

Africa Region

**Africa Region
Data Collection Survey
for
JICA's Development Strategy
in the Agricultural Sector in African
towards TICAD8**

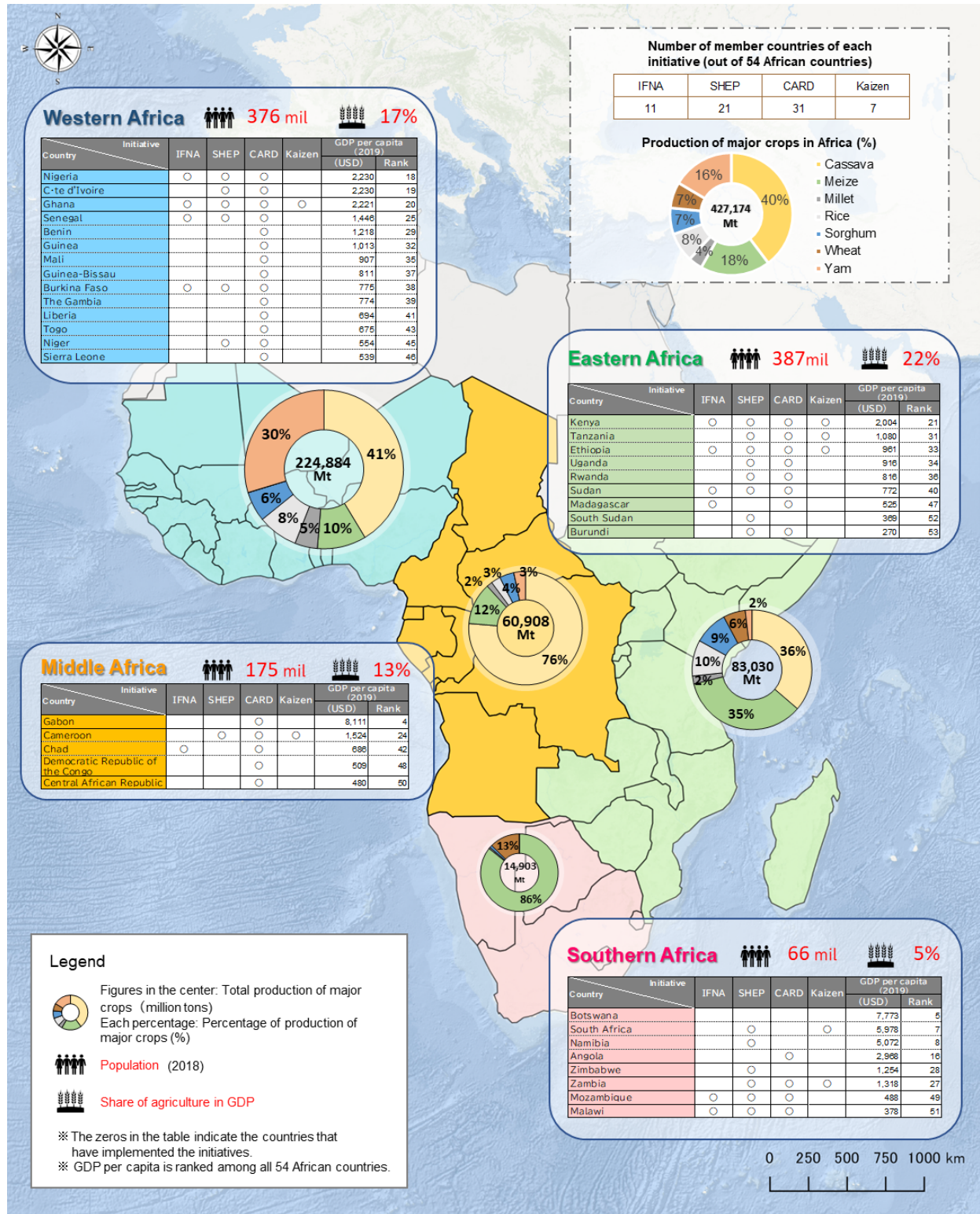
**Final Report
Summary**

February 2022

Japan International Cooperation Agency (JICA)

**Sanyu Consultants Inc.
Japan Productivity Center
Meros Consulting Co., Ltd.**

Location MAP



Photos (1/2)



[Ethiopia 1]

A private Ethiopian company launched an agricultural equipment rental service in Oromia Region in 2015; in 2019, it will launch a digital agricultural business. The service involves extension agents from the Ministry of Agriculture.



