor
	Mr. Musoke Matovu A.K.	Principal
	Mr. Mubiru David Luyima	Deputy Principal Training
	Mr. Omoo Francis	Deputy Principal
	Mr. Wangolobe Fabian	Trainer
	Mr. Giruli Michael	Senior Instructor/HOD, Instructor & Managaer Training (Pedagogy)
	Mr. Micheal Rujumba	Head of Department (Electoronics)
	Mr. Opolo John Richard	Head of Department (Electricity)
	Mr. Okuma Silva	Electricity Department
	Mr. Okello Alfread	Head of Department (Mechanics)

Organization	Name	Position
	Mr. Asmmwe Patrick	Head of Department (Automobile)
	Mr. Mayanja Fred	Head of Department (Welding)
	Mr. Patric Kazibwe	Head of Department (Sheet Metal)
	Mr. Nyanzi Richard	Head of Department (Woodworking)
	Mr. Masaki HASEGAWA	PC Instructor (JOCV)
	Mr.Tuzinde Abasi	Fomer Principal NVTI
Belgium Development Agency	Mr. Jan de Ceuster	Education Advisor
AfDB	Dr. Mochache Jason Mosomi	Education Specialist and Architect
KOICA Uganda Office	Ms. Youn Hwa KANG	Resident Representative
GIZ	Mr. Brenke Benedikt	Coordinator, Economic and Employment Promotion
Jinja Vocational Institute	Mr. Mugisha Alexander	Principal
	Mr. Muwanga Godfrey Fred	Deputy Principal (Formerly Principal at NVTI)
	Mr. Erima Geofery	Automobile Sction Cheaf (CVTI graduate)
	Mr. Ebusu Michael Emaa	Head of Mechanic Section (CVTI, DVTI graduate)
Nile Vocational Training Institute	Mr. Baigulanira Stephen	Dean of Studies
Birra Vocational Training Institute	Mr. Mukooli Henry Moses	Principal
Kyambogo University	Mr. James Bulenzibuto	Public Relations Officer
	Mr. Madete Lawrence	Public Relations Officer
	Dr. Katigo J. Kaheeru	Dean, Faculty of Education
	Mr. Ali Kyakulumbye	Head, Technical Teacher Education
	Mr. Gidongo Francis	Dean, Faculty of Engineering
UGAPRIVI	Mr. Ogwang James	Programme Coordinator
MTAC（Management Training and Advisory Centre）	Dr. George Tumwesigye	Executive Director
Uganda Allied Chamber of Commerce, Industry and Agriculture	Mr. Mwesigwa Didas	Director-Membership Servces
Ministry of Gender, Labour and Social development	Mr. David A Mugisa	Principle Occupational Hygienist
St. Marks College Namagoma	Mr. Daniel Ddamulira	Director
PHOENIX LOGISTICS LTD	Mr. Yuichi Kashiwada	Executive Director
	Mr. Simon Drapari (Splinning Manager）	Splinning Manager
	Mr. Kasiita Daniel	Engineer (NVTI graduate)
TOYOTA Uganda	Mr. Futsum Yosef	Training Manager
New Vision	Mr. Conan Businge	Correspondent
Kakira Community Polytechnic	Mr. Mwastanje Sendi Fred	(DTIM graduate)
Namunalda Training Insitute (Graduates of NVTI)	Ms. Bukirwa Cathy	Principal (NVTI graduate)
	Mr. Opiyo	Trainer (NVTI graduate, CVTI graduate)

Organization	Name	Position
Birra Vocational Training Institute	Ms. Innocent Kemigisha	Trainer (CVTI graduate)
Special Welding Service LTD	Mr. Yvick Robin	Operation Manager
	Mr. Orech Godfrey	Workshop Supervisor (NVTI graduate)
Mayondo Engineering Works LTD	Mr. Seyondo Mansuli	Owner (NVTI graduate)
	Mr. Mulunba Simon	Production Manager (NVTI graduate)
Palmech Enterprise	Mr. Kaganzi Paul	Managing Director
	Mr. Semwaya Hebart	Mechanic Engineer (NVTI graduate)
Unikas Engineering Co. Ltd.	Mr. Sali Isaac	Technical Director (NVTI Graduate)
MTN	Mr. Leonard Othieno	Telecom Technician, Fix Line & Network Group (NVTI Graduate)
Panta Media Technique Ltd.	Mr. Massa Jaones Peter	(NVTI Graduate)

