



# The ABE Initiative

## -Pilots of African Business



## ABE Initiative Celebrating Its Sixth Year

The ABE Initiative started in the autumn of 2014 with the arrival of 156 first batch participants from eight African countries, making the scale of this human resources development programme for Africa unprecedented in the history of Japan's international cooperation. I can vividly recall that the welcome reception held on 19th September, 2014, at the International Conference Hall of JICA's Ichigaya Building in Tokyo was full of the excitement of young African people who were dressed in colourful ethnic costumes or brand new suits.

The official title of the programme is "Master's Degree and Internship Program of African Business Education Initiative for Youth" advocated by Prime Minister Abe at the Fifth Tokyo International Conference on African Development (TICAD V) in June, 2013. The programme aims at inviting a total of 1,000 young African people to Japan over five years, giving all the participants the opportunity for professional education at graduate schools throughout Japan so that the participants can form the backbone of Africa in the future. At the same time, the programme offers the participants the opportunity to receive internship training at Japanese enterprises for the purpose of their learning not only state-of-the-art technologies and advanced skills but also the corporate culture and work ethics of Japan.

At the TICAD VI held in 2016, it was also announced that the programme would be expanded for further more practical human resources development. The total number of ABE Initiative participants so far is 1,219 from 54 countries, including 119 fifth batch participants from 47 countries who arrived in Japan in the autumn of 2018. The TICAD VII will be held in 2019. This will be the sixth year of the ABE Initiative and the selection of the sixth batch participants is currently underway.

# The ABE Initiative – Pilots of African Business



## Contents

<b>Part 1</b>	<i>First Batch Participants from Eight Countries</i>	<b>4</b>
<b>Part 2</b>	<i>Shirai Group: Fostering of Leaders for Environmental Businesses</i>	<b>6</b>
<b>Part 3</b>	<i>Employed as Interns: Business Expansion through Networking</i>	<b>8</b>
<b>Part 4</b>	<i>Sharing of Wisdom to Develop a Cold Chain</i>	<b>10</b>
<b>Part 5</b>	<i>Participants from Sudan Praying for the Restoration of Peace</i>	<b>12</b>
<b>Part 6</b>	<i>KIC Teaching How to Use ICT</i>	<b>16</b>
<b>Part 7</b>	<i>The network of participants is growing</i>	<b>18</b>
<b>Part 8</b>	<i>Nation Building with Satellite Images: Human Resources Development by JSS</i>	<b>20</b>
<b>Part 9</b>	<i>Hinode Sangyo Fosters Specialists in Effluent Treatment</i>	<b>22</b>
<b>Part 10</b>	<i>Assisting Japanese Cooperation for the Health Sector, Including Infection Control Measures</i>	<b>24</b>



These articles were published on the “International Development Journal”

On the “International Development Journal”, a magazine specializing in international cooperation, Yukifumi Takeuchi, a Senior Journalist of IDJ, commenced its publication of a series of articles called “The ABE Initiative-Pilots of African Business” in its November, 2014, issue for the purpose of recording this large-scale attempt at human resources development. As Africa evokes a sense of distance both physically and psychologically for Japan, the series aims at not only conveying the honest opinions of the participants but also at diminishing the sense of distance on the Japanese side through the input of information on a wide variety of African countries. The series also introduces the Japanese universities assisting the education and research work of the African participants and explains the relationships between the participants and the Japanese enterprises providing training opportunities by means of internships.

Many of the participants who have completed the ABE Initiative programme have since returned to their own countries and are now acting as a bridge between their countries and Japan while making the best use of their newly-acquired knowledge in Japan at their places of work. It is my sincere hope that, taking the opportunity of the TICAD VII, the ABE Initiative and its participants will continue their own success stories.



## Part 1

### First Batch Participants from Eight Countries

#### Admiring Maathai

On 19th September in the lingering late summer heat, the national flags of eight African countries were lined up at the International Conference Hall of JICA's Ichigaya Building in Tokyo where a reception was being held to welcome 159 people from Africa taking up master's degree courses at 48 universities throughout Japan.

Fiona Wahinya, a 25 year old agricultural engineer from Kenya representing the participants said “I would love to learn about Japanese cultivation techniques for application in my country and I sincerely hope that the bonds between Japan and Africa will be strengthened”. She hopes to follow in the footsteps on Wangari Maathai, the first African woman to receive the Nobel Peace Prize. She talked about wanting to make a similar contribution to that of Maathai who champions sustainable development. These arrivals comprise the first batch of the participants of the ABE Initiative advocated by Prime Minister Shinzo Abe at the Fifth Tokyo International Conference on

African Development (TICAD V) in 2013.

The official title of the programme is “African Business Education Initiative for the Youth” and a total of 1,000 people in four batches have been invited by the Government of Japan which offers a scholarship of up to three years. This is Japan's largest official educational programme targeting Africa so far.

#### Business world seeking work-ready personnel

The voice of the business world headed by the Keidanren (Japan Business Federation), etc., calling for human resources development in Africa forms the background to this programme. There is not a large pool of human resources capable of instantly working for Japanese enterprises investing in Africa even though Africa is said to be “a new growth market of one billion people”. Because of this, the programme incorporates the creative idea of facilitating understanding of Japanese society and corporate culture among the participants through internship opportuni-

ties at suitable enterprises in addition to the more formal learning of knowledge and skills. The aim is to develop highly advanced industrial human resources who can act as “pilots” for Japanese enterprises to operate in Africa.

The targets of the programme are those working for the government, enterprises or educational institutions and having a bachelor's or higher degree. The age range is from 22 to 39. One special feature of the programme is that a candidate for selection must be recommended by a Japanese enterprise or the Embassy of Japan, etc. in view of the selection of people who are capable of acting as a vital link with Japan.

The first batch of 159 participants consists of 55 from Kenya, the largest group, 30 from Tanzania, 24 from Ethiopia, 18 from Mozambique, 14 from South Africa, 10 from Rwanda, 5 from Sudan and 3 from Ivory Coast. By work background, 79 are from the public sector, 49 from the private business sector and 26 from the education sector.



Participants visiting a vegetable plant



Fiona Wahinya's greeting at the welcome party

## Study visit to a high-tech vegetable plant

By specialist field, 32 are in the agricultural field. As part of JICA's own training, they were invited to visit the dome-shaped vegetable plant operated by Granpa Co., Ltd. in the central part of Yokohama City. As the price of lettuce which is hydroponically cultivated and computer controlled is set for Japanese consumers, it appears too expensive for the African market.

Nevertheless, Martha Nyamweya (28) who works for a development consultancy firm in Kenya showed great interest in this operation. She talked about her thoughts on visiting the plant: "Kenya exports a large volume of flowers to Europe and the Middle East and some to Japan. 40% of the flowers traded in the Netherlands are produced in Kenya. It may be an idea to introduce the Japanese hydroponic cultivation technique to the export-oriented floriculture in Kenya". Nyamweya is going to study cultivation techniques at Tokyo University of Agriculture.

The participants from engineering fields related to IT, civil engineering, etc. form a larger group than those from the agricultural field. Ntagoba Jovani who works for an IT company in Rwanda has been involved in a JICA technical cooperation project to digitalize the administration service. Even though Rwanda has experienced ethnic conflict in the past, it now forms part of a global specialization system governing the IT industry which has underpinned the continuous economic growth of the country.

Together with Kenya, Tanzania, Uganda and Burundi, Rwanda is part of the five country (subsequently expanded to include South Sudan) East African Community (EAC) with a combined population of 150 million. "Although Rwanda is a small country, it hopes to play a key role in regional integration. This is why I want to



Active exchange of opinions during a group discussion

conduct research in Japan on what kind of contribution IT can make during my study at Miyagi University."

Simon Dejo Yao (31) from Cote d'Ivoire used to work for a geographical information system (GIS) project of Oriental Consultants based in Tokyo. He applied for the programme as he was attracted by Japanese work ethics and technologies. Yao's research work in Japan exclusively features GIS at the Kobe Institute of Computing: Graduate School of Information Technology. As he is earnestly studying the Japanese language as well, there is no doubt that he will become a key person for an Africa-oriented strategy of Japanese enterprises.

## Learning about pollution and environmental control measures in Kumamoto

Five people from Sudan attended the reception in their national dress. Veiled Afnan Mohamed (24) is a scientist working for the Ministry of Mineral Resources. She is going to study the history of pollution, including the Minamata disease and environmental control measures, at Kumamoto University.

Due to the independence of South Sudan in 2011, Sudan lost a huge quantity of its oil resources, making the development of new industries essential. In fact, the development of gold mines has been very active.

However, the uncontrolled mining of gold has caused the release of mercury, creating a new environmental problem. Mohammed says that she has long been aware of the Minamata disease as it is frequently referred to at international conferences on mercury pollution. As the Minamata Convention on Mercury was adopted at the UNEP Conference held in Kumamoto in autumn last year (2013), the name Kumamoto has become better known among experts.

According to Mohamed, the current situation in Sudan is not very serious but the unchecked release of mercury for another two years or so could make the situation very serious. It is essential to learn about Japan's experience and countermeasures.

Japan is sometimes described as a pioneer in the taking on challenges as it has experienced many difficult problems, ranging from pollution and other environmental problems, an ageing society, earthquakes and other natural disasters to problems associated with nuclear power plants, and has adopted suitable countermeasures before any other country in the world. In the forthcoming series of articles, we are going to follow and report on the research activities of the programme's African participants and the involvement of Japanese universities and enterprises.

(International Development Journal, November 2014)



## Part 2

# Shirai Group: Fostering of Leaders for Environmental Businesses

### Utilization of connections with a student organization

Among the participants of the ABE Initiative programme launched with the aim of fostering work-ready personnel to assist Japanese enterprises to make inroads to the African market, there are those who are leading environmental businesses.