[Ethiopia 2]

Incubation facility established in 2017. It has provided support to about 90 start-up companies. The operation of the facility is funded by outside money, and they are also working on matching start-up companies with investors.



[Ethiopia 3]

Ethiopian Agricultural Business Corporation. This is one of the government agencies that distribute and sell fertilizer to agricultural cooperatives. The demand for agricultural machinery in Ethiopia is very high.



[Ethiopia 4]

A Kaizen awareness card was placed on a table in the employee café at Tomoca Coffee, containing information on 5S and other Kaizen-related topics. This was not an order from a Kaizen consultant but an original idea that came from within the company to raise awareness.



[Kenya 1]

A solar-powered irrigation system sold by start-up SunCulture that uses Pay-as-You-Go (PAYG), a combination of IoT and mobile payment technology.



[Kenya 2]

iHub is a coworking space and incubation founded in Nairobi. About 500 start-ups have moved in so far, raising a cumulative total of about \$40 million.

Photos (2/2)



[Malawi 1]

AfriBam's 200-hectare bamboo plantation farm. The project aims to contribute to the reduction of deforestation by producing and promoting bamboo charcoal as an alternative to wood charcoal for fuel.



[Malawi 2].

Bamboo charcoal made from bamboo grown on AfriBam's farm. It is sold at local stores, cafes, and supermarkets in the city.



[Malawi 3]

A solar pump produced by Malawi Fruits. About 400 of these pumps have been installed in Malawi so far. The pipe section can be connected to drip irrigation or sprinkler irrigation.



[Malawi 4]

FES (Farming and Engineering Services) is an organization that provides comprehensive solutions for the agricultural sector. It also has a workshop on agricultural machinery.



[Domestic 1]

An agricultural producer (A-05) (Aichi Prefecture), using the Kaizen method, is visualizing the process by using control plates for machines, labels for rice bags, and management charts for employees' multi-tasking skills while continuing to implement Kaizen from the bottom up through small group activities.



[Domestic 2]

An agricultural producer (A-06) (Ishikawa Prefecture), an agricultural producers' cooperative, reviewed its work processes through Kaizen (improvement) and introduced a "stall system" in which each employee handles multiple tasks to improve work efficiency, resulting in a 1.4-fold increase in shipments with the same number of employees.

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ABBREVIATION AND ACRONYM

Term	Original
ABC	Agribusiness Capital Fund
ABE	African Business Education
AFD	Agence Française de Développement
AfDB	African Development Bank
AFICAT	Africa Field Innovation Center for Agricultural Technology
AGRA	Alliance for a Green Revolution in Africa
AIDS	Acquired immune deficiency syndrome
AIPA	Agriculture Innovation Platform in Africa
AKI	Africa Kaizen Initiative
ASSC	The Global Alliance for Sustainable Supply Chain
ATA	Agricultural Transformation Agency
AU	African Union
BDS	Business Development Service
BMZ	Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung
CARD	Coalition for African Rice Development
CDC	Commonwealth Development Corporation
CMDRR	Community Managed Disaster Risk Reduction
COVID-19	coronavirus disease 2019
CSA	Community Supported Agriculture
CSA	Climate Smart Agriculture
DFI	Development Financial Institution
DFID	Department for International Development
DX	Digital Transformation
EIB	European Investment Bank
EKI	Ethiopian Kaizen Institute
ESG	Environmental, social and corporate governance
EU	European Union
FAO	Food and Agriculture Organization
FBPIDI	Food, Beverage and Pharmaceutical Industry Development Institute
FVC	Food Value Chain
GDP	Gross Domestic Product
GFVC	Global Food Value Chain
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GSMA	Global System for Mobile Communications Association
HIV	Human Immunodeficiency Virus
ICT	Information and Communication Technology
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation
IFNA	Initiative for Food and Nutrition Security in Africa
IoT	Internet of Things
IT	Information Technology
JA	Japan Agricultural Cooperative
JICA	Japan International Cooperation Agency
JiPFA	JICA Platform for Food and Agriculture