Appendix-4: Narration Script of DVD

Human Resources Development for African Innovation
In Pursuit of Monozukuri

Images	Time	Narration
Avant		
- JICA Logo - Mr. Ousseynou Gueye Interview - Ms. Ndeye Coumba Interview - Mr. Seyondo Mansuli Interview - A Veterinarian Interview	00:03	*"New initiative"* *"Utilize things learned"* *"Attitude towards work"* *"Dream"*
- Buildings - Buildings - Cars and people	00:14	Africa. It has shown rapid growth in the past decade.
- Sawing machines	00:20	Africa's economic growth now exceeds the rate of some countries in Asia.
- Taxi rotary - Market	00:27	The African economy that had been stagnant for over 20 years from 1980 is now making great strides.
- 2S-PC - Metalworking - Baking - Sawing machines - Sonatel	00:38	To ensure its development, Africa is looking to acceleration of sustainable economic growth.
- JICA photo	00:48	Trade promotion, improvement of industrial infrastructure and agricultural productivity, as well as collaboration with private sectors.
- JICA photo	00:58	These activities require "human resources" and the Japanese concept of "Monozukuri", which combines precise craftsmanship with advanced technology to create high quality objects.
JICA photo	01:06	For Africa to face its reality and make progress, it is important to innovate, sustain the economy, and pass it on to future generations by its own means.
- JICA photo	01:19	With support from Japan, various development projects are being conducted in many parts of Africa.
- JICA photo	01:27	These projects have introduced not only technology, but also the spirit of "Monozukuri" to facilitate employee growth.
- Scenery of Africa + image of vocational training	01:35	Vocational training and higher education has an important role to play in realizing "Monozukuri" by Africans for Africans.

- Map - Prof. Aaron Mweene Interview - Mr. Ousseynou Gueye Interview - Unloading - Uganda City - Kenya View - Uganda View - Uganda Factory - Sunrise - Sunrise - TITLE	01:54 02:13 02:25 02:29	We focus on the efforts and output in these four countries. *"We are expected to actually help the community in the best possible way."* *"Our graduates play an important role at work. It is not easy."* Employee development leads to economic development. A flourishing economy demands core and advanced technicians and creates job opportunities. Africa has much potential. What should be done to further sustain this promising future? *"Developing human resources, supporting African innovation"* - In pursuit of Monozukuri -
Importance of Technical Vocational Training / UGANDA		
- Lake Victoria - Lake Victoria - Port - Construction site - Nakawa gate - Students - Photo (gate) - Photo (group photo) - Photo (school building) - Photo (training) - Photo (training) - Training - Training - PC repair - Principal Mr. Musoke Matovu - Principal Mr. Musoke Matovu Interview	02:37 02:47 02:58 03:11 03:24 03:34 03:53 03:59	Uganda. A country in Eastern Africa next to Lake Victoria, the source of the Nile. Uganda had been left behind in industrialization and economic development due to the prolonged civil war until the late 1980s. Nakawa Vocational Training Institute is located in its capital city Kampala. It has generated about 4,000 graduates. Nakawa Vocational Training Institute was built from the ground up with the assistance of the Japanese government in 1968, prior to the start of the civil war. Though cooperation was suspended due to political turmoil, it was resumed in 1996. At that time, Uganda significantly lacked skilled technicians needed for industrial reconstruction. Vocational training could not adequately meet the needs of the industrial sectors. According to Mr. Musoke Matovu, the principal of Nakawa… *"Ever since the establishment of this institution, our objective was to provide training for workers in enterprises*

		or those who are destined for employment opportunities in enterprises. Nakawa is destined to become the center of excellence in developing human resources needed by a dynamic economy."
- Practice on car repair	04:22	Nakawa provides education aimed at developing personnel with applicable skills.
- Engine	04:29	For this purpose, Nakawa has machinery with the same specifications as machinery operated at workplaces.
- PC Exercise - Welding - Electronics - Hands	04:39	About 850 people are currently enrolled in the courses of Electricity, Electronics, Automotives and Woodworking.
- Class room - Training - Machine-PC - Training	04:52	Nakawa also plays a role in training instructors of other vocational training institutes both within and outside the country, thus improving the quality of education at other institutes.
- Principal Mr. Musoke Matovu Interview	05:09	*"We are now a reputable organization. Many people come to Nakawa to inquire about the prospects of securing our graduates."*
- Training	05:24	Nakawa graduates are the essential manpower at various work places.
- Exterior of a woodworking company	05:31	This is a woodworking company in Kampala. 4 of the 20 employees are from Nakawa.
- Inside the factory - Mr. Seyondo Mansuli Walking	05:46	The President, Mr. Seyondo Mansuli, is a former chief instructor at Nakawa's woodworking course.
- Mr. Seyondo Mansuli	05:56	According to Mr. Mansuli, there is merit in employing Nakawa graduates.
- Mr. Seyondo Mansuli Interview	06:00	*"They have the chance to access machines. So they are skilled in using and maintaining machines. Also, attitude towards works is emphasized at Nakawa, so they are really good employees."*
- Car repair - Boiler checkup - Boiler checkup	06:25	Good attitudes towards work, as well as applicable skills, leads to increased confidence in the workplace.
- Metalworking	06:34	This confidence leads to further innovations in "Monozukuri".
Awareness Raising in Monozukuri / SENEGAL		
- Dakar View	06:42	Senegal is located on the Western edge of the African continent.
- Seashore - Ship - Ship in ocean	06:50	Its main primary industries are agriculture and fishery.