A total of 10 participants from Kenya, Ethiopia and Tanzania specialize in the field of industrial waste. Mutembei Kariuki (29) from Kenya is one such person. He is an officer candidate at the Shirai Group, a company based in Kanda, Tokyo, that specializes in waste treatment and is a key person for the management of any waste treatment project in Africa.

When Kariuki was an undergraduate student in Kenya, he was a member of the AIESEC, an international youth-run organization. His membership opened the door to internship at the Shirai Group.

Through the AIESEC, the Shirai Group has employed more than 10 young people from various countries as interns for a period of three to six months each since 2009.

Use of the AIESEC connection was the idea of President Chiaki Takiguchi of Shirai Eco-centre Co., Ltd., the core enterprise of the Shirai Group. When young, he had travelled the world as a backpacker and had experienced the hospitality of local young people in many countries. He now provides homestays for foreign young people visiting Japan. Leaning on his grassroots sense of international exchange, Takiguchi formalized the system of accepting foreign interns at his company.

The acceptance of excellent students from the AIESEC as a strategic

workforce makes surveys on foreign markets far less expensive than outsourcing the work to foreign companies and also creates valuable human connections for the future.

### From intern to strategic staff member

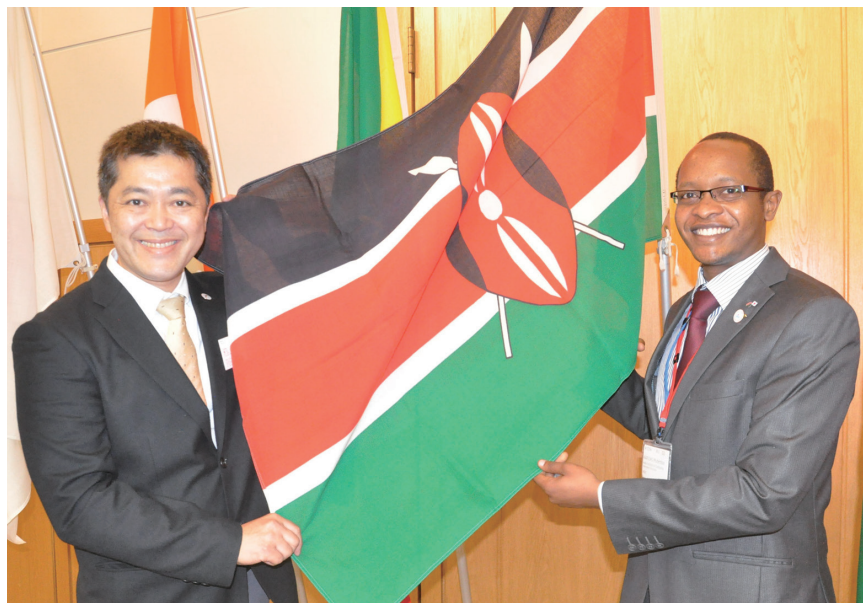
After studying economics at university, Kariuki had work experience involving environmental control measures in India and Europe through his AIESEC activities. He was then introduced to the Shirai Group by a senior AIESEC member and arrived in Japan in June, 2012.

He underwent training, including site visits, on Japan's waste treatment regulations and systems for a period of three months. President Takiguchi was very impressed by the enthusiasm of this young Kenyan who "always held a positive view of his own future". The opportunity for a presentation at the Embassy of Kenya was arranged as the final step of his

training. In response to his presentation on his research findings on the differences concerning the situation of waste treatment and system between Japan and Kenya, the Shirai Group presented him with "a graduation certificate" which promised that he would be employed as a permanent employee any time he so wished within the next 10 years.

### Good business conditions for Japanese enterprises

The total volume of waste discharge in Japan has shown a declining trend since 2009 and the waste treatment business cannot expect high growth in the coming years. "This declining trend of the volume of waste discharge is not just a local phenomenon in Tokyo but can be observed nationwide. In contrast, there are many regions in the world where Japan's excellent waste treatment technologies are required, presenting future business opportunities." Based on this



Mutembei Kariuki from Kenya (right) and President Takiguchi (left)

understanding, President Takiguchi plans overseas expansion to give his business new life.

In July, 2013, he visited Kenya for the first time to assess the feasibility of making business inroads into Africa. He attended a seminar organized by the UNDP, featuring a development model for African people, including the poor.

Kenya has favourable conditions for investment by Japanese enterprises. According to President Takiguchi, they include it is an English-speaking country, existing foundations for a contract society following the development of the legal system during the British colonial period, widespread fair financial transactions, as well as electronic money transactions and friendliness towards Japan.

### **Intensifying air pollution requiring urgent countermeasures**

Following economic development, the population of Nairobi is expected to double from three million in 2009 to six million in 2030. The volume of discharged waste in the Nairobi region (within a 25 km radius of the city centre) has increased to one million tons a year, of which the volume of hazardous waste has sharply increased to 30,000 tons. This trend is expected to continue for some time because of increases in medical waste due to the wide use of disposable medical devices, paper nappies, etc., and of sludge generated at increasingly active oil development project sites.

Nairobi has only one disposal site for general waste and half of such waste generated is said to be illegally dumped. JICA has launched a technical cooperation project to improve the general waste treatment capacity of Nairobi.

Meanwhile, Shirai Eco-center is preparing to move into the hazardous waste sector where the differentiation of waste is easier. When President Takiguchi visited the existing hazardous waste treatment facility in Nairobi,



General waste disposal site in Nairobi; a flock of scavenging birds can be seen (Courtesy of Shirai Eco-center)

he witnessed a gauged in-furnace temperature of 500C and the belching of black smoke from the stack.

“In addition to the imperfect combustion, the gas cleaning system is inadequate, emitting dioxin as well as toxic gas. The urgent introduction of countermeasures is required.” Shirai Eco Centre is now planning the construction and management of a treatment facility (total construction cost of approximately 1.5 billion yen) in Nairobi.

### **Kenya as a hub for Africa and the Middle East**

This project acts as “an entry point to the African market” for Shirai Eco-center. The planned facility will be accompanied by a human resources training centre where training on waste treatment will be provided. The current plan is to foster some 200 professional engineers over 20 years. Moreover, there is a more ambitious idea of creating a manufacturing base for incinerators inside Kenya and using this base as a hub to expand the

waste treatment business to other African countries and Middle Eastern countries.

President Takiguchi hopes “to spread Japanese waste treatment technologies and know-how from Kenya in the future throughout all of Africa, the Middle East, India, etc. while developing Shirai Eco-center as a company which is viewed as the representative of Japan’s waste treatment industry”.

The key person for this corporate strategy is Kariuki. At present, he is studying business innovation at the Kobe Institute of Computing: Graduate School of Information Technology. He acknowledges that “while the legal system is firmly in place in Kenya, the enforcement of policies and regulations requires improvement. One reason is that there is no business operator capable of replacing the existing operators. Japan’s excellent environmental technologies can nurture such business operators”.

(International Development Journal, February 2015)



## Part 3

### Employed as Interns: Business Expansion through Networking

#### “Marriage” meeting attended by 80 enterprises

A “marriage” meeting was held for the first batch of participants of the ABE Initiative (African Business Education Initiative for Youth) who arrived in Japan last autumn and Japanese enterprises.

This meeting entitled “Africa Business Networking Fair” was organized by JICA in late March and was attended by some 80 Japanese enterprises planning to expand their existing business or to move into the African market. Representatives of these enterprises met and talked with 147 participants of the ABE Initiative from eight African countries.

This Fair gave the attending Japanese enterprises the opportunity to accept African participants into their workplaces as interns to assist the planning of a business strategy and marketing in Africa and also to help facilitate their networking and understanding of business practices in individual African countries. On their part, the programme participants are able to learn about the business culture in Japan through their internships and then utilize their knowledge and experience in their respective work for their own government or enterprise.

The most popular booth of Japanese enterprises proved to be that of Be Forward Co., Ltd. which sells

and exports used cars. A Kenyan participant visiting the booth said that he knew of the company as cars carrying a Be Forward sticker are seen in Nairobi. In fact, this emerging company is more well-known in Africa than in Japan.

The company was founded in 2004 and currently has about 150 employees. Visiting its office in Tokyo’s Chofu City, the editor found that it had just been extended to accommodate new recruits. Sales teams focusing on specific regions, such as Africa, South-east Asia, Russia, Central Asia, etc. work on computers and discuss deals in various languages. Some 30% of the employees are foreign nationals from 26 different countries, including Kenya, Tanzania, Cameroon, Myanmar and Russia among others, and 30 languages are said to be spoken.

#### Partnership with Zambia Postal Service Corporation

Be Forward exports approximately 10,000 to 15,000 used cars a month worldwide, 70% of which are destined for the African market. The company has developed a global network of 15 agents (with a total of some 500 employees), mostly based in Africa.

Although Africa offers a growing market, transportation poses many problems. Be Forward has so far exported to 14 sub-Saharan countries. In the case of such inland countries as Zambia, Congo and Malawi, used cars that land at an East African port must be delivered to clients located some 2,000 km to 3,000 km away. Because of the fact that many roads running through the wasteland are unpaved, specialised trailers cannot be used. The solution has been the introduction of a caravan of 10 – 20



Participants carefully listening to a briefing by a representative of a Japanese enterprise



cars which are driven individually and this caravan also carries spare parts, tyres, etc., in preparation for any unforeseen breakdowns.

To make such hazardous transportation as smooth as possible, the company has established a partnership with the Postal Service Corporation in Zambia. A local buyer can place an order using a PC at a post office, remit the purchase cost and receive the ordered car through the postal delivery network. The insufficient availability of trans-border hauliers in Africa has made such an ingenious arrangement necessary.

