

## 英文要約

**“Needs Survey” under the Governmental  
Commission on the Projects for  
ODA Overseas Economic Cooperation  
in FY2014**

**Summary Report**

**Republic of Kenya**

**Needs Survey on Agriculture,  
Food / Food Products, and Vocational Training  
and Industrial Development Fields**

**March, 2015**

**JAPAN DEVELOPMENT SERVICE CO., LTD.**

The content of this report is a summary of the needs survey, which is commissioned by the Ministry of Foreign Affairs of Japan in the FY 2014 and was carried out by Japan Development Service Co., Ltd.. It does not represent the official view of the Ministry of Foreign Affairs.

## Summary

### Outline of the Survey

#### (1) Survey Objectives and Schedule

The Survey is intended to survey local development needs in the Republic of Kenya (hereafter “Kenya”) in the fields of 1) Agriculture, 2) Food / food products, and 3) Vocational training and industrial development, to investigate the possibility of utilizing the products and technologies of Japanese SMEs for resolving development issues, and to examine the feasibility of formulating Official Development Assistance (ODA) projects and deploying business in the said country. In the Survey, the following team members implemented field surveys according to the following schedule.

Name	Department and Position	Responsible Field	Field Survey Period (2014)
Hiroshi Hasegawa	Senior Consultant Consulting Division	Team Leader / Local industrial promotion / Industrial human resources development	July 26~August 8 November 9~December 3
Hiroko Sugimoto	Senior Consultant Consulting Division	Deputy Team Leader / Business model development / Market survey	July 26~August 14 November 4~December 3
Shigekazu Yamawaki	Senior Consultant Consulting Division	Vocational training and human resources development	November 13~December 13
Kiyoko Hitsuda	Senior Consultant Consulting Division	Agriculture and agri-business promotion	November 8~November 23
Takamichi Ide	Senior Consultant Consulting Division	SME promotion / Food / food processing	November 12~November 25
Hitomi Yokoyama	Consultant Consulting Division	SME overseas deployment assistance	July 26~August 14 November 9~November 26
Akira Doi	Senior Consultant Consulting Division	Local industrial promotion / Industrial human resources development 2	November 15~November 23

#### (2) Survey Methodology

Before and after the field surveys, and also at opportune moments during the surveys, products and technologies deemed to be effective for the three target fields were examined and information collection was conducted including hearings with domestic enterprises and organizations, etc. Also, pre-existing surveys and official document and statistical information available in Japan were collected. Moreover, in the field surveys, emphasis was placed on paying visits to a broad range of agencies including the Japanese Embassy in Kenya, JICA officials (local office and related projects), public agencies on the Kenyan side including future counterparts (CPs), other donors, non-governmental organizations (NGOs), producers’ groups, private enterprises, industrial groups and so on. Concerning the information that was collected in the survey in Japan, considering that there are numerous issues regarding accuracy and completeness, when conducting examination priority was given to the information obtained in the visit surveys. In addition, among others a survey of shop prices of other countries’ products in competition with the products of Japanese-affiliated enterprises was implemented.

Through implementing the field surveys over two stages, the assumptions initially envisaged for products and technologies were reviewed in a phased manner, and the additional information necessary for doing that was collected in Japan between the field surveys. As a result, it was possible to conduct more focused examination and proposal of products and technologies.

Furthermore, towards the end of the field surveys (November 21), a seminar for introducing Japanese products in the fields of 1) Agriculture and 2) Food / food products was staged at a hotel in Nairobi. (This was attended by 32 representatives of local business groups and enterprises as well as officials of the Japanese Embassy and JICA). Discussions were held concerning local development issues, market environment, and needs for the products and technologies of Japanese SMEs, a questionnaire survey of seminar participants was implemented (26 responses were received), and these were referred to in examining the proposed items in this needs survey.

As for 3) Vocational training and industrial development, no such joint workshop was staged. Concerning why, although JDS gave basic explanations on the concerned technology (remote education system) during the field surveys and interest was expressed by local training and education agencies and business groups, etc., due to the nature of education systems as products and technology, rather than a joint workshop aimed at various stakeholders possessing diverse training and education contents and needs, it was deemed more productive to conduct individual presentations that would allow the existing curriculums and remote education needs of each agency to be deeply investigated while offering counseling. Accordingly, it was decided to coordinate individual presentations between January 4~10, 2015 at local agencies by a Japanese enterprise which possesses the technologies concerned and is considering advancing into Kenya, in order to gain their cooperation in collecting information for this needs survey.