- Oysters - Oysters	06:58	But to build a stable economic base, Senegal has long sought industrial development.
- CFPT Gate - Near gate	07:08	To aid this development, the Center for Technical and Vocational Training Senegal-Japan, or CFPT, was established in 1982.
- Photo (school building) - Photo (training) - Photo (training)	07:21	There were vocational training centers in Senegal at that time, but they could not meet with the industrial sectors' demands. It was then that Japan began its cooperation for vocational training.
- Uniform back	07:33	There are currently two courses at CFPT, known as BTI and BTS.
- Training - Exercise	07:39	BTI is a three-year high school level course, and BTS is a two-year junior college or technical college level course.
- Training - Engine	07:54	There have been more than 3,000 graduates up to now.
- Face - Photo (Jap. expert) - Photo (Jap. expert) - Photo (Jap. expert)	08:01	However, at the initial stage of the cooperation, the awareness of good craftsmanship in Senegal was still low, and the concept of "Monozukuri" introduced and instructed by Japan was not fully understood.
- Mr. Ousseynou Gueye	08:20	It was the Principal, Mr. Ousseynou Gueye, who modified Japanese "Monozukuri" to suit Senegal's needs.
- Mr. Ousseynou Gueye Interview	08:29	*"We modeled on Japan in many ways, but did not just copy because that was impossible. The reality in the two countries was quite different."*
- Machine practice - Machine-class - PC	08:55	At that time, even though students at CFPT acquired the skills to handle the latest machines, there was no chance to utilize such skills at work because private enterprises did not have those machines.
- Mr. Ousseynou Gueye Walking	09:12	However, Mr. Gueye dared to train technicians with the latest technology at CFPT ahead of the private enterprises.
- Mr. Ousseynou Gueye Interview	09:22	*"In any sector, enterprises need advanced technicians. If enterprises pay more attention to the knowledge of technicians, they can make inroads into new sectors. That is why CFPT continuously train our human resources with new technology."*
- Sonatel - Face up	09:50	Graduates of CFPT, with their sound technological knowledge, are the essential human resource working as key technicians or entrepreneurs in Senegalese society.
- Femme Auto Exterior - Pushing a car	10:06	One of the graduates dreamt of producing cars 'made in Senegal', and established her own garage.

- Ms. Ndeye Coumba	10:17	Company President Ms. Ndeye Coumba established Femme Auto in 2006, after experience in maintenance and other car dealerships.
- Ms. Ndeye Coumba Interview	10:30	*"CFPT guided me to my future. It led me to finding my vocation. I want to utilize what I learned there."*
- Engine check - Engine check -	10:48	The devotion and collaborative endeavors of Africans and Japanese resulted in improvement in technology and knowledge of "Monozukuri".
- Design drawing - Woodworking company - Metalworking company - Processing	11:01 11:15	In the cases of Uganda and Senegal, core technicians with good skills and knowledge are the prerequisite for industrial development. Human resources with expertise in technical innovation will become crucial for further development.
Importance of School of Veterinary Medicine / ZAMBIA		
- Lusaka View	11:32	Zambia in Southern Africa is a world famous copper production site.
- Cars - People crossing roads	11:39	Copper made up 70% of its exports, but prices have declined.
- Cowshed - Cow - Pig - Ranch	11:50 11:59	The Government shifted focus to agriculture, an industry in which 75% of its workforce is engaged. The livestock industry in particular seemed to have potential, taking into account the natural environment of Zambia.
- Ranch walking	12:09	However, there was a big problem…
- Injection - Injection	12:15	In the early 1980s, there were only 8 Zambian veterinarians in the entire country.
- University gate - School building	12:26	In response to this issue, the School of Veterinary Medicine at the University of Zambia was established with the cooperation of Japan in 1983, aimed at fostering homegrown Zambian veterinarians.
- Prof. Aaron Mweene	12:41	Current Dean, Prof. Aaron Mweene is one of the first generation graduates. He now fosters current students.
- Prof. Aaron Mweene Interview	12 :52	*"The primary aim of the school is to train veterinary graduates. Before the school was built, there were very few veterinarians, so it was very difficult to control diseases in Zambia."*
- Class - Hands - Parasite check - Test tube	13:12	The School has produced about 300 veterinary graduates. They contribute to the promotion of the livestock industry by preventing infectious diseases all over the country.