Term	Original
JP-MIRAI	Japan Platform for Migrant Workers towards Responsible and Inclusive Society
MAIIC	Malawi Agricultural and Industrial Investment Corporation
MBS	Malawi Bureau of Standards
MFI	Micro Finance Institution
NEPAD	New Partnership for Africa's Development
NEXI	Nippon Export and Investment Insurance
NFA	Nutrient Focused Approach
NGO	Non-Governmental Organization
NINJA	Next Innovation with Japan
NPO	Nonprofit organization
NRDS	National Rice Development Strategy
ODA	Official Development Assistance
POC	Proof of Concept
RICE	Resilience, Industrialization, Competitiveness, Empowerment
SARS	Severe Acute Respiratory Syndrome
SDGs	Sustainable Development Goals
SFS	Sustainable Food Systems
SHEP	Smallholder Horticulture Empowerment & Promotion
SME	Small and Medium Enterprises
SNS	Social Networking Service
SSA	Sub-Sahara Africa
STI	Science, Technology & Innovation
TA	Technical Assistance
TEVETA	Technical, Entrepreneurial and Vocation Education and Training Authority
TICAD	Tokyo International Conference on African Development
TPS	Toyota Production System
TQM	Total Quality Management
UHC	Universal Health Coverage
UN	United Nations
UNIDO	United Nations Industrial Development Organization
VC	Value Chaine
WEDP	Women Entrepreneurship Development Project
WG	Working Group
WHO	World Health Organization
WMO	World Meteorological Organization

Africa Region
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Background of the Work and Outline of the Study

- TICAD is positioned as a policy discussion on the theme of development assistance to Africa.
- TICAD has been shifting to a conference that focuses on business promotion in recent years.
- This study will examine new support themes that will lead to the promotion of projects that JICA has been supporting.

Support themes (draft)	Focus of support
Promotion of Agribusiness	Kaizen approach, BDS (Business Development Service), etc.
AgriTech and FoodTech Promotion	DX, ICT, etc.
Development of an Agricultural Investment Ecosystem	Rural Finance, Collaboration with start-up companies, etc.
Strengthening Agricultural and Rural Resilience	Infectious disease response, climate change response, etc.
Building a Platform for Co-creation of Agricultural Human Resources	Global human resource development, etc.

Current Situation regarding TICAD

- TICAD7 positioned the private sector as an official partner for the first time.
- In the Public-Private Business Dialogue, AIPA's priority actions were "building a digital infrastructure for African agriculture" and "promoting the adoption of advanced agricultural technologies."
- To achieve these goals, the importance of "linkage with initiatives (CARD Phase 2, IFNA, SHEP)," "strengthening Japan-Africa dialogue," and "collaboration with international organizations" was emphasized.

Current Situation of the Assistance Approach

CARD Phase 2

- A RICE approach has been proposed to enhance the competitiveness of domestically produced rice and further collaboration with the private sector.

IFNA

- It is important to support the development of laws, policies, and systems for multi-sectoral initiatives.

SHEP

- Collaboration is needed with donors and NGOs, as well as expansion to other regions and other crops outside Africa, etc.

Examining the Possibility of Innovation

▼ Suggested initiatives for supporting themes ▼

Promotion of agribusiness

- Utilization of kaizen as a means of improving agricultural productivity
- Dissemination and deployment of kaizen methods and BDS provision system

Promotion of AgriTech and FoodTech

- Startup matching support for Japanese companies
- Cooperation with existing initiatives (NINJA utilization), etc.

Development of an agricultural investment ecosystem

- Support for rural financial access through technology development
- Strengthening agricultural services for financial service providers, etc.

Strengthening agricultural and rural resilience

- Promotion of POC (Proof of Concept) of new technologies in technological development
- Support for strengthening management capabilities of start-up companies, etc.

Building a platform for co-creation of agricultural human resources

- Human resource development in the SSA region through AFICAT
- Promotion of the agricultural co-creation hub concept, etc.