### (3) Destinations Visited in the Field Surveys

The following destinations were visited in the field surveys.

#### <Visited Agencies in the Agriculture / Food / food products Fields>

Administrative agencies	Kenya Investment Authority (KIA), Kiambu, Kirinyaga and Uasin Gishu County governments, Kenya Industrial Research and Development Institute (KIRDI), (HCDA), Ministry of Agriculture Livestock & Fisheries, Ministry of East African Affairs, Commerce and Tourism, Ministry of Industrialization and Enterprise Development, Ministry of Trade and Industry
Industrial groups	East Africa Grain Council (EAGC), Kenya Fish Processors and Exporters Association (AFIPEK), Fresh Produce Exporters Association of Kenya (FPEAK), Cereal Growers Association (CGA), Kenya Livestock Producers Association (KLPA), Eastern and Southern Africa Dairy Association (ESADA), Kenya Association of Manufacturers (KAM)/KAM Central region, Kenya National Farmers' Federation (KENAFF)
Enterprises	AFApack Enterprises Limited., MERU Herbs Nairobi Office/Factory, IRRICO International Ltd., FMD East Africa, Toyota Tsusho East Africa Limited, Amiran Kenya Ltd, BrazAgro Ltd, Cimbria East Africa Ltd., DK Engineering Company Ltd, Ndumberi Dairy Farmers Cooperative Society Ltd., Veterinary and Agronoimc East Africa Ltd., R.M.Patel and Partners Ltd., CAMCO Machinery Kenya, Kenya Fruits Solutions Ltd, Nafics Ltd, freshwater fish farm, Nduberi Farmers Co-operative Society Ltd., Nakumatt, Equator Trading Service

Others	Japanese Embassy, JICA Kenya Office, JETRO Nairobi Office, Jomo Kenyatta Agriculture and Technology (JKUAT), University of Nairobi, Food and Agriculture Organization of the United Nations (FAO), Small Holder Horticulture Empowerment and Promotion Unit Project (SHEP-UP), Rice-based and Market-oriented Agriculture Promotion Project (RiceMAPP), Mikivo Self Help Group, Cheptarista Womens Group / Cheptarit Grain Center, National Environment Trust Fund (NET FUND), Gatundu South Fish Cooling Plant, Innovations for Poverty Action/Mitigating Aflatoxin Impact for Child Growth, ACDI VOCA AflaSTOP Project, Kenya Agricultural Value Chain Enterprise Project (KAVES),
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< Visited Agencies in the Vocational Training Field >

Administrative agencies	Micro and Small Enterprises Authority (MSEA)
Vocational training agencies and education agencies	Rift Valley Institute of Science and Technology (RVIST), Kaiboi Technical Training Institute, Kabete Technical Training Institute (KTTI), Jomo Kenyatta University of Agriculture and Technology (JKUAT)/ Africa ai Japan Project (JICA), Kenya School of Government eLDi, Agricultural Mechanization Services (Eldoret), Agricultural Machinery Service – Ruiru, Toyota Kenya Academy (Toyota Kenya Limited)
Enterprises	Farm Engineering Industries Limited (FEIL), FMD East Africa – Nairobi Branch, Rhino Agrimac & Equipment, Toyota Tsusho East Africa Ltd., Corrington Business Systems, Amiran Kenya
Others	Japanese Embassy, JICA Kenya Office, International Labour Organization (IL), iHub, M-Farm, Start Up Garage, Jua Kali (auto repair shop), mobile phone retailer

(4) Outline of Seminar

The following seminar was implemented for the 1) Agriculture and 2) Food / Food Products fields.

Objective	Based on the results of the first field survey, the objective was to introduce 8 products of Japanese SMEs that have the potential to enter the Kenyan market. It was also intended to listen to the local response to these products and investigate detailed needs and potential for entry.
Date and time	November 21 (Friday), 2015, 8:30~13:00
Place	Southern Sun Mayfair Nairobi
Participants	46 persons (including representatives from local enterprises, groups, etc., Japanese officials (Japanese Embassy in Kenya, JICA Office in Kenya, Survey Team members, and co-hosts)

Others Points

Among the products and technologies (seeds) that were not proposed for ODA in this needs survey, some were not designated as candidates for ODA project formulation in this report in light of compliance with local systems, social environment, and retail market maturity and so on, even though development needs and private sector demand are deemed to exist. Despite this, when seen from the long-term viewpoint, there is ample potential for advancement when the local institutions and market have sufficiently matured, and the decision not to target them in this survey does not mean that the introducing enterprises have no chance of deploying these products and technologies in Kenya.