Be Forward expanded its business last year to include the sale of used PCs, mobile phones and wristwatches. “Even though they are used products, Japanese used products are very popular because of their high quality” said President Hironori Yamakawa.

The company is proactive with its social activities. Last year, it concluded a sponsorship agreement with a local football team in Malawi and named this team “Be Forward Wanderers” as part of its long-term strategy to contribute to local communities and to improve its recognition in Africa.

The company plans to recruit more than 10 ABE Initiative participants as interns. President Yamakawa has expressed the view that “the acceptance of interns forms part of our corporate social responsibility (CSR) and we hope to accept as many interns as practically possible”.

As the ABE Initiative participants return to their employers, such as government ministries and private enterprises, their internship does not lead to future employment in Japan. However, President Yamakawa explained “we would like to see them taking their experience of Japanese culture and business practices back to Africa. It is worth having these interns if the name of our company is established as a key word on the African business scene once they return home”.

### Networking and marketing strategy in sight

Among some of Japan’s major enterprises, Panasonic, Toshiba and other electronic enterprises attended the Fair. In the case of Ricoh which markets its products in some 50 African countries, it intended to make information exchanges with ABS Initiative participants improve its marketing strategy. Its contact person says that “Ricoh hopes to accept 2 – 3 interns”.

Meanwhile, Shachihata, a stationary manufacturer, attended the Fair with the expectation of expanding its African business in the future in view of the population as well as income increase in Africa. Although it has only had business dealings with as few as about six African countries so far, because of its emphasis on the markets of advanced countries, its contact person says that, “we have listened to the opinions of the ABE Initiative participants on their impressions of Japan as a brand and what merchandise may be popular in 10 years’ time”.

The participating enterprises from the medical sector included Rhoto Pharmaceutical Co., Ltd. and Saraya Co., Ltd., that markets disinfectant, etc., in Africa. Saraya manufactures disinfectant in Uganda while keeping all of Africa in its view as a promising market. President Kazumasa Miyamoto of Saraya East Africa Co., Ltd. told us that “as the statutory medical regulations in Africa vary from one country to another, it is important to develop personal connections with government officials and other relevant persons”.



Japanese-style self-introduction by the exchange of business cards

### Anticipation of links with honest personnel

Akasaka International Patent & Accounting Office attended the Fair for the purpose of studying the investment environment for enterprises planning to move into the African market and networking with African people. Shinji Sumida, a managing partner, explained “we would like to discover those people who are likely to become key people in their respective business fields in 10 years’ time and to develop personal links with such people. Close connections with honest people is very important in view of anti-corruption.”

JICA plans to proceed with business matching efforts based on the opinions and requests put forward by various enterprises and the ABE Initiative participants and to organize internships lasting for approximately two months in the summer.

At the Fair, I felt the sense of happiness of a participant whose internship with a development consultancy firm was confirmed while also observing the disappointment of a participant who did not secure an internship with a food manufacturer. Some enterprises appeared to be rather hesitant to move into the African market. It is hoped that this “marriage” meeting facilitates a deeper understanding of Africa.

(International Development Journal, May 2015)



## Part 4

# Sharing of Wisdom to Develop a Cold Chain

### Japanese technologies for food processing

In mid-September, a group of young Africans was observed getting off a Tsukuba Express train at Moriya Station located in the southern part of Ibaraki Prefecture. This was the first batch of participants for the African Business Education Initiative for Youth Programme who arrived in Japan in the autumn of 2014. They are now spread all over Japan, from Hokkaido to Kyushu, for a planned period of two years and are pursuing their master's course studies at their chosen graduate schools. Under this programme, a total of around 1,000 people will come to Japan in four batches (the first batch consists of some 160 people). On this particular day, 14 participants gathered to undergo internship training realized because of an appeal made by JICA to various enterprises.

The enterprise which offered internship training this time is Mayekawa Manufacturing Co., Ltd. (the head office in Koto Ward, Tokyo), a leading manufacturer of industrial freezers, etc. Mayekawa formulated a four-day

programme which incorporated a study visit to the production line at the Moriya Plant, Mayekawa's principal production base, lectures on the basics of the technologies employed and further visits to the head office in Tokyo, as well as the work places of clients. The participants consist of eight Kenyans, four Tanzanians, one Ethiopian and one Sudanese working for the Ministry of Agriculture or another government office or private enterprise in their own countries. The subjects of their master's course studies in Japan are very diverse, ranging from agriculture, food processing and hygiene to fisheries. When asked about their motives for participating in the training, most of them answered that they are interested in the prospect of applying Japanese technologies to the food processing and distribution of agricultural/ fisheries products in Africa.

Aisha Elemam, a female official working for the Ministry of Agriculture, Forests and Irrigation in Sudan and studying agricultural science at Kagawa University said, "Unfortunately, some 80 – 90% of the crops

produced in Sudan are lost due to inadequate availability of refrigerated warehouses. As many African countries rely on agriculture to a large extent, the development of a cold chain is one of the most pressing issues in Africa".

Lekakeny Ole Rumpe, who works for a construction company in Kenya, is now studying regional development at Toyo University. He explains the problem in clear language. "In Kenya, my family is engaged in dairy herd husbandry with several thousand cows, but there is no sufficient refrigerating facilities for the milk we produce. The development of a cold chain leads to less loss of not only milk but also agricultural products. If we can change agriculture which is vulnerable to drought, there will be much less risk of starvation."

### Production line operating at full capacity

At the plant of Mayekawa Manufacturing, the production line of compressors for large freezers and refrigerators was operating at full capacity during the visit. This enterprise is a global player in the manufacture and marketing of large freezing/ refrigerating systems, compressors, etc. and its global share of cooling systems for refrigerated ships is as high as some 80%.

According to Director Tatsuya Narahara in charge of such regions as the Middle East, Africa and India, many orders currently received come from emerging markets in Asia and Latin America and business is so busy that there is insufficient manpower for the installation of new systems.

In Africa, the rise of middle income people has expanded the food market, pushing up the demand for the products of Mayekawa Manufacturing. In response, the company has strengthened the marketing efforts of its local



The trainees visited a plant factory of the National Agriculture and Food Research Organization in Tsukuba City, Ibaraki Prefecture

subsidiary in Dubai and offices in Egypt and Morocco. Another innovative approach is a partnership with an Indian enterprise with access to the network of Indian people in Africa with a view to exploring new clients.

Director Narahara explained the reason for the acceptance of trainees: “We can develop a strong network in Africa with the connections and information provided by these trainees from Africa in addition to our Indian network”.

### **Surprised by a chicken meat processing robot**

The Moriya Plant also manufactures a wide range of food processing systems. The eyes of the trainees were transfixed on a robot called “Toridas” which debones chickens. Its metal arm moved skilfully to remove the bones from the legs one after another. There was a cheer among the trainees for the superb work they had witnessed. The system can hygienically produce high quality leg meat at a speed that is four times faster than manual operation. The system is said to have been already sold to food processing plants in 12 countries. Jessie Mwangi who works at a technical college in Kenya and who is studying at Saga University said “this technology offers energy as well as time saving. I hope that Mayekawa develops a smaller system which can be used by Kenyan farmers”. The cautious opinion was expressed, however, that as a system developed in Japan tended to be expensive, it may not be profitable enough to be used by food processing plants in Africa.

Peter Kiiru who works at a food processing company in Kenya and who is studying food hygiene at Obihiro University of Agriculture and Veterinary Medicine had visited a food processing plant in Hokkaido. He said, “In Japan, workers are rare in manufacturing plants. In contrast, those in Africa rely on manual operations. While it is necessary to mecha-



The trainees listened to a briefing in front of a model of a product (at the Moriya Plant of Mayekawa Manufacturing Co., Ltd.)

nize processes, hasty improvement can cause problems”. During the visit to the Moriya Plant, the trainees learned about the environmental control measures introduced at the plant as Mayekawa has stopped using fluorocarbons, which damage the earth’s ozone layer, for the production of refrigerators and now uses alternative substances. The impression of most of the trainees was that Mayekawa is a company which is friendly to the environment and eager to adopt countermeasures for global warming and energy-saving measures, including environmental control measures, at its plants.

As part of the visit to the Moriya Plant, the trainees were given lunch in the staff canteen which has a seating capacity for several hundred employees. They appeared very interested in the fact that the ordinary shop floor workers and senior personnel of the plant wear the same uniform and eat the same lunch side by side. This gave them the impression of a typical Japanese enterprise where everyone works in unison.

### **Expectation of human connections and information offered by the trainees**

On the final day of the training, a summing-up meeting was held at the head office of Mayekawa. The company side asked the trainees to point out

ideas to penetrate the African market, resulting in active discussions. The trainees introduced about 100 African enterprises to which the products of Mayekawa could possibly be sold. Mayekawa intends to use this information for any future attempts to make inroads into the African market.

Ole Rumphe, mentioned earlier, said that, “The working culture of Japanese enterprises to seek continuous improvement will have a significant impact on Africa. When Japanese enterprises enter the African market with their unique competitive strength, they will truly benefit food security and energy saving in Africa”.

Frank Nkude from Tanzania who is an agricultural engineer studying at Tottori University expressed his expectations for the development of a win-win game involving Japanese enterprises and Africa saying that, “Japanese enterprises should clearly present their high level technologies based on the approach of “seeing is believing” and make more active efforts to move into the African market. By doing so, their market share will increase and food exports from Africa to the world will also grow”. (Mayekawa Manufacturing Co., Ltd. no longer accepts any interns from this program.)

(International Development Journal, December 2015)



## Part 5

### Participants from Sudan Praying for the Restoration of Peace

#### 11 Elites

“We all want to work hard, as if we are ambassadors of our own countries, to develop friendship between Japan and Africa. Japan is an ideal place for me to study and I am very pleased to be here in Japan.”