▼ Trending Words by Text Mining ▼

- Private Sector, Women and Youth Empowerment, Infrastructure, Agribusiness, Covid-19

Organizing Issues and Responses for TICAD 8

a) Expectations from Japanese companies to JICA ► Basic financial literacy support for farmers, financial support for investment ecosystem formation, social infrastructure development such as irrigation and roads, etc.

b) Expectations from African countries to JICA ► Support for nutrition, agro-processing and distribution, promotion of employment of youth and women in agriculture, climate change measures, support for rural financial access, etc.

c) Trends in aid to Africa and global trends ► Strengthening resilience for food security, agricultural growth and transformation, building inclusive FVCs, creating employment opportunities for youth and women, building sustainable food systems, etc.

▼ Recommended Support Themes ▼

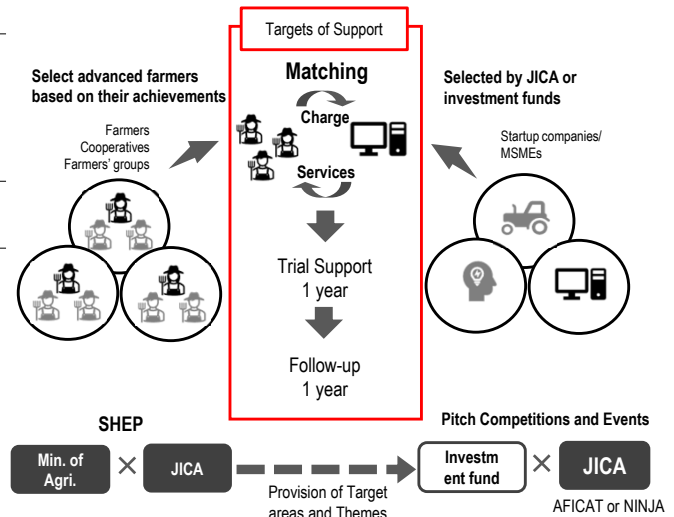
- Promotion of agribusiness
- Development of an agricultural investment ecosystem

▼ Proposals for pilot projects ▼

- Collaboration with start-up companies in SHEP target districts, etc. (using NINJA, etc.)
- Support for improving financial literacy among small-scale farmers and SMEs
- Improvement of the management capacity of agriculture-related businesses through the use of Kaizen methods and BDS

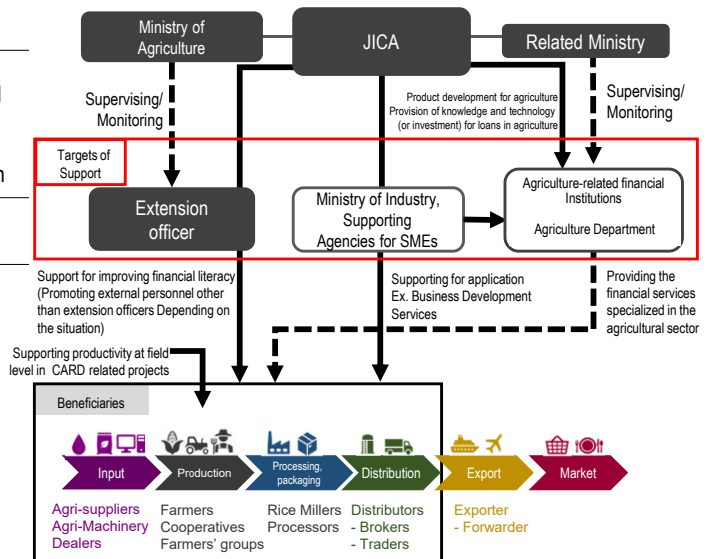
Proposed Project 1: Agribusiness Promotion (Small-Scale Farmers x Small and Medium-Sized Enterprises/Start-Up Companies Support)

Target	<ul style="list-style-type: none"> SMEs/start-up support organizations
Technical Assistances by JICA	<ul style="list-style-type: none"> Implementation of the events Support for matching between farmers and SMEs Support for matching between SMEs/Entrepreneur and Investors
Final Beneficiaries	<ul style="list-style-type: none"> Entrepreneur/Small-Scale Farmers
Issues and Hypothesis	<ul style="list-style-type: none"> There are some farmers that aim for further growth among the farmers whose income and technical skills have been improved by JICA's support. The challenges for entrepreneurs trying to solve farmers' problems are establishing a customer base and lack of funds. The program, in which JICA-supported farmers trial the services of entrepreneurs selected through business matching, can solve the problems of farmers and entrepreneurs.