## Chapter 1 Current Conditions of the Target Country

Following independence, up to the 1970s, Kenya achieved high economic growth based on manufacturing, tourism, and production of commercial crops such as coffee, tea, etc., and it came to be known as the “honor student of Africa.” However, entering the 1980s, the international prices of its main exports of coffee, tea, etc. plummeted, the fiscal deficit grew, and the economy went into recession. In the 1990s, Kenya’s commercial farmers started production of export-oriented flowers ahead of farmers in other African countries, and horticultural crops have today grown into a major export item ranking alongside tea. In 2008~9, the economic growth rate dropped from the usual 5% to 2% due to political disturbances, however, it has since remained steady at 4~5%. According to the JETRO report, in terms of conspicuous activities by foreign-affiliated corporations in 2013, petroleum and natural gas-related prospecting activities were commenced based on Western capital, and major overseas corporations started activities in the fields of automobiles, trucks, hotels, restaurants and so on.

Looking at the trade situation, Kenya mainly exports to Eastern African countries, and its top two export destinations are Uganda and Tanzania. Meanwhile, its top three sources of imports are India, China, and the United Arab Emirates, while Japan rose from 6<sup>th</sup> to 4<sup>th</sup> in the list of import sources (2012/13).

In terms of GDP share by industry, agriculture and forestry are key industries accounting for 24% of GDP, more than two-thirds of working population, and more than 70% of export revenue. Transport and telecommunications have become the second largest sector, accounting for 14.7% of GDP, thanks to growth in the auto retailing and mobile phone businesses, and they now outrank manufacturing (11.1%), which was one of the main industries that supported Kenya’s growth in the 1970s.

As one recent administrative topic that is largely concerned with this survey, the 2010 constitution came into force under the present administration of President Uhuru Kenyatta (2013~). This constitution promotes separation of the three branches of government and gives backing to democratic reforms including freedom for media and decentralization. In particular, concerning decentralization, 47 regional administrative divisions (counties) have been established, and the county governors are appointed in direct elections by citizens rather than nomination by the central government. However, county budgets and personnel are assigned from the central government (as in the case of the former administrative divisions), and this has been taken into account in developing ODA projects though this survey.

## Chapter 2 Agricultural Field

As can be gathered from above, agriculture is a key industry for Kenya, and the issues of improving agricultural productivity and giving export competitiveness to farm products are addressed in multiple state policies such as Kenya Vision 2030, the Strategy for Revitalizing Agriculture (SRA), Agricultural Sector Development Strategy 2010-2020 (ASDS) and so on.

Looking at the current conditions of agriculture in Kenya, since the sector has been slow to promote mechanization (plowsoilers and other tractor attachments, bush cutters, seeding machines, vegetable and corn harvesters, track carriers, rice milling machines, flour milling machines, processing machines such as corn huskers), utilize materials such as shade nets and agricultural mulch products, address damage to cereal crops caused by Aflatoxin (a kind of toxic metabolite produced by certain fungi) through utilization of grain moisture testers, examination was conducted into products and technologies of Japanese SMEs for addressing such issues.

Among the above products, concerning the plowsoiler and bush cutter, it is proposed that examination be conducted on implementation of a *Feasibility Survey with the Private Sector for Utilizing Japanese Technologies in ODA Project* and subsequently a *Verification Survey with the Private Sector for Disseminating Japanese Technologies* upon considering the effects of trial cultivation by the Ministry of Agriculture Livestock and Fisheries, county governments, producers' groups, etc. Concerning both of the above two products, further analysis of local farming practices will be required, in order to apply necessary adjustment on its functions and pricing accordingly. Thus, it is desirable that steps be taken to implement a *Feasibility Survey with the Private Sector for Utilizing Japanese Technologies in ODA Project* that can collect as many users' voices as possible through testing actual products in multiple regions and agencies. Moreover, utilizing channels of the AMSs that conduct farm machinery rental in regional areas, through having AMS employees and county farmers actually experience how easy it is to use Japanese products, it will be possible to make a contribution to resolving development issues via improved agricultural productivity and to develop new sales channels.