On 7th September when the heat of late summer could still be strongly felt, a tall African lady took the rostrum in a large reception room at Toshi Centre Hotel Tokyo located in Tokyo’s Chiyoda Ward and gave a speech in splendid English. Representing some 350 Africans in the room, the lady was Awar Arop Deng Kuol (28) from Juba, the capital of the Republic of South Sudan.

The young people who filled the room with excitement were participants of the African Business Education (ABE) Initiative for the Youth Programme. This programme was advocated by the Government of Japan at the Fifth Tokyo International Conference on African Development (TICAD V) in 2013 and a scholarship for master’s course study of up to

three years has been offered since FY 2014. The reception in question was the welcome reception for the third batch of participants from 48 countries.

Among these countries, South Sudan attracted much attention as this was the first time for it to participate in the ABE Initiative. South Sudan recently became independent in July, 2011 as the 54th country in Africa, separating itself from the Republic of Sudan to the north. In the past, there was not an efficient support system for the dispatch of young people hoping to participate in the ABS Initiative by the government and universities. For the third batch, however, 11 people were selected from among many.

An advertisement inviting applications for the ABE Initiative was placed in newspapers and other media, as well as on the home page of the ABE Initiative on the Internet. The screening process involved a written examination in English and Mathematics, followed by the writing of a short essay and a series of five interviews.

According to the successful applicants, compared to an application to study in China, for example, where the final decision is somehow made without the involvement of the applicant, the screening process of the ABE Initiative is much more open, even though it is a long process taking nearly one year.

These 11 participants from South

Sudan appear to be young elites, mostly with an engineering background, working for the Government of South Sudan, local government or private enterprises.

#### Taking shelter in the Middle East from the war-torn home town

Kuol who gave the speech is an architect who graduated from the University of Juba in South Sudan. She used to be a draughtsperson at an architect’s office. It was surprising to find that she speaks almost authentic British English. When asked about it, she explained that she grew up in Oman in the Middle East where her father was an English teacher.

In 1983 before she was born, the Sudan People’s Liberation Army (SPLA) based in southern Sudan revolted against the Government of Sudan which was controlled by the majority Arab Muslims. This marked the start of the second Sudanese civil war. The SPLA was led by the Dinka, the largest ethnic group in the south, gaining the support of the southern Sudanese people, many of whom were Christians.

Kuol’s father was a Dinka born in southern Sudan. For the sake of his children’s education, he opted to live in the gulf region of the Middle East which was not affected by the civil war.

It took until 2005 for faint signs of a forthcoming peace to emerge in Sudan suffering from a long-running civil war. In January, 2015, a Comprehensive Peace Agreement was signed which ended the civil war and granted the south the right to self-governance. It was then decided to hold a referendum in the south to determine whether South Sudan should declare independence from Sudan or remain as



part of Sudan.

### Return home due to independence and peace

Kuol enrolled at the branch campus of the University of Juba located in Khartoum, the capital of Sudan, in 2006. The arrival of peace boosted her interest in her homeland.

In January, 2011, the people of the south overwhelmingly voted for independence in the referendum, paving the way for the separation and independence of the south. As soon as the south became an independent country in July, 2011, Kuol returned to South Sudan, the home of her father, and enrolled at the main campus of the University of Juba where she majored in architecture. Kuol explained her motivation to study architecture, “since childhood, I have always loved drawing pictures. I also wanted to respond to the deep desire of South Sudanese people to live peacefully in their own homes”.

Kuol is currently studying architecture at the Graduate School of Shibaura Institute of Technology. When I visited her at her campus located in Toyosu, Tokyo, in early November, the campus festival was in full swing. With much interest, she visited a number of refreshment booths run by carefree students, illustrating her enjoyment of peaceful student life in Japan.

According to Kuol, traditional houses in South Sudan are mostly made of mud walls and bamboo. However, recent years have seen the construction of 10-story office buildings in Juba, the capital, and the demand for modern architecture is growing. “Even though the climate is quite different between wet Japan and dry South Sudan, I would like to explore the possibility of applying the traditional wooden architecture in Japan to houses in South Sudan. I would also like to study Japan’s eco-houses equipped with photovoltaic power generation systems.” It is apparent that her interests are diversifying.

fyng.

### Dream concrete laboratory

The Graduate School of Shibaura Institute of Technology has another ABE Initiative participant. Lazarus Lemi Chacha Costa (30) is studying construction materials. A charming smile illuminates his physical person of 190 cm in height and 130 kg in weight. His English is exceptionally good. When South Sudan was governed

by the north, the official language was Arabic and English was not taught in ordinary schools. However, Costa attended a missionary school as a Christian where he learned English even though he was born and grew up in Juba. After independence, English became the official language of South Sudan. “As I can speak both English and Arabic, I can live in Africa or the Middle East”, said Costa with a smile. He works for the Ministry of Infrastructure of the provincial government and has been supervising public works. His research theme in Japan is construction materials, such as cement.

Costa lamented that, “Even though South Sudan has limestone resources, there is not a single cement factory. Water and gravel are locally available

but 90% of the materials, including cement and admixture, to make concrete, must be imported from a neighbouring country”. He dreams of establishing “a concrete laboratory” in Juba to develop construction materials which are suitable for the climate and the available natural resources of South Sudan to overcome the current problems.

The solidifying speed and strength of the concrete used for construction work greatly vary depending on the quality of the cement as well as the water and ambient temperature. Recycled materials from industrial waste are sometimes used as concrete materials. It is hoped that repeated tests at the university jointly conducted with Japanese students will produce positive results which can be applied



Awar Arop Deng Kuol, representing the participants, gives a speech at the welcome reception

to South Sudan.

### Full backing of the university

Professor Takeshi Iyoda of the Shibaura Institute of Technology who is Costa's supervisor gives a hearty cheer to Costa's positive attitude, "Japanese cement has achieved the highest quality in the world and there is much to learn from Japanese technologies in terms of construction materials. I hope that Costa fully analyses these materials and technologies and takes back positive results to his own country".

According to Professor Iyoda, the cement industry is a domestic market-oriented as cement is a bulky and heavy product and there is little appetite for investment abroad. Because of this, there have not been many foreign students in this field. However, the Shibaura Institute of Technology has recently seen the arrival of foreign students in this field from Brazil and Africa.

The Shibaura Institute of Technology has adopted a proactive policy towards the acceptance of African ABE Initiative participants. In April this year, Professor Iyoda conducted an interview with Costa via the Internet between the Institute and South Sudan. "Although loss of the Internet

connection in the middle of the interview forced me to switch to continue the interview by telephone, I decided to accept Costa because of his bright and cheerful disposition and enthusiasm for his research work."

The acceptance of African students expands the scope of the research fields of the university and stimulates an enquiring mind and cosmopolitan way of thinking on the part of the Japanese students. Professor Iyoda supervises another ABE Initiative participant from Nigeria whose presence, together with that of Costa, has enlivened the study environment.

### Decision on future course at a refugee camp

Many of the participants from South Sudan had escaped the war to neighbouring Uganda. Lodu Moses Gabriel Tombe (29) is one such person. He was born in a village near Juba and escaped to northern Uganda as a refugee in 1995 with five other family members when he was only eight years old. He was schooled in a refugee camp and returned to Juba at the age of 20 when peace was restored.

Tombe studied electric power at the University of Juba and is currently also studying electric power at a graduate school of the Shibaura

Institute of Technology. He is motivated by his own recurrent idea since his childhood days at the refugee camp where electricity was scarce that "the principal pillar of life is electricity. The nation should certainly develop once a government capable of formulating good policies is established along with a reliable electricity supply".

As it is, the power generation capacity in Juba is a meagre 12 MW at present. Although the Nile which runs through South Sudan has ample hydropower resources, it is barely utilized for either power generation or irrigation. There are oil fields in the border region with Sudan to the north and the crude oil produced has to be exported using a pipeline in Sudan. Consequently, half of the oil export revenue disappears to pay the fee for using this pipeline. South Sudan once constructed an oil refinery in the northern region but this was destroyed during the civil war at the end of 2013 immediately before its completion. There is currently a vicious cycle of exporting crude oil while importing more expensive heavy oil.

Tombe says that, "If we can convert South Sudan's essentially rich potential resources to electricity, we would have enough electricity to even sell some to other countries. This has not



Site of road construction by Japan's Self-Defense Force assisted by construction machinery owned by the UN (courtesy of JICA)

been achieved because of the lack of peace, democracy and proper governance. It is up to me and others to do our best to change the situation”.

### **Major upheaval due to renewed power struggle**

Five years since independence, the fledgling nation of South Sudan, the world’s youngest country, has been hit by a power struggle between forces supporting the president and those supporting the previous vice-president. In early July this year (2016), both forces clashed and gun battles, as well as aerial bombing, took place in suburban Juba, forcing JICA staff and people working for Japanese enterprises to evacuate Juba by chartered plane. This situation caused serious concern for the 11 candidates for the ABE Initiative programme who had been informally told of their successful application. Many of them told the editor that, “I thought that I might have to abandon my study in Japan”.

Robert Lado Wulda Nyarsuk who is currently studying civil engineering at Nagoya University was an official of Juba City Council and was in charge of the “Freedom Bridge”, the construction of which was in progress with Japanese grant aid. Dai Nippon Construction that was contracted to build the bridge had some 20 Japanese personnel on site, but all were evacuated as soon as civil strife returned, suspending the construction work. There is only one bridge constructed in the 1960’s over the main stream of the Nile in the vicinity of Juba. Nyarsuk and others are determined to complete the new bridge regardless of how long it takes.