Proposed Project 2: Development of an Agricultural Investment Ecosystem (Financial Institutions x Ministry of Agriculture Support)

Target	<ul style="list-style-type: none"> Financial institutions, Related ministries and agencies.
Technical Assistances by JICA	<ul style="list-style-type: none"> Development of financial services for farmers that JICA technical assistance will be adopted Analysis of farmers'/processors' potential Analysis of customers and loan's condition
Final Beneficiaries	<ul style="list-style-type: none"> Small, medium, and micro enterprises /Farmers
Issues and Hypothesis	<ul style="list-style-type: none"> Farmers' access to financial services is limited. Financial institutions do not know the actual status of farmers' businesses and their prospects. There is a limit to the development of loan recipients due to the uniformity of loan conditions. JICA knows farmers potential after JICA's agricultural support. Although personal information cannot be shared due to confidentiality obligations, modeling the potential for additional support can contribute to financial institutions' customer development and farmers' access to finance.



Proposed Project 3: Pilot Project of "Agriculture x Kaizen" as an Agribusiness Promotion in Africa

Target	<ul style="list-style-type: none"> Kaizen promotion organization and Ministry of Agriculture
Technical Assistances by JICA	<ul style="list-style-type: none"> Kaizen consultation by Kaizen experts to Agriculture sector
Final Beneficiaries	<ul style="list-style-type: none"> Farmers and Processors
Issues and Hypothesis	<ul style="list-style-type: none"> Farmers, who have not been the target of Kaizen in the past, have room for productivity improvement in each process from production to sales. JICA-supported institutions for Kaizen guidance can support small- and medium-scale farmers if they cooperate with agricultural extension workers (JICA can also bridge the gap between Kaizen institutions and agricultural extension systems). Agriculture-specific Kaizen has a high affinity with SHEP as an approach to creating awareness in agricultural management.

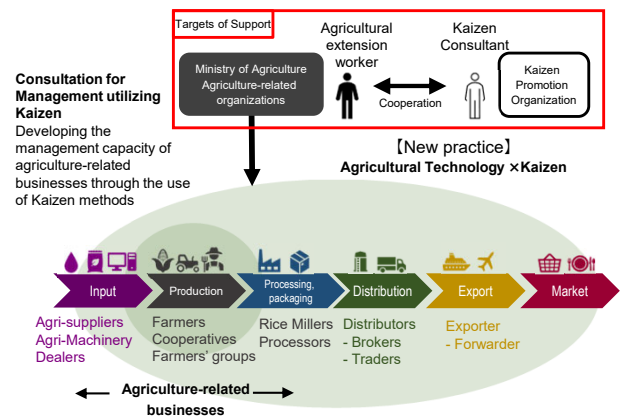


Image of targeted agriculture-related businesses

- Farmers producing grow to sell.
- Farmers trying to develop higher value-added agricultural products and processed products
- Farmers expanding their scale and hiring employees

CHAPTER 1 BACKGROUND OF THE WORK AND OUTLINE OF THE STUDY

In 1993, the Tokyo International Conference on African Development (TICAD) was initially positioned as a policy discussion on development assistance to Africa. In recent years, however, it has become a conference that focuses on the promotion of business between Japan and Africa. This trend is also true in the agricultural sector, a major industry in Africa.

In the Coalition for African Rice Development (CARD), Smallholder Horticulture Empowerment & Promotion (SHEP), and Initiative for Food and Nutrition Security in Africa (IFNA) projects, which have all received continuous support from Japan, collaboration with the private sector and citizens is becoming increasingly important. In addition, Japan launched the Africa Kaizen Initiative (2017–2027) at TICAD VI, and is promoting private sector support for both the economy and employment, including industrial promotion and the fostering of competitive and innovative industrial human resources.

TICAD, which has been held regularly for nearly three decades, has steadily built a relationship of mutual trust between Japan and Africa by flexibly incorporating the speed of Africa's economic growth and changes and trends in the international environment. As expectations for Japan through TICAD are increasing, the launch of a new strategy in the agricultural sector at TICAD8 in 2022 will be positioned as an important part of Japan's diplomacy with Africa.