As for the grain moisture tester, similarly it is proposed that a *Feasibility Survey with the Private Sector for Utilizing Japanese Technologies in ODA Project* and subsequently a *Verification Survey with the Private Sector for Disseminating Japanese Technologies* be implemented with a view to supporting the cereals value chain in target counties. In the case of the grain moisture tester, since detailed analysis that covers the entire cereals value chain will be needed in order to achieve a full-scale development effect, it is desirable that first value chain analysis be conducted in the *Feasibility Survey with the Private Sector for Utilizing Japanese Technologies in ODA Project*. As for the preferable business approach for Japanese-affiliated SMEs, since multiple European manufacturers already sell grain moisture testers locally, it is desirable that Japanese enterprises, as late entrants, cooperate with local partners in establishing sales channels as soon as possible. In this respect, it is worth considering raising awareness of the quality and ease of use of Japanese grain moisture testers centering on county government departments involved in post-harvest management and monitoring guidance.

Concerning the above three products, there are deemed to be needs for ODA project formulation and potential for market development, while the Japanese SMEs that deal in them are clearly willing to make inroads to the local market.

### Chapter 3 Food / food products Field

In Kenya, since 91% of exported farm products are raw materials, issues need to be addressed for raising added value. The government regards food processing, which accounts for 28.7% of GDP and 34.5% of employment in the industrial field, as a key sector for acquiring more foreign currency, and it intends to promote exports to southeast Africa. Also, county governments are working to promote private sector investment in the food processing sector.

In this survey, from the viewpoint of enhancing added value mainly in the food processing and transportation/storage stages, among others the following products and technologies of Japanese SMEs were examined as a means of addressing the following issues: introduction of cold chain (refrigerated transportation system, flake ice making machine), mechanization of dried food manufacturing processes and fisheries processing processes (compact food dryer and fish processing machine such as fish cutter and fish sausage plant, etc.), and creation of new processed foods (confectionery product made of beans and powder products; including branding and packaging).

Among the above products, the refrigerated transportation system (cooling box/cooling gel/freezer) and compact food dryer are deemed to possess ODA needs and local market potential. Concerning the latter of these, the Japanese SME manufacturer clearly has a desire to conduct activities locally. Therefore, it is proposed that a *Feasibility Survey with the Private Sector for Utilizing Japanese Technologies in ODA Project* (and subsequent *Verification Survey with the Private Sector for Disseminating Japanese Technologies*) be conducted. In order for these products to contribute to the realization of a full-scale development effect, it will be desirable to specify the target farm products and, especially concerning the refrigerated transportation system, to implement detailed analysis that covers the related value chain. Therefore, it is desirable to first conduct a *Feasibility Survey with the Private Sector for Utilizing Japanese Technologies in ODA Project* to examine and reassess in detail the needs that exist concerning a wide range of products and value chains.

First, concerning the refrigerated transportation system, there are deemed to be latent needs in wide-ranging value chains for dairy products, vegetables, fish, etc. Therefore, further analysis of value chains and verification of development effect, economy, etc. will be carried out through conducting trial introduction (where necessary, using products with improved functions or pricing, etc.) in the Ministry of Agriculture Livestock and Fisheries, county governments, and producers' groups, etc., and then the target products and areas will be further specified. As a result, it is envisaged that activities will be extended to the full-scale promotion of specified area value chains in a *Verification Survey with the Private Sector for Disseminating Japanese Technologies*. (Concerning the immediate business approach for Japanese SMEs, as indicated above, it is thought that the fields of fresh farm products, milk, freshwater farmed fish, etc. will be sales targets). Moreover, when it comes to retailing refrigerators and freezers, since there are cases where manufacturers offer consulting services as a set when introducing cold chain (especially in transportation), this will be an effective approach in Kenya too.

Next, concerning the compact food drier, introduction is envisaged in the Ministry of Agriculture Livestock and Fisheries, county governments, Ministry of Industrialization and Enterprise Development, public research agencies, etc. in a *Verification Survey with the Private Sector for Disseminating Japanese Technologies*. Through doing so, food drying technology will be transferred and support will be given to activities including localization of drier products, pilot production of dried food products, market survey, and so on. Furthermore, it is proposed that the value chain be deployed in earnest in the subsequent *Verification Survey with the Private Sector for Disseminating Japanese Technologies*. Moreover, since private sector needs are restricted in the current situation where drying is the mainly conducted under the sun, essentially it will be necessary to conduct medium- to long-term steps geared to creating new markets for dried foods. As the business approach for Japanese SMEs in this respect, it is worth considering creating a center for localization of machines and trial manufacture of dried foods having a public agency such as the Kenya Industrial Research and Development Institute (KIRDI, under the Ministry of Industrialization and Enterprise Development) as a partner.