The mobile phone service became less than reliable in Juba but Nicholas Wani Paul Wani (29), an IT engineer working for the Directorate of Roads of the Government of South Sudan, checked the safety of all 11 potential participants via email and contacted JICA. He is now studying at the Kobe



Bridge construction work in progress across the Nile in Juba (courtesy of JICA)

Institute of Computing: Graduate School of Information Technology. “Don’t give up your dream of going to Japan!” he encouraged the other participants while maintaining contact with the Embassy of Japan and JICA’s Japanese staff who had been evacuated from South Sudan. He was, in fact, the key person to arrange Japanese visas, airplane tickets, etc. He reflects that, “It is truly a great achievement that all of 11 of us made it to Japan”.

### **Family member killed in a gun battle**

One of the participants lost a member of his family in a gun battle in Juba. Laku Micah Wani Lungaju (28) lost his sister who was eight years older to a stray bullet. Lungaju jumped on a truck transporting evacuees with six other family members and escaped to Uganda where they had once lived. He stayed in Uganda until boarding a flight to Japan from Kampala Airport in late August.

Luganju is currently studying IT at the Graduate School of the International University of Japan in Niigata Prefecture. The trading company in

South Sudan where he used to work before coming to Japan is struggling because of the political instability and worsening security situation and there is no guarantee that he will be able to go back to his old position on his return to South Sudan. Luganju is considering taking up an internship during his study in Japan and says “I would be very grateful if I could find a job with a Japanese enterprise, even if it’s in a different African country other than South Sudan”.

An engineering corps of Japan’s Self-Defense Force is stationed in South Sudan to continue its work of constructing roads and bridges. Some of the ABE Initiative participants have voiced the hope that “Japan’s Self-Defense Force will continue to stay and show its presence for the sake of maintaining public order”. Wani who works for the South Sudanese Directorate of Roads told the editor that, “The roads constructed by Japan’s Self-Defense Force are of high quality and are greatly appreciated by local residents whose impression is that Japan has dispatched peace corps to build infrastructure”.

(International Development Journal, December 2016)



## Part 6

### KIC Teaching How to Use ICT

#### Debating public transport improvement measures

A picture of a large bus running through a street in Africa is projected onto PC screens in a classroom. This is a picture of the bus rapid transport (BRT) system which commenced full-scale operations in Dar es Salaam, the largest city in Tanzania. The system was introduced by the Government of Tanzania with 150 million dollars of financial aid by the African Development Bank (AfDB) and the World Bank. Buses, each with a capacity in excess of 100 passengers, were delivered by a Chinese company.

James Mmari (33), a Tanzanian national explains the mechanism of the BRT, earnestly looking at the picture. He is an ICT (information and communication technology) expert working at a technical college in Arusha, a northern city in Tanzania where the headquarters of the East African Community (EAC) is located. He came to Japan in 2015 as a participant of the ABE Initiative programme and is now studying in a 2-year master's degree course at the Kobe Institute of Computing: Graduate School of Information Technology (KIC).

The theme of today's lesson is "ICT for development (CT4D)" and Mmari is reporting his research findings on the application of ICT to the development of Africa. Using the BRT as an example, he expresses his opinion on how to use ICT to improve the convenience and operational efficiency of the BRT. The BRT system in Dar es Salaam stretches for more than 2 km with exclusive bus lanes. Although the modal shift from cars to buses is progressing, the trend of an increase in the number of cars on the road has not been deterred. The traffic congestion has not been significantly reduced.

#### Confirmation of bus arrival time using a mobile phone

Mmari proposes the development of a system which provides real-time information on the operating schedule of the BRT using a mobile phone. Fixed route buses operating in Japan follow a timetable and users know the waiting time, etc., based on a timetable displayed at each bus stop. In contrast, while bus drivers in Tanzania try to follow a timetable, users are not provided with a timetable, possibly because it is meaningless to do so due to the frequent delays. Mmari explains, "As each BRT bus is equipped with a positioning system, information on the arrival time of the next bus using a mobile phone should ease the congestion among waiting users".

Tanzania's population is expected to triple by 2050 to approximately 140 million. Improvement of the infrastructure is in progress, such as the nationwide development of an optical fibre broadband communication network in the ICT field. The number of mobile phones in use increased from 110,000 in 2000 to some 40 million in 2015, pushing the ownership ratio above 80%. In fact, the importance of mobile phones to obtain vital information for daily life and as a means of communication is much greater than in Japan. Application technologies for mobile phones constitute a major research theme for Mmari in Japan.

Nsenda Lukumwena, the lecturer supervising today's lesson, is an architect who was born in the Democratic Republic of Congo who has lived in Japan for 30 years. As he specialized in urban planning together with extensive knowledge of the application of ICT, he is an excellent instructor for the African ABE Initiative participants. He says that, "Japan

has been advancing a huge quantity of technologies day by day and the application of ICT to development efforts is truly remarkable". He also points out, however, that, "To make such application of ICT truly effective in Africa, it is essential to understand the social and cultural differences between individual countries so that any approach can be based on such understanding".

#### Great Hanshin Earthquake provides an opportunity

The ICT Innovator Course at the KIC where Mmari is pursuing his master's degree is taught exclusively in English and aims at the use of ICT to practically solve social problems in developing countries. Since the course opened in 2013, 119 students, including Japanese students, have enrolled in this course. As far as the ABE Initiative participants are concerned, a total of 64 participants from 18 African countries have enrolled in three batches since 2014. Among Japanese universities, the KIC is one of the leading universities in terms of the acceptance of ABE Initiative participants.

The idea of introducing a course to explore the potential of applying ICT in developing countries to train African human resources is that of Kenji Fukuoka, the Vice-President of the KIC. Fukuoka comes from the family which founded the Kobe College of Computing, one of the largest technical colleges in western Japan with a history of some 60 years. The KIC was opened in 2005, evolving from this Kobe College of Computing. The lessons learned from the 1995 Great Hanshin Earthquake which claimed the lives of some of the college's students formed the background for the KIC. In the aftermath of the earthquake, Fukuoka opened the college facilities as accommoda-





Mmari from Tanzania receives a tutorial from Associate Professor Lukumwena originally from the Democratic Republic of the Congo.



Vice-President Kenji Fukuoka of the KIC in discussion with ABE Initiative participants from Rwanda, Kenya and South Sudan

tion for some of the victims of the earthquake and provided them with support. When he became aware that relief goods were not reaching the victims because the information network had been disrupted by the disaster, he and his colleagues created an information network to make the distribution of goods smoother.

“ICT is not simply a tool to merely improve the efficiency of businesses or economic activities. Its primary role is to solve social problems.” For Fukuoka, his experience of the earthquake became an opportunity to venture into the establishment of a graduate school specializing in ICT and the field of international cooperation.

### **Concentration on support for Rwanda**

During a trip across the world to study the situation of ICT, Vice-President Fukuoka became aware of the major potential of Africa. “There is an interesting possibility for Africa to significantly transform itself with the service industry utilizing ICT without undergoing the process of industrialization experienced by advanced countries.”

Rwanda in particular has suffered tragedy where ethnic conflict developed into civil war in which many people were killed. Since 2000, however, Rwanda has been making conscious efforts to develop human resources and its business environment

under the banner of “an ICT nation”. Fukuoka identified with the way of life in this small country. Among the ABE Initiative participants accepted by the KIC, Rwandans form the largest group of 15 in three batches, followed by Tanzanians (12) and Kenyans (6). Fukuoka’s idea is “to develop Rwanda as the gateway of an ICT strategy for Africa and to concentrate human resources development efforts in east Africa”.

The KIC was involved in Africa well before the launch of the ABE Initiative and the network of Rwandans who have studied at the KIC has produced much fruit. One example is a partnership agreed in August, 2016, between Monstar Lab with a strong business performance in music streaming services and gaming (head office in Tokyo) and HeHeLabs (now DMM, Hehe. Ltd.) of Rwanda. The selection of HeHeLabs as a global outsourcing partner was prompted by the Japanese link with Clarisse Iribagiza, CEO of HeHeLabs, who received short-term training at the KIC with JICA assistance. She is now the most well-known business woman in Rwanda.

### **Spread of education through grassroots technical cooperation**

The KIC concluded a memorandum with the Chamber of ICT Commerce and Industry of Rwanda in June, 2014, concerning an agreement on cooperation for software develop-

ment, creation of animation and digital contents, human resources development and industrial promotion. In October the same year, the KIC announced the “K-Initiative” aimed at “creating 1,000 jobs in the knowledge-intensive industry in Rwanda by 2020” while also promoting intercity exchanges between Kobe City and Kigali, the capital of Rwanda.

The KIC is currently preparing for the implementation of its own educational and training project in Rwanda. Having secured JICA funding of 50 million yen under the grassroots technical cooperation scheme of the Government of Japan in February, 2017, the KIC plans to start a practical short-term training programme on ICT in Kigali jointly with Kobe City Council.

Fukuoka explains the vision underlying this project. “This programme will offer an ICT4D course for a selected few of some 15 trainees every six months. The master’s degree course under the ABE Initiative takes at least two long years to complete and the number of participants is limited. The new programme aims at locally developing human resources at a low cost and in a flexible manner so that the participants can learn how to work for a Japanese enterprise as dependable employees.”

(International Development Journal, March 2017)



## Part 7

### The network of participants is growing

#### Some 340 people gather at Kamata

Some 340 African youth attended a training course held in Kamata, Tokyo in late March, 2017. These young people were third batch participants of the ABE Initiative (African Business Education Initiative for Youth). They arrived in Japan in the second half of 2016 and are now pursuing their master's course studies at various graduate schools throughout Japan.

This 4-day training course involved a workshop during which the participants exchanged their experiences of study, etc., during their approximately six-month stay in Japan and a lecture meeting in addition to an exchange meeting with Japanese enterprises. Their diverse interests were specially highlighted during the group discussions. They were divided into 10 groups featuring such themes as education, entrepreneurship, the environment, health and sanitation, poverty, etc. with “innovation” being a common theme for all of the groups.