- Tranquilizer gun	13:26	Dr. David Square, one of the graduates, is working at the Zambia Authority for Wildlife Animals.
- Walking - Elephant	13:38	Today's job is to collect blood samples from wild animals in a National Park to check for infectious diseases. First, he has to sedate them by tranquilizer gun.
- Dr. David Square Interview	13:51	*"We have more wildlife population than livestock population. Moreover, wildlife is very important in disease control. Most diseases affecting national economy and public health and Zoonosis come from wildlife."*
- Helicopter shot - Elephant	14:15	Prevention of infectious diseases among wild animals is needed to stop them from spreading among livestock and human beings.
- UNZA	14:27	A research center for prevention of Zoonosis is located in the University of Zambia.
- Inside Labo - Test tube - Hokkaido Univ.	14:34	It is the Hokkaido University Center for Zoonosis Control in Zambia.
- Doorplate - Class	14:44	At the Graduate School of Veterinary Medicine of Hokkaido University in Japan, students and lecturers from many countries are studying to acquire technical skills.
- Class - - Class	14:57	Here, we found David, who was working at the National Park in Zambia.
- Woman with camera - Experiment	15:04	Since Zoonosis like bird flu and brucellosis are recognized as a global issue, many people look to further research to control diseases and lead to industrial development.
- David asking questions	15:23	They utilize what they've learned for the people, and for the development of their countries.
What brought from Zero / KENYA		
- Nairobi View - Nairobi View	15:32	Kenya, a country in Eastern Africa.
- Farming - Farming	15:37	About 70% of its workforce is engaged in agriculture.
- JKUAT gate	15:46	This university in the suburbs of Nairobi has a reputation for developing leading human resources in the agriculture and technology sectors.
- Gate plate	15:57	This is Jomo Kenyatta University of Agriculture and Technology.
- Students - Students studying - Students studying	16:02	About 26,000 people are studying here, not only from Kenya but also from neighboring African countries.
- Photo(View)	16:16	The cooperation between Kenya and Japan to establish this university from the ground up started in 1980, with an

		aim to develop human resources with practical skills.
- Photo (group photo) - Photo (Instruction) - Photo (Instruction)	16:28	Japanese experts made great efforts to share Japanese values of self-reliance and practical education.
- Class - Model making - Model making - Tractor - Tractor	16:40	This included not only placing importance on experiments and field work, but also the way lecturers instruct students, and taking good care of equipment and facilities.
- Photo (VC Prof. Imbuga)	16:55	Prof. Mabel Imbuga, the Vice Chancellor of JKUAT, says that without mutual confidence and cooperation between Kenyan and Japanese stakeholders, JKUAT would not be enjoying its current success.
- Photo (VC Prof. Imbuga)	17:09	She is proud of the alumni playing a great role in society, utilizing their specialized and practical skills and knowledge in agriculture and industry.
- Class - Lecturer - Students - Students - Class - Students	17:25	JKUAT was initially established as an agricultural and technical college to train technicians. But now, it has developed into a reputable university with a grad school.
- Oishii Project - Photo (dough) - Photo (noodles) - Photo (children) - Photo (children)	17:43	The university also participated in a joint project with a Japanese enterprise to develop a uniquely African flavor of instant noodles, as a way of supporting industry growth.
- Sky-Farm	18:00	And here also, there is a graduate contributing to industrial development by furthering her JKUAT studies.
- Hands	18:11	Ms. Grace Mbuthia continues her study for farmers at the facility of the Ministry of Agriculture.
- Hut	18:21	Her research is inside this hut.
- Ms. Grace Mbuthia Interview	18:26	*"With just a small space, you can eat mushrooms and even sell. We water 5 times a day to keep the humidity high. It is simple technology that can be adopted by farmers."*
- Inside the hut	18:46	She developed this technology for small-scale farmers who have difficulty establishing harvesting facilities, and hopes to make it widely accessible.
Wrap up		
- Class - Working on PC - - Sawing machine	18:58 19:07	It's not only about learning, but about how to further utilize and develop what was learned independently. That is what the Japanese cooperation of "Monozukuri" and human resources development hopes to achieve.

- Bread - Metalworking	19:14	For Africa to accelerate its sustainable development, it is important that African people themselves think and take actions for transformation.
- Mr. David Kuria - Ms. Ndeye Coumba - Mr. Ousseynou Gueye	19:27	*"The most demand is in the link between the skills and the needs"* *"Each of us should make efforts to create something."* *"There is no anxiety about the future"*
- Car repair shop - Woodworking company	19:43	What is important is the spirit of "Monozukuri" as well as skills and methods.
- City - Market	19:50	The African people's motivation and enthusiasm for achieving their dreams is also the key to success.
- View - Kidney beans - Sawing machine - Veterinarian - Milk	20:01	The human resource collaboration have created various successes in many parts of Africa as well as Asia. Networking of these successes needs to be further strengthened for their sustainable growth.
- Smiling students - Dancing children	20:14	As the people grow, so too, does the nation.
- Globe CG	20:20	Sustainable economic development is what Africa needs…
	20:25	now and in the future.
	20:30	