#### Chapter 4 Vocational Training and Industrial Development Field

In Kenya, out of a total population of 43 million, the unemployment rate among the working population (15~64 years) is 8.6%, and this rises to 14.2% among the young working population (15~24 years)<sup>1</sup>. The poverty rate in rural areas, where 65% of the population resides, is 87% (including 36% young people). Donors and research agencies have pointed to regional disparities in terms of education and vocational training too, and problems of employment and education disparities between cities and regions and unemployment among young people are major development issues in this field. While major automobile and motor cycle-related enterprises are starting to make advances centered around retail companies and assembly plants, there are issues concerning development of supporting industries, and industrial circles do not rate polytechnics and other existing vocational training agencies very highly.

Because the above development issues are caused by multiple factors and the local labor market is not developed enough to provide sufficient job opportunities, vocational training can only make a limited contribution to reducing poverty. Even so, in examining Japanese SME products and technologies for addressing such issues, this survey focused on agricultural machine training, manufacture of and training in metal products (manufacture and machine work of general machine tools, metal parts, etc.), e-commerce, and remote education system.

Among the above products, the farm machinery training and remote education system are deemed to possess needs to formulate ODA projects and local market potential, and the Japanese SMEs that handle these clearly have a desire to conduct activities locally. Therefore, it is proposed that the *Feasibility Survey with the Private Sector for Utilizing Japanese Technologies in ODA Project* be

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<sup>1</sup> Kenya Institute for Public Policy Research and Analysis, 2013. Kenya Economic Report 2013. p.32

conducted (followed by a *Verification Survey with the Private Sector for Disseminating Japanese Technologies*).

Concerning agricultural machine training, since the ODA project formulation for the plowsoiler and bush cutter described in Chapter 2 will include trial use and technology transfer on maintenance, this chapter will be limited to supplementary contents. Concerning the remote education system, in response to the interest and demands voiced by vocational training agencies, universities, manufacturers' groups, etc., a learning system that utilizes mobile phones (smartphones) will be introduced on a trial basis in pilot courses at these agencies, and short-term curriculums will be actually prepared and implemented to demonstrate the education effect. First, proposal of a *Feasibility Survey with the Private Sector for Utilizing Japanese Technologies in ODA Project* was examined as a scheme suited to proposing and implementing such pilot courses for agencies in a wide range of fields. As the next step, targeting a single agency, proposal of *Verification Survey with the Private Sector for Disseminating Japanese Technologies* is envisaged through implementing remote education for more people over a broader area in a longer curriculum with a view to supporting development of SME managers and vocational training, etc. Concerning the business approach for Japanese-affiliated SMEs, since numerous education agencies, corporate groups, etc. in Kenya have already shown an interest in the introduction of mobile learning based on smartphones in this survey, it will be possible to introduce this to such agencies from local hubs, and from there expand to the internal training market in major corporations, public agencies, etc.

# Republic of Kenya

## Needs Survey on Agriculture, Food / Food Products, and Vocational Training and Industrial Development Fields

### Research Company and Counterpart Organization

- Name of Research Company : Japan Development Service Co., Ltd.
- Survey Site · Counterpart Organization : Kiambu County, Uashin Gishu County, Nakuru County, etc. / Ministry of Agriculture Livestock & Fisheries, Ministry of Industrialization and Enterprise Development, County Government, etc.

### Concerned Development Issues

- ① Agriculture: issues concerning delayed mechanization, food safety (especially health damage caused by the mold aflatoxin), high post-harvest scrapping rates, etc.
- ② Food / food products: issues concerning introduction of cold chain and mechanization of processing processes
- ③ Vocational training and industrial development: issues concerning agricultural machine training environment, and shortages of employment opportunities in regionals and for young people

### Products, Technologies, etc. of SMEs, etc.

- ① Agriculture: plowsoiler, bush cutter, grain moisture tester, etc.
- ② Food / food products: refrigerated transportation system / Flake ice making machine, compact food drier, fish processing machines (fish cutter / fish sausage plant ), etc.
- ③ Vocational training and industrial development: agricultural machine training, remote education system, etc.

### Proposed ODA Projects and Expected Impact

- Trial introduction in local public agencies. Value chain promotion (Agriculture, Food / food products), education and training (all fields)
- Contribution to improvement in added value of farm products and processed foods, higher farm incomes, development of the food processing industry, increased exports of farm products and processed products
- Contribution to expansion of education and training opportunities especially in regions and for young people

### Future Business Development of SMEs, etc.

- Expansion of sales based on examples of utilization in public agencies
- Establishment of a post-sales service setup modeled on implemented ODA Projects