#### Participant from even French-speaking Guinea

In the discussion group on “educa-

tion”, insufficient access to education was pointed out as there is a shortage of schools, teachers and teaching aids in many African countries. Against this background, the dissemination of “the success story” of Japan where education played a significant role in the process of modernization was proposed with a view to introducing Japanese-style education in Africa.

The person who played a leading role in this group was Mamadou Korka Diallo with a working background at a NGO in Guinea (currently studying at the Graduate School of Life and Environmental Sciences of Tsukuba University). He is passionate about Japan, saying that “in Japan, environmental education on recycling, etc. is taught even in primary and secondary schools. I hope to establish Japanese-style schools in Guinea in the future to spread environmental education. I love Japanese food and I would also like to spread the taste of miso soup among Guinean people at the same time”.

Guinea situated in West Africa has rich mineral resources. It exports iron ore, bauxite, crude oil, gold, etc. The population of 12 million is rather

small and industrial development is lagging behind that of other countries. “While iron ore and bauxite are mined by Chinese enterprises, they are export-

ed as raw materials without any local processing. It is essential to expand the industrial infrastructure but sufficient human resources are not available, making vocational training very important”, Diallo emphatically explained.

Although French is the official language of Guinea, Diallo is also proficient in English and Swahili. Because his mother worked for the African Union, he grew up in Ethiopia and Kenya. Diallo is the only participant from Guinea in the third batch. Ambassador Senkoun Sylla visited the venue to encourage Diallo and told the editor, “although Guinea has not dispatched many people to scholarship programmes using English as the main language, we do want to dispatch excellent personnel to as many such programmes as possible”.

#### Many participants comment on anti-corruption measures

In the group discussing “entrepreneurship”, Tomas Kapier from Namibia (studying IT at the Kobe Institute of Computing: Graduate School of Information Technology) said that, “Political stability based on democracy and the rule of law formed the background for the rise of entrepreneurship in Japan. Unless Africa establishes a transparent business environment for fair competition and eliminates corruption, an entrepreneurial spirit will not grow”.

Tichawaona Nkosana Mbili from South Africa (studying at the Graduate School of Business Administration of Rikkyo University) is another person who commented on anti-corruption measures, pointing out that, “Once an electronic money system capable of making wide-ranging payments, from public transport to ordinary shopping, like the Suica card in Japan is established, dishonest



ABE Initiative participants exchanging opinions during the group discussions

behaviour at the grassroots level should be greatly reduced”.

In the case of the discussion group on “the environment”, Colins Shuwa Forbeteh, a businessman from Cameroon (currently studying business management at the Ritsumeikan Asia Pacific University) played a leading role, expressing his view on waste control measures. “In every African country, the electronics boom increased the import of used household electrical appliances and the mismanagement of waste household electrical appliances have led to a sharp increase of waste electronic devices as well as waste household electrical appliances, causing a serious problem. It is essential to appeal the importance of waste reduction using SNS and to enlist Japan’s assistance to establish the proper collection and recycling system for waste electronic devices, etc.”

Cameroon has the long-term targets of achieving industrialization and reducing the poverty ratio to less than 10% to join middle-income countries by 2035. Forbeteh says, “I will do my best to achieve these targets. The environmental business is a major challenge for a better future”.

### **Sharing of experience of Ebola haemorrhagic fever**

The leader of the discussion group on “health and sanitation” was Tracey Elizabeth Jones, a pharmacist working for the Ministry of Health in Sierra Leone (currently studying at Tohoku University School of Medicine). “In Africa, the control of infectious diseases poses a most critical challenge. For the control of malaria, feasible technological innovations include the development of mosquito-repelling clothes, soap, shampoo, etc., and the propagation of insects which are natural enemies of malaria-carrying mosquitos”.

Her research theme in Japan is “a real-time strategy to prevent and suppress infectious diseases”. In Sierra Leone located in West Africa, there

was an outbreak of Ebola haemorrhagic fever in 2014. At that time, she was working at a gynaecology clinic and led the front-line battle to prevent the spread of infection to pregnant women and infants. She explains her desire, “I would like to share my experience of my fight against Ebola with Japanese doctors and enterprises. In addition, I would like to learn as much knowledge as possible from Japan so that I can apply such knowledge to improving the health sector in Sierra Leone on my return home”.

### **Linking of participants from small countries Kakehashi Africa**

The ABE Initiative which was launched in 2014 has now invited a total of some 820 participants from 48 African countries in three years.

While such countries as Kenya and South Africa have scores of participants in the same batch, smaller countries have only few participants in the same batch, resulting in weak lateral links. Meanwhile, Japanese enterprises which offer internship training tend to be more interested in countries with a large domestic market. There have been cases of Japanese enterprises being reluctant to accept interns from countries with a small domestic market or countries which are not well-known.

One network has recently been created which is useful for the ABE Initiative participants from small countries. This network called “Kakehashi (Bridging) Africa” was primarily created by second batch participants studying at universities mainly in



Senkoun Sylla (right), the Ambassador of Guinea to Japan, encourages Diallo

western Japan, such as Osaka University, Kyoto University and Ritsumeikan University. This network divides Africa into five regions, i.e. East, North, South, West and Central, and Facebook, etc. are used for information exchanges. The network also provides a platform for information sharing regarding the recruitment of interns by Japanese enterprises, internship experiences, planned investment of Japanese enterprises in Africa, etc. The information provided also includes that on cultural exchange events organized by local governments and local festivals.

The leading figure of this network is Arthur Omondhi Sati from Kenya (currently studying at the Graduate School of Information Science and Technology of Osaka University). He is a second batch participant and acts as a lecturer for the third batch participants as a senior. When he made an appeal “to create a network capable of continuously exchanging information even after returning home”, membership immediately increased to 200.

According to Sati, Africa has a saying, “Do it alone if you want to go quickly. Do it together if you want to go far”. It will be a pleasure to see how the bonds between Japan and the participants, that have developed through collaboration among the participants, will continue to do so toward a better future for all.

(International Development Journal, June 2017)



## Part 8

# Nation Building with Satellite Images: Human Resources Development by JSS

### The Kizuna Program

In mid-March this year (2017), more than 10 foreign people were seen participating in outdoor training in Shiba Park in Tokyo. They all held a portable global positioning system (GPS) receiver and were establishing their position based on information given by the analysis of satellite images and data from the Geographic Information System (GIS) to determine the distance to Tokyo Tower nearby.

This training was organized by Japan Space Systems (JSS) which contributes to conservation of the global environment, securement of mineral and energy resources and the development of space industries through R & D and the raising of public awareness of space-related technological systems, including satellite remote sensing, and relevant human resources development.

Among the trainees were three African people: Hendrix Kaonga and Moses Kachenwe, both engineers working for the Directorate of Geological Survey of the Malawi Ministry of Mines and Energy, and Hafsa Seif, a female engineer working for the Geological Survey of Tanzania. All of them studied at the Graduate School

of International Resources Science of Akita University and obtained a master's degree this spring.

They came to Japan under “the Kizuna (Bond) Program”, Training Program for Human Resources Development in the Mining Sector, organized by the Government of Japan to assist the development of mining in developing countries. Established in 2014, over a period of 10 years, this scholarship program plans the invitation of 200 people involved in the development of mineral resources. 59 people have come to Japan so far and are studying for either a master's degree or a doctor's degree at one of the eight accepting universities thus far in Japan. Some of them have, in fact, already completed their course and returned home.

The targets of this programme are countries with mineral resources in Asia, Africa and Latin America. More than half of the participants so far have come from Africa. As far as mining resources are concerned, while competition for their development has become intense, partly because of the increasing demand by newly developing countries, nationalism over resources is also rising. Against the background of this international

environment, Japan has adopted a strategy of developing a network through human resources development to secure the needed resources over a long period of time.

### Effective for mineral exploration

In this JSS training, guidance was provided to enable the trainees' development of the skill to use GIS on a PC and to apply their skill to the implementation of public policies and business activities in developing countries. A good example of such application is the exploration of mineral resources.

Malawi has seen the recent development of the use of satellite images for mineral exploration and efforts are being made to prepare a distribution map of mineral resources by 2021. Kaonga told the editor, “I want to contribute to the improved accuracy of maps”. His colleague, Kachenwe, specializes in the analysis of groundwater quality and groundwater distribution surveying and has been working on the comparison of regional geology with a view to establishing groundwater standards in Malawi. Kachenwe looked pleased when he said that “the JSS training is very useful. Satellite images make it easier to select sampling sites for water resources surveys, and preliminary surveys prior to field surveys are also easier to conduct.”

### Importance of knowledge on actual sites

The international contribution by JSS is led by Kazuyo Hirose (53) who works as a coordinator and lecturer for the training. Hirose studied geological science at Akita University. After graduation, he joined a mining company and was involved in a number of resource mappings in not only



Scene of JSS training using satellite images and Geographic Information System (GIS)

Japan but also in Southeast Asia, South America and Africa, drawing geological maps utilizing satellite images. As many mines in Japan have been closed down in the post-war period, the number of people with actual experience of mineral exploration in the field has continually been declining.

Against this background, Hirose was scouted by JSS because his valuable knowledge based on field experience. In the training, he teaches methods to survey soils and minerals using a portable spectro-radiometer along with the method to use satellite images, guiding the trainees on how to face the earth from a broad perspective. He spends more than six months a year on assignments abroad as the demand for his services for mineral exploration and environmental surveying is very strong. Countries which he has recently visited include Zambia, Indonesia and Peru.