Appendix-5: Schedule of the HRD Seminar in Dakar

27th (Thu) and 28th (Fri) September 2012
At Pullman Hotel, Dakar, Senegal

Pullman Dakar	**Thursday, September 27th 2012**
8:30	**Registration**
9:00-9:30	**Opening Ceremony** Facilitator: Mr. Mamadou Syll KEBE, Chef de Division , Ministry of Industry Opening remarks: Directeur de Cabinet, Ministry of Higher Education and Research, Senegal Representative from the Embassy of Japan to Senegal
9:30-10:00	**Plenary Session** Dr. Yoko ISHIDA, Team Leader, the HRD study in Africa, "Objective of the Workshop" Keynote speech: Mr. Ibrahime BASS, Director of Industry, Ministry of Industry, Senegal : Human resources development for African development through private investment promotion: importance of vocational training and research & development
10:00-10:30	**Coffee Break**
10:30–12:30 Moderator: Mr. Lenox KALONDE, Assistant Director -Human Resource, Ministry of Agriculture and Livestock	**Session I: Higher education** Presenters: Kenya: Dr. Evans Juma OINO,Chairman, Department of Architecture, Jomo Kenyatta University of Agriculture and Technology Zambia: Dr. Joyce Siwila SAASA, Lecturer & Researcher, Clinical Studies Department, School of Veterinary Medicine of University of Zambia IDCJ/IDJ Findings from the field study (Mr. Takashi KANEKO, IDJ and Mr. Jun KUWABARA, IDCJ) Commentators: Senegal Mr. Abdoulaye DIANE, International School of Management) Mr. Adama SENE. Centre Africain d'Etudes superieures en Gestion Mr. Pape Alioune NDIAYE, EPS

	Kenya	Prof. Harry KAANE, Secretary – Higher Education, Science and Technology
	Open discussion	
12:30–14:00	**Lunch**	
14:00–16:00	**Session II: Vocational training**	
Moderator: Dr. Jane Okou EGAU, Ministry of Education and Sports, Uganda	Presenters:	
	Senegal:	Mr. Ousseynou GUEYE, Director, Center for Technical and Vocational Training (CFPT) Senegal – Japan
	Uganda:	Mr. Aloys Kyazze Musoke-Matovu, Principle, Nakawa Vocational Training Institute Project in Uganda/ NAVTI
	IDCJ/IDJ	Findings from the field study (Ms. Naoko TORIUMI)
	Commentators:	
	Indonesia:	Dr. Dadet PRAMADIHANTO, Director, Electronics Engineering Polytechnic Institute of Surabaya Indonesia.
	Nigeria	Dr. Emmanuel Jude Abiodun AKINWALE, Deputy Registrar/Head (Personnel), Yaba College of Technology
	Open discussion	
16:00-16:30	**Coffee Break**	
16:30-18:00	**Session III:** Experiences in HRD in Asia	
Moderator: Mr. Michel FAYE, Director, Ministry of Youth, Vocational Training and Employment of the Senegalese Government	Presenters:	
	Thailand:	Prof. Boonwat ATTACHOO, Vice President, Office of the president, King Mongkut Institute of Technology
	Indonesia:	Dr. Dadet PRAMADIHANTO, Director, Electronics Engineering Polytechnic Institute of Surabaya Indonesia
	Commentators:	
	Rwanda	Eng. Pascal GATABAZI, Principle, Tumba College of Technology
	South Africa	Ms. Lorika KRUGER, Cooperative Education, The University of Technology and Mr. Mamoru IIDA, JICA Technical Advisor)
	Open discussion	
18:00–18:30	**Dr. Ishida, Closing of the first day WS (invitation to the “reception”)**	
	Photo session	
18:30-20:00	**Reception**	

Pullman Dakar	**Friday, September 28th 2012**
	Facilitator: Mr. Mamadou Syll KEBE, Chef de Division, Ministry of Industry
08:30–10:30	(1) **Session IV:** HRD for development in Africa now：Towards TICAD V
Moderator: Prof. Harry KAANE, Secretary – Higher Education, Science and Technology, Ministry of Higher Education, Science and Technology (MoHEST)	Presenters: 6 African countries Cameroon Mr. Lucas ONDOBO, Sub- Director of Social Economy Development, Ministry of Small and Medium-Sized Enterprises, Social Economy and Handicrafts Mauritius Mr. Nityanand LOBIND, Assistant Secretary, Ministry of Civil Service and AR Nigeria Dr. Emmanuel Jude Abiodun AKINWALE, Deputy Registrar/Head (Personnel), Yaba College of Technology Rwanda Eng. Pascal GATABAZI, Principle, Tumba College of Technology Senegal Mr. Papa GUEYE, Director General of Higher Education, Ministry of Higher Education South Africa Ms. Salome Motibidi MANGUBEWA, Manager, National Skills Authority and Mr. Mamoru IIDA, JICA Technical Advisor Open discussion
10:30–11:00	**Coffee Break**
11:00–12:00	**Session V: Wrap up**
Moderator: Ms. Kaori Tanaka, Africa Department, JICA	Presenters Mr. Kenichi SHISHIDO, Senior Advisor to the Director General (TIACD) Africa Department, JICA “Agenda: Towards TICAD V: Human Resource Development for African countries for the future new era” Open discussion
12:00-12:30	**Session IV:** Closing session Closing Remarks: Mr.Hisatoshi OKUBO, Resident Representative, JICA Senegal Office Mr. Aly Coto NDIAYE, Minister, Ministry of Youth, Vocational Training, and Employment, Senegal
12:30-14:00	Lunch