The main objectives of this survey were as follows: (1) To examine the direction of Japan International Cooperation Agency's (JICA's) strategy and proposal for the agricultural sector in TICAD8. The target region was all African countries (TICAD target countries), and the three target countries for the field survey were Ethiopia, Kenya, and Malawi, considering the impact of the spread of COVID-19 and the local preparations to accept.

- I. Gather and analyze information on the situation and trends surrounding development in Africa.
- II. Organize issues, points of contention, and possible recommended approaches that should stimulate discussion behind the scenes in the international arena.

JICA's Economic Development Division will continue to expand CARD, SHEP, and IFNA in its support for TICAD8 to revitalize the economy of rural areas of Africa and achieve a stable food supply. In addition, they are also planning to promote the "Agriculture Innovation Platform in Africa (AIPA)," "Agriculture and Resilience (Climate Change)," "Fisheries Blue Economy", and "Livestock" and other projects launched at TICAD 7.

The cross-cutting initiatives include resilience in a post-COVID-19 society, digital transformation (DX) and utilization of science and technology innovation (STI), collaboration with various actors including Japanese companies, utilization of Japanese knowledge, and contribution to the African continental agenda.

Based on the policy for the continued implementation of the three main pillars of CARD, SHEP, and IFNA, the support themes for TICAD 8 will be taken from the viewpoint that the new support themes can be an engine to promote existing activities. Particularly, in recent years, JICA's support for the agricultural sector in Africa has begun to focus not only on supporting agricultural production sites but also on supporting the development of rural areas as a whole by linking agriculture and industry together, for example, through linkages with small and medium-sized enterprises (SMEs) that are connected to agricultural production sites and strengthening their competitiveness.

The following table shows the support themes that were set at the beginning of the survey and the corresponding focus of support.

Table 1.1 Focus of Support Utilizing Japan's Strengths and Aid Trends for Innovation (Draft)

Support Theme (Draft)	Focus of Support (Draft)
Promotion of Agribusiness	<u>Kaizen approach</u> , <u>Sixth Industry initiatives (primary producer's diversification into processing and distribution)</u> , agricultural, commercial, and industrial cooperation, etc. BDS (Business Development Service), CSA (Community-Supported Agriculture).
AgriTech and FoodTech Promotion	<u>DX</u> , SFS (Sustainable Food Systems), blockchain distribution system, electronic commerce, etc. <u>ICT</u> , remote sensing, data-driven agriculture.
Development of an Agricultural Investment Ecosystem	<u>Rural finance</u> , impact investment, support for young people and female entrepreneurs, etc. <u>Collaboration with start-up companies</u> , microfinance.
Strengthening Agricultural and Rural Resilience	<u>Infectious disease response, climate change response</u> , indexed-based crop insurance, CSA (Climate-Smart Agriculture). Irrigation and reservoir development, support for small-scale and family farmer regenerative agriculture, etc.
Building a Platform for Co-creation of Agricultural Human Resources	Strengthen inbound training of foreign human resources (ABE Initiative, technical interns), global human resource development, etc. Strengthen training contents (Web, remote), expert talent platform.

Source: JICA Survey Team

(Note) This table is an example of rearranging the focus of support, including instructions (underlined), into the support themes envisioned by the Joint Venture at present.

CHAPTER 2 CURRENT SITUATION REGARDING TICAD

The discussion on the agricultural sector at TICAD7 (in August 2019) was related to the three pillars (Economy, Society, Peace and Stability): “Diversification of Industry in the Economy” and “Expansion of Universal Health Coverage (UHC) in Society and the African Health Initiative.” In the area of industrial diversification, CARD, SHEP, the establishment of GFVC, the development and deployment of agricultural technologies, and expectations for agricultural innovation by the public and private sectors were mentioned; in the area of UHC expansion, active discussions are taking place, including contributions to the improvement of child nutrition through IFNA.

At TICAD7, the private sector was positioned as an official partner for the first time. The Public-Private Business Dialogue of TICAD7 indicated that AIPA would promote “(1) building an infrastructure for digitalization of African agriculture” and “(2) promoting the introduction of advanced agricultural technologies” as priority actions under the three pillars of “productivity improvement,” “empowerment of farmers,” and “high value-added.” In order to achieve these goals, the importance of “linkage with the TICAD Initiative (CARD phase 2, IFNA, SHEP),” “strengthening Japan-Africa dialogue,” and “cooperation with international organizations” was emphasized.