He explained the secret of effective training, “training consists of three components: classroom lectures, field training and integral analysis of information obtained by field training. When I tell the trainees of how I had to crawl along the ground as part of a field survey, the level of interest on the part of the trainees suddenly increases, reducing the distance between myself and the trainees”.

### **Application for disaster prevention**

The JSS training is also popular among the ABE Initiative participants. The 10-day internship training held in September, 2016, attracted 10 such participants (four from Mozambique and one each from Egypt, Gabon, Kenya, Madagascar, Mauritius and Ethiopia). The difference between the two programmes lies in “diversity”. The purpose of the ABE Initiative is to foster human resources which will be useful for the development of Japanese businesses in Africa. As the participants are selected from the government, enterprises and universities, the range of their interests



Mr. Hirose teaching how to measure the tree height using a laser range finder (second from left)

is very broad. The purpose of their involvement in the JSS training varies from disaster prevention and agricultural development to environmental conservation. Their home countries are also diverse.

Alberto Armando works for the Mozambique National Institute of Disaster Management and he is studying disaster prevention measures at Tohoku University. Mozambique situated in the south-eastern part of Africa faces the Indian Ocean and has a total coastline of some 2,700 km with nine international rivers flowing through the country. Whenever the country is hit by flooding, cyclone or drought, the damage is enormous. Armando says that “GIS and satellite images can accurately establish the situation of disaster damage and accurate information on rainfall, river levels, etc., makes it possible to issue early warnings by television, radio and mobile phone networks”.

Bhoopendra Dabycharun, a civil engineer working for the Ministry of Public Infrastructure and Land Transportation of Mauritius is also studying disaster prevention at the Research Institute for Natural Disasters of Niigata University. “The number of landslides is rapidly increasing in Mauritius. I would like to apply the satellite image analysis and GIS technologies which I am learning in Japan to the monitoring of landslides, design of water supply and

water channels and early warning.”

Ahmed Aly from Egypt who is studying at Waseda University told the editor, “I now understand how GIS is utilized for disaster prevention in Japan. Egypt needs a system to gather information to enable GIS using its own satellite”. Aly has been involved in river discharge surveys and the siting of suitable places for dam construction when working for a company in the resources and environment sector. He is eager to “convey the experience of tsunami and other natural disasters in Japan to the people of Egypt”.

Meanwhile, Saint-Claire Ebaye Mpiga who works for the Ministry of Forestry, Environment and Natural Resources Protection of Gabon is now studying forest management at Mie University. While 80% of the national land of Gabon is covered by forest, the proportion of forest land has been declining in recent years due to urbanization and illegal felling, prompting her to say that “it is necessary to introduce forest protection measures combining the latest systems, such as drones and 3D laser scanners”.

We are now entering an age where “total war efforts” are required, commanding all available technologies, including satellite images to deal with wide-ranging issues concerning natural resources, the environment, etc., in Africa.

(International Development Journal, September 2017)



## Part 9

# Hinode Sangyo Fosters Specialists in Effluent Treatment

### Water quality analysis and effluent treatment experiments

Young Africans have become a regular sight in recent years on street corners in Yokohama city's Tsuzuki Ward where many factories of small- and medium-sized enterprises are located side by side. These young people are interns at Hinode Sangyo Co., Ltd., a local enterprise which specializes in the treatment of effluent. They came to Japan to participate in the ABE Initiative programme launched by the Government of Japan in 2014 and are studying at graduate schools in various parts of Japan.

A visit to a laboratory located on the ground floor of the head office building in late August found five programme participants from Kenya, Ethiopia, Uganda, Egypt, etc. were in the midst of an experiment with a measuring cup in hand. Using water from a nearby river as a sample, they were measuring the hydrogen-ion exponent (pH) and biological oxygen demand (BOD) among other things.

During their internship training, they thoroughly learn basic knowledge on water quality analysis as well as basic technologies for effluent treatment. These trainees include professional engineers working for a government organization or university in Africa and those with an arts background. As such, the level of knowledge concerning water varies from one trainee to another. However, all of them are engaged in the experiment, in turn, creating a friendly atmosphere.

### Study visit to the front-line of food processing

Following in-house experiments and lectures, the trainees then visit those enterprises to which Hinode Sangyo supplies reagents and equipment to learn about effluent treatment technologies

in actual use. During such a visit in late August to a food processing plant in Tokyo, the trainees observed an effluent treatment system after a visit to a packed lunch production line wearing dustproof clothing.

The effluent treatment system of Hinode Sangyo is characterized by a high energy saving performance with low electric power consumption and high efficiency requiring the feeding of less reagents and compactness. The sludge produced after purification of the effluent is recycled to produce fertiliser, etc.

The trainees appear to be really impressed by Japan's state-of-the-art food processing and effluent treatment and told the editor that, "We truly understand how much emphasis a food processing plant in Japan places on hygiene control".

Hinode Sangyo began accepting ABE Initiative participants as interns in the summer of 2016. As of October 2017, 22 participants from 10 African countries have so far undergone internship training lasting for two weeks to one month each time. Inside the company building, a poster with the slogan "Let's make water in Africa clean" is displayed, conveying the company's eagerness to help Africa.

### International contribution as CSR

Such a description of the company may give the impression that Hinode Sangyo has been active in the African market. It may be a surprise, therefore, to learn that the company has not yet entered the African market. The acceptance of ABE Initiative participants as interns is currently considered to be part of the company's corporate social responsibility (CSR).

As Hinode Sangyo has so far concentrated its business on Japan's domestic market, its export ratio is low. This year, the company was selected for the first time to conduct a

pilot study on effluent treatment facilities in Mindanao in the Philippines as a project formulation study under the scheme of the Japan International Cooperation Agency (JICA) to support the overseas business development of Japanese Small and Medium-sized Enterprises (SMEs).

Despite such progress, the African market remains uncharted for the company. According to Director Kaori Fujita, the TICAD V held in 2013 provided the opportunity for the company to conceive of internship training. As a local enterprise based in Yokohama City, the host city for the TICAD V, Hinode Sangyo participated in a side event with an exhibition booth introducing its water treatment business.

Fujita recalls that the "number of African people formed a long line to hear our explanation about water treatment. Talking to them made me aware of the much larger potential of Africa than Asia in terms of human resources and market". Hinode Sangyo considers the Philippines to be "an important test case for its global business operation" with the African market in sight.

However, Hinode Sangyo is a very small company with only 12 staff members. With 54 countries, Africa is a huge market and business investment there holds some risks. As such, the current stance of the company is to cooperate with human resources development in the water treatment sector as its commitment to CSR to develop a human network while proceeding with market analysis using information gathered on the situation of effluent, policies, regulations, etc. in each African country.

### Learning about the preciousness of water in Malawi

Hinode Sangyo has recently recruited a key person who should prove



Trainees experimenting with sampled river water. (Tsuzuki Ward, Yokohama City)



Director Fujita (on the extreme right) and trainees visiting a food processing plant

useful for the future African business strategy. Yumika Maemura spent time in Malawi as an overseas cooperation volunteer of Japan and she is expected to play a central role in R & D and water quality analysis in the coming years.

Although Malawi, an inland country, has a huge lake, the water supply situation is poor. At a local high school where Maemura taught chemistry, the water supply was suspended for three months due to a power outage. The students were forced to fetch water from the lake every day and their displeasure with this led them to go on strike, illustrating that water problems can lead to not only the disruption of education but also social instability. “This situation reminded me of the importance of water in Africa” said Maemura.

In sub-Saharan Africa, only 66% of the total population currently has access to water. While this figure is expected to improve to 78% by 2030, the infrastructure for water supply and drainage to enable people to use essential water for their lives in a hygienic manner exists for only 30% of the total population. The purification and recycling of waste water from households and industrial activities poses a major looming challenge.

### **Nigeria with sewerage coverage of 20%**

The internship programme at Hinode

Sangyo for ABE Initiative participants requires the participants to present their research findings on the final day of training. The editor attended the presentation meeting for those participants who had undergone training from August to October this year (2017) and heard the presentations of 12 participants from 10 countries. Among these countries, the worst water situation was reported in Nigeria.

According to George Obina Anioke, who is an industrial inspector at the Ministry of Industry, Trade and Investment of Nigeria and is currently studying at Nagasaki University, the population of Nigeria of more than 180 million is the largest in Africa but its economy has slowed down due to sluggish natural resources prices. He lamented that “neither fiscal growth nor infrastructure development have been able to catch up with the population growth and rapid urbanization. The resulting strain has led to a water problem of 80% of the waste water being discharged untreated nationwide”. Many infants die due to such diseases as cholera associated with unhygienic water.

Nigeria also experiences problems which are typical for an oil producing country. One is the discharge of contaminated water from the illegal exploration as well as refining of crude oil. The official regulatory regime

which is in place is said to be seldom complied properly.

Anioke and some of the other presenters expressed their concern for a possible escalation of water pollution, such as Minamata Disease in Japan, in Africa. Xolani Nkosikhona Mhlongo, who is a university lecturer in South Africa and an expert in food processing (currently studying at Kagawa University) pointed out his country’s environmental pollution caused by mineral poisons from copper mines.

Meanwhile, Cecilia Mwangi Rate-mo, who is a researcher in eco-tourism from Kenya (currently studying at Sophia University in Tokyo), talked about her visit to a museum and an eco-park in Minamata City, Kumamoto Prefecture, “Japan’s painful past experience has made Japan emphasise environmental conservation policies “today”. I hope that Japan will teach Africa not only technologies but also incontrovertible knowledge based on its past experience”.

Africa’s needs in regard to water are not confined to improvement of the water supply through proper effluent treatment, and the reduction of pollution, etc. but are diverse, including the efficient and sustainable use of water, water resources management and conservation of the eco-system surrounding water.