Appendix-6: Participant List of the HRD Seminar in Dakar

Participant List 1: Participants from the African (except Senetgal) and Asian Countries

No	Country	Name	Position	Organization/Agency
1	Cameroon	Mr. Lucas ONDOBO	Sub- Director of social economy development,	Ministry of Small and Medium-Sized Enterprises, Social Economy and Handicrafts
2	Cote D'Ivoire	Mr. Konan Emmanuel KOUAKOU	Director	Financial and administrative affairs direction, Ministry of State, Ministry of Industries
3	Indonesia	Mr. Dadet PRAMADIHANTO ,	Director	Electronics Engineering Polytechnic Institute of Surabaya, Ministry of Education and Culture
4	Kenya	Prof. Harry KAANE	Secretary	Higher Education, Science and Technology, Administration, Ministry of Higher Education, Science and Technology (MoHEST)
5	Kenya	Mr. Evans Juma OINO	Chairman	Department of Architecture, Jomo Kenyatta University of Agriculture and Technology(JKUAT)
6	Mauritius	Mr. Nityanand LOBIND	Assistant Secretary	Ministry of Civil Service and AR
7	Nigeria	Mr. Emmanuel Jude AKINWALE	Deputy Registrar/Head (Personnel)	Personnel Département, Yaba College of Technology
8	Rwanda	Mr. Pascal GATABAZI	Principal	Tumba College of Technology
9	South Africa	Ms. Salome Motibidi MANGUBEWA	Manager	Higher Education and Training, National Skills Authority
10	South Africa	Ms. Lorika KRUGER	Employment Practitioner	Cooperative Education, The University of Technology
11	Tanzania	Mr. Emmanuel Anyandwile KAYUNI	Director	Administration and Human Resource Management, Ministry of Industry and Trade
12	Thailand	Mr. Boonwat ATTACHOO	Vice President	Office of the president, King Mongkut's Institute of Technology Ladkrabang
13	Uganda	Dr. Jane Okou EGAU	Assistant Commissioner	Teacher, Instructor Education and Training, Ministry of Education and Sports
14	Uganda	Mr. Aloys Kyazze Musoke-Matovu	Principal	NAKAWA Vocational Training Institute, Ministry of Education and Sports
15	Zambia	Mr. Lenox KALONDE	Assistant Director Human Resource,	Human Resources and Administration, Ministry of Agriculture and Livestock
16	Zambia	Dr. Joyce Siwila SAASA	Lecturer & Researcher	Clinical Studies Department, University of Zambia, School of Veterinary Medicine

Participant List 2: Participants from Senetgal

No	Country	Name	Position	Organization/Agency
17	Senegal	Mr.Ibraima BASSE	Director of Industry	Ministry of Trade, Industry and Handcraft
18	Senegal	Mr.Mamadou Syll KEBE	Head of Division	Ministry of Trade, Industry and Handcraft
19	Senegal	Mr. Henry C. CARVALHO,		Ministry of Trade, Industry and Handcraft
20	Senegal	Mr. Aly Coto NDIAYE (Closing remarks)	Minister	Ministry of Youth Vocational Training and Employment
21	Senegal	Mme Ngoné DIOP	Technical Advisor	Ministry of Youth Vocational Training and Employment
22	Senegal	Mr. Michel FAYE	Director	Ministry of Youth, Vocational Training and Employment
23	Senegal	Mr Fa Birame DIANGAR		Ministry of Youth Vocational Training and Employment
24	Senegal	Mr.Ousseynou GUEYE	Director	Center for Technical and Vocational Training (CFPT) Senegal–Japan
25	Senegal	Jean Pierre NDIAYE （欠席）	Director of Cabinet	Ministry of Higher Education and Research (Opening remarks)
26	Senegal	Mr. Papa GUEYE	Director General of Higher Education	Ministry of Higher Education and Research
27	Senegal	Mr. Bhen Sikina TOGUEBAYE	Director of Academic and Legal Affairs	Ministry of Higher Education and Research
28	Senegal	Mr. Samba Ndao SYLLA		Ministry of Higher Education and Research
29	Senegal	Mr. Abdoulaye DIANE	Director of The African - Asian Center, Lecturer in charge of Development Activities	International School of Management(ISM)
30	Senegal	Mr Adama GUIRO SENE		African Centre for Studies in management(CESAG)
31	Senegal	Prof. Papa Alioune Ndiaye,	Director of Studies	Polytechnic College, Cheikh Anta Diop University(EPS)

Participant List 3: Participants from JICA HQ and Offices and the Study Team

No	Country	Name	Position	Organization/Agency
32	Cameroon	Mr. Masanosuke Sakaki,	Assistant resident representative,	JICA Cameroon Office
33	Cote D'Ivoire	Mr. Jo Ogawa	Adjoint au Représentant Résident,	JICA Côte d'Ivoire
34	Kenya	Mr. Kazumasa SANUI	Assistant resident representative,	JICA Kenya Office
35	Madagascar	Mr. Hajime WATANABE	Deputy Resident Representative	JICA Madagascar Office
36	Nigeria	Mr. Yoshiro MASUDA	Representative	JICA Nigeria Office
37	South Africa	Ms. Mari ISHIZUKA	Project Formulation Advisor (Education),	JICA South Africa
38	South Africa	Mr. Mamoru IIDA	Technical advisor, Higher Education & Training,	South Africa （JICA Expert)
39	Senegal	H.E. Hiroshi FUKADA	Ambassador	Embassy of Japan
40	Senegal	Mr. Tomoyuki ONO	First Secretary	Embassy of Japan
41	Senegal	Mr. Kiyoshi YOTORIYAMA	JICA Expert	CFPT
42	Senegal	Mr. Hisatoshi OKUBO	Resident Representative	JICA Senegal
43	Senegal	Ms. Asuka TSUBOIKE	Assistant Resident Representative	JICA Senegal
44	Senegal	Ms. Diarietou GUEYE	Program Assistant	JICA Senegal
45	Senegal	Ms. Nadia DIATTA	Administrative Assistant	JICA Senegal
46	Japan	Mr. Kenichi SHISHIDO	Senior Advisor	Africa Department, JICA
47	Japan	Ms. Kaori TANAKA		Planning and TICAD process Division, Africa Department, JICA
48	Japan	Dr. Yoko Ishida	Team Leader, Senior Researcher	IDCJ
49	Japan	Ms. Naoko TORIUMI	Senior Researcher	IDCJ
50	Japan	Mr. Jun KUWABARA	Researcher	IDCJ
51	Japan	Mr. Takashi Kaneko	Advisor	The International Development Journal Co.,Ltd
52	Japan	Ms. Mitsue TAMAGAKE	Deputy Editor	The International Development Journal Co.,Ltd

Appendix-7: Synthesis of the Seminar Report

on ”Human Resources Development in Africa”

27th and 28th September 2012 / Pullman Teranga Hotel / Dakar, Senegal

An International Workshop in Human Resources Development (HRD) in Africa was held in Dakar on 27 and 28 September 2012 with the support of Japan International Cooperation Agency (JICA). The seminar was jointly presided by the Government of Senegal (Ministry of Higher Education and Research, Ministry of Trade, Industry and Handicraft, Ministry of Youth, Vocational Training and Employment) and JICA.

Participants from eleven (11) African countries (Cameroon, Cote d’Ivoire, Kenya, Mauritius, Nigeria, Rwanda, South Africa, Tanzania, Uganda, Zambia, and Senegal) and two (2) Asian countries (Indonesia and Thailand) attended the workshop in the objectives of;

(1) To share findings obtained from the Data Collection Survey on HRD in Africa conducted by JICA and receive feedback;
(2) To identify various “assets”: such as institutional development, values, human resource networks, human resource exchanges and mutual help, generated by JICA’s long term collaboration;
(3) To discuss how the assets are generated and utilized for good practices;
(4) To exchange experiences on HRD between African and Asian countries and to strengthen mutual collaboration between them for the future; and
(5) To exchange on HRD strategies for future African development and feed in to the TICAD preparation process.

The workshop was opened by the remark of H.E. Hiroshi FUKADA, Ambassador of Japan, followed by the keynote speech by Mr. Ibrahime BASS, Director of Industry, Ministry of Trade, Industry and Handicraft, Senegal in the theme of “Human resources development for African development through private investment promotion: importance of vocational training and research and development”.

During the workshop, the participantsagreed that the followings were the key issues, which should be considered in the TICAD preparation process. Additionally, toward TICAD, all participants unanimously agreed to work together to realize “Inclusive and Sustainable Economic Development in African continent by the African”.

- **<u>GOVERNMENT POLICY ON HRD</u>**:

In participants’ countries, governments put a priority on HRD to assure the sustainable

economic boost, and the role of government to lead the HRD strategy and framework. Further, the participants pointed out that HRD targeted to promising/emerging sectors coherent with the country's economic strategy is effective for national/regional building. It was also highlighted the importance of mobilizing the stakeholders for funding mechanism on HRD.

- **LINKAGE WITH PRIVATE SECTOR**:

Expectation from private sector is high, but participants recognized there are still issues to be improved in initial and continuous education/training to meet their expectation. Participants agreed effectiveness of a platform of collaboration among education/training institution, private sector, and community. Participants expressed interests in finding more involvement of Japanese companies.

- **NETWORKING:**

Participants noted the workshop was a good opportunity to share the experiences in HRD intra Africa, Africa and Asia which may well develop to the future south-south cooperation. Networking among education/training institutions is beneficial to share the African wisdom-based innovation and enhance the regional integration in Africa. Emphasis was made on promoting regional centers of excellence.

- **DEVELOPMENT OF COMPREHENSIVE KNOWLEDGE AND SKILLS**

Comprehensive HRD projects which include both technical and soft skills such as management, communication and work ethics, which achieved in the previous cooperation with JICA, are still very much essential in African economic development in the future. To enhance soft skill, Study and training in Japan is also still very important.

The discussions and PPTs of each session of the workshop will be shared within a week both in English and French.

The workshop was closed by the closing remark by H.E. Aly Coto NDIAYE, Minister, Ministry of Youth, Vocational Training and Employment, Senegal and Mr. Hisatoshi OKUBO, the Chief Representative of JICA Senegal.

The participants express their gratitude to the Senegalese authorities for accepting to hold the seminar in Dakar and their warm welcome to the country of Teranga (hospitality).

<END>

Summary of Discussion

I. Findings and lessons learned from the Data Collection Survey on Human Resources Development in Africa by JICA (Session 1 and 2)

1. Participants acknowledged that **HRD for the African by the African** was a key issue in JICA's approach. Sustainability of education/training institution was assured through individual and institutional capacity development by JICA's Technical Cooperation along with strong leadership and commitment from African side. Further, efforts had been made that academic and technical inputs from Japanese side were adapted to education system and social / economic background in Africa.

2. HRD in collaboration with JICA put strong **emphasis on practical skills**. Practical skills here mean not just technical skills, rather, integrated skills which can respond to social and economic demand, including "soft" skills. In light of technological innovations with rapid change, participants stressed the importance of the institution's capability to produce the practice- and change- oriented human resources. So far, the institutions supported by JICA have highly reputed graduates by target industries in both cognitive and non-cognitive skills. Still, some participants recommended that policy implications of the assets produced through JICA's cooperation on HRD need a more profound analysis.

3. Participants recognized the assets of JICA's HRD projects could not be produced without **mutual trust of African and Japanese**. Examples were shared of high commitment from African governments and continuous and sincere supports from Japanese experts (supports as individuals and organizations). Many African participants stressed the importance of sharing the experience of Japan through effective training and studies in Japan.

4. Participants exchanged views on **actions to be taken for better HRD outcome**. It was pointed out that African efforts should be made to assure the sustainability and eventually realize the further development of education/training institutions based on what had been done. In both higher education and vocational training, participants recognized that keeping and upgrading the relevance of education (to industrial development?) are the issues that many institutions are facing. Development of continuous relationships with industries is necessary to solve the issue and some concrete measures were proposed, such as promotion of industrial attachment and/or alumni association. For higher education, participants proposed the promotion of Research and Development between Africa and Japan and thus strengthening the inter-university network. For vocational training, JICA's cooperation assets need to be integrated into the whole vocational training system through promoting regional centers of excellence.

II. Points shared through experiences in HRD in Indonesia and Thailand (Session 3)

5. The African participants appreciated the Asian capacity of adaptation of technology transferred from Japan to the national context by strong leadership and initiatives of the government and target education/training institution.

6. Participants shared the changing roles of the education/training institutions in line with industrial development, experience in upgrading the contents of the education/training to keep meeting the industrial needs, and the importance of capacity of institutions to adapt to the change.

7. Special attention was paid on measures for the integration of industry at every stage of education shared by Indonesia.

8. It was noted that Research and Development in collaboration with industry is useful to pursue for the research at university and also to assure the job for students after graduation.

III. Priorities in HRD in Africa now (Session 4)

9. In their long- and mid-term development strategies, African countries place strong emphasis on economic growth and HRD is one of the key factors to achieve the goal. Efforts were made by the governments in HRD reform. In the context of globalization, participants underlined the capability of human resources with competitiveness and increased productivity. The financial issues are also to be taken account for the effective implementation of government HRD policy.

10. Participants shared the needs of enhancement of the human capital through assuring the quality and the achievement in basic education and strengthening the employability and requisites to meet industrial and labor market demands in post basic education.

11. Participants recognized the emergent needs to respond to employment needs, especially the youth.

12. Participants presented the governments' efforts in establishing and sustaining the qualification system based on industrial needs.


JICA