Table 2.1 Directions Being Discussed in the Debate on Aid to Africa after TICAD7

Organization	Main Subjects
Japan Business Council for Africa (JBCA)	<ul style="list-style-type: none"> ✓ Outreach to the African side and support for building networks between Japanese and African private sectors ✓ Provision of one-stop information ✓ Formulation of concrete results for TICAD in individual WGs ✓ Compilation of policy proposals from the private sector

Organization	Main Subjects
Japan Business Council for Africa (Agricultural WG)	<ul style="list-style-type: none"> ✓ Linkage with TICAD initiatives (CARD Phase 2, IFNA, SHEP) ✓ Strengthening Japan-Africa dialogue ✓ Cooperation with international organizations
GFVC, Promoting Public-Private Agreement (Africa Subcommittee)	<ul style="list-style-type: none"> ✓ Support through SHEP and CARD, and transfer of post-harvest processing technology and introduction of agricultural machinery in collaboration with ODA ✓ Promotion of agricultural digitalization and small-scale farmer organization and support for FVC construction ✓ Continued dispatch of agricultural policy advisors (ongoing: Kenya, Zambia, Senegal) ✓ Trends in interest in agricultural innovation and public-private partnerships ✓ Emphasis on further promoting cooperation between the public and private sectors ✓ Possibility of strengthening the introduction of ICT technology with a view to the deployment of Japanese companies and collaboration
JIPFA Africa and FVC Subcommittee	<ul style="list-style-type: none"> ✓ Expectations for AIPA promotion and private sector advancement to solve population growth, food security, and other issues ✓ Overseas business development in the post-COVID-19 era
Japan Association of Corporate Executives	<ul style="list-style-type: none"> ✓ Proposal 1: Accelerating Development Investment in Africa <ul style="list-style-type: none"> • Narrow down strategic investment areas (healthcare, agriculture, green, and digital sectors) • Shift to a "self-reliant" approach (partnerships with local companies, M&As, a collaboration between start-ups and large companies) • Create an Africa-specific impact funds (impact investment funds that aim to contribute to society) ✓ Proposal 2: Expansion of investment opportunities and improvement of the environment <ul style="list-style-type: none"> • Evolution to a colorful TICAD where diverse stakeholders gather • Improvement of the investment environment ✓ Proposal 3: Establishment of an Africa Investment Organization (tentative name) <ul style="list-style-type: none"> • Strengthen the African Business Council • Establish an impact fund through a public-private partnership • Establish a permanent "African Development Headquarters" (tentative name) within the government

Source: Compiled by the JICA Survey Team from each council's website, etc.

CHAPTER 3 CURRENT SITUATION REGARDING THE ASSISTANCE APPROACH

3.1 Current Situation of Aid Coordination

In terms of aid to Africa, Japan's ODA performance in 2020 was US\$ 16.26621 billion, up 4.4% from the previous year in US dollar terms (or 1,736.6 billion yen, up 2.2% from the previous year in yen terms). The main reason for the increase in results compared to the previous year is the increase in bilateral paid financial cooperation (yen loans, etc.), such as the provision of yen loans for emergency assistance in response to the new coronavirus crisis in order to maintain and revitalize economic activities, particularly in the Asia-Pacific region, in light of the global spread of COVID-19.

In Sub-Saharan Africa, the United States is the largest contributor of ODA to the region. This is followed by Germany, the United Kingdom, France, and Japan. By country in Sub-Saharan Africa, Japan's largest ODA contribution is to Kenya. This is followed by Mozambique, Rwanda, Uganda, and Ethiopia (2019 annual results).¹

¹ Source: Ministry of Foreign Affairs of Japan, "2020 Annual White Paper on Development Cooperation," 20216Year.

3.2 Current Situation Regarding the Initiatives

3.2.1 CARD Initiative

The Coalition for African Rice Development (CARD) is an international initiative launched by JICA at TICAD IV in 2008 in collaboration with the Alliance for a Green Revolution in Africa (AGRA), an international NGO. For TICAD7 in 2019, CARD Phase 2 expands the target countries to 32 countries and focuses on the path to doubling through the RICE approach (Resilience, Industrialization, Competitiveness, Empowerment) to strengthen the competitiveness