(International Development Journal, December 2017)



## Part 10

# Assisting Japanese Cooperation for the Health Sector, Including Infection Control Measures

### Wanting to help as many people as possible

At the end of September 2017, two young people from Africa were undergoing training on clinical examination using microscopes at the laboratory of Hoken Kagaku, Inc. (Health Sciences Research Institute) in Hodogaya Ward of Yokohama City. Both of them are participants in the African Business Education (ABE) Initiative for Youth programme.

Hend Saad Elsayed Elsayed, who is a pharmacist working for the Ministry of Health and Population in Egypt, says, “this partnership marks the first step to achieving my desire to help as many people as possible”. She came to Japan in the autumn of 2016 and is studying at the Graduate School of Tropical Medicine and Global Health of Nagasaki University.

Hoken Kagaku is the top enterprise in Japan in the field of clinical examination. After completing her training on the sampling analysis of blood and urine, etc., Elsayed presented her research findings on the situation of health in Egypt to senior staff members of the company.

The theme of her report was “the link between HIV/AIDS and mental disorder”. Egypt is no exception to the spread of illegal drugs and the re-use of syringes and the state of HIV/AIDS infection has been worsening. Nevertheless, people tend to hide their infection in an Islamic society and there are many cases of infected people suffering from depression. Against such background, Elsayed pointed out that, “There is a need for the treatment of HIV/AIDS to be pursued in parallel with the treatment of mental disorders” in her presentation.

### Increase of geriatric diseases and lifestyle diseases

Elsayed also expressed her concern regarding the spread of geriatric diseases as well as lifestyle diseases. “40% of the population suffer from high blood pressure but many people are unaware of their own state of health. An improved diet has led to an excessive intake of high calorie foods, increasing obesity. The number of people suffering from heart disease is also increasing because of high salt intake.”

She then expressed her view that, “Accurate diagnosis requires accurate medical health data”. “I hope to facilitate exchanges between the Japanese and Egyptian health sectors with a view to using Japan’s health system and medical equipment to improve health in Egypt”.

Another ABE Initiative participant who received training at Hoken Kagaku is Lindo Celestino Gavicho, a doctor working for the Ministry of Health of Mozambique. He is also studying at the same graduate school of Nagasaki University as Elsayed and is conducting research on the detection of the DNA of schistosomes. He told the editor that, “I would like to play a bridging role for Japanese enterprises planning to invest in Mozambique to improve the situation of a shortage of medical equipment in Mozambique”.

### Spreading Japan’s clinical examination technologies throughout the world

Yoshizo Kugawa, Chairman of Hoken Kagaku, takes such African “voices from the field” very seriously. They began to accept the training of many Vietnamese people in the 1980’s,

contributing to the development of the foundations for a clinical examination organization in Vietnam. At the end of 2017, they established a company offering a clinical examination service in Indonesia jointly with Toyota Tsusho Corporation and a local pharmaceutical company. There are also voices in India calling for investment.

Kugawa told the editor that “although there is concern regarding security in Africa, we are interested in South Africa and some other countries. Using our business investment in Indonesia as a test case, there is a possibility that they will move into Africa. We want to use Japan’s excellent technologies to help the world”.

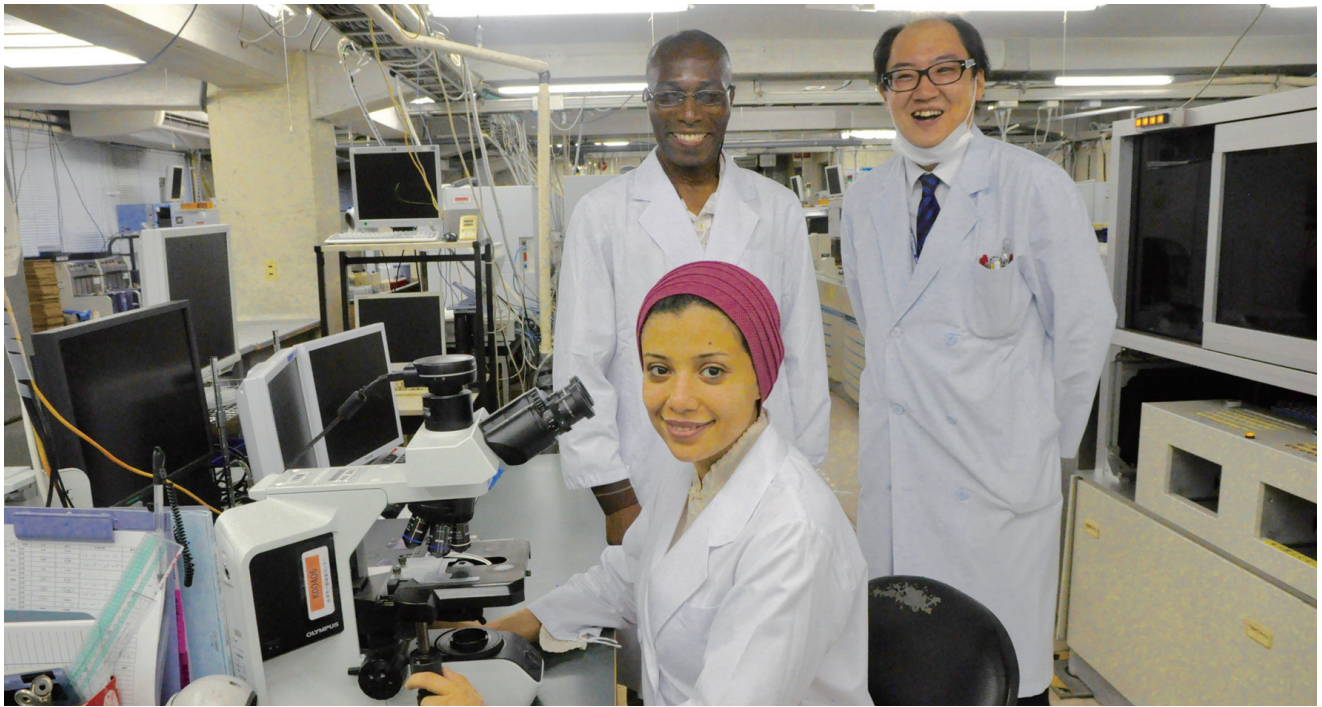
One thing of importance to make such help a reality is human resources development. For example, exported endoscopes are only useful when there are pathologists who are capable of analysing the image data that reveals the emergence or changing state of cancer cells. The development of human resources capable of conducting accurate clinical examination forms part of the foundations for the long-term development of the health sector.

### Conveying the threat of Ebola

People with various health and medical backgrounds come to Japan under the ABE Initiative programme and are conducting various studies and research work.

Tracey Elizabeth Jones, a pharmacist working for the Ministry of Health in Sierra Leone, came to Japan in 2016 and is now studying infectious disease control at the graduate school of Tohoku University. From mid-2014 to 2016, she was at the front-line of the battle against Ebola haemorrhagic fever which was rampant in West Africa. Her thesis “Lessons from a





Elsayed from Egypt (front) and Gavicho from Mozambique (back left) at the Health Sciences Research Institute, Inc. in Yokohama

pandemic in Sierra Leone” printed in the academic journal of Tohoku University emphasized the importance of educating nurses and other health workers, greatly stimulating Japanese researchers.

In Sierra Leone, 8,704 people were infected by Ebola in a one and a half year period from its original outbreak and 3,589 of them died. At the front-line of the battle, hospital-acquired infection affected 12 doctors of which only one survived. The number of victims among health workers was much higher, with 31 out of 74 workers infected in the initial period of four months of the outbreak eventually died.

Infection by the Ebola virus was initially confirmed in 1976 in Sudan and Zaire (currently the Democratic Republic of Congo) and the name originated from Ebola River in northern Zaire. As it had not occurred in West Africa before, the manner of its spread through the blood, body fluids and excrement of patients was not properly understood locally.

At the end of 2014, the Govern-

ment of Sierra Leone established the National Ebola Training Academy in Freetown with the assistance of the International Organization for Migration (IOM), World Health Organization (WHO), Department of International Development (DfID) of the UK, etc. Using this facility as a base, some 6,000 health workers received professional training and education. The Ebola epidemic was quelled after a year or so.

“Intensive and effective education can prevent hospital acquired infection, protecting the lives of health workers. In turn, this creates a strong defence mechanism to protect people from infectious diseases” said Jones. She also added, “Education is also important for young children. Education on sanitation and environmental cleaning-up must be thoroughly implemented at schools throughout Africa”.

### **“Hand washing” movement led by a Japanese enterprise**

One Japanese enterprise is contributing to the control of infectious

diseases in Africa, Saraya Co., Ltd., a manufacturer of chemicals in Osaka City, has been implementing, “The hand washing project for one million people” at schools and in rural areas in Uganda since 2010. Under this project, Saraya donates 1% of its sales proceeds from hygiene products to UNICEF as a CSR (corporate social responsibility) project.

Robinah Ajok, who works as a hygiene instructor at a local subsidiary of Saraya in Uganda, applied for the ABE Initiative programme with the company’s recommendation and is currently studying at the School of Tropical Medicine and Global Health of Nagasaki University and conducting research on the control of infectious diseases in hospitals.

Ajok told the editor that, “Japan can not only offer excellent technologies and equipment but can also further improve the application of these technologies through human resources development. I would like to become someone who is able to bring Japan and Africa closer together”.

(International Development Journal, March 2018)

## Achievements of the ABE Initiative

### Number of participants and countries in each batch

1st batch (arrived in 2014): 156 participants from 8 countries

2nd batch (arrived in 2015): 317 participants from 33 countries

3rd batch (arrived in 2016): 348 participants from 46 countries

4th batch (arrived in 2017): 279 participants from 46 countries

5th batch (arrived in 2018): 119 participants from 47 countries

**Total: 1,219 participants from 54 countries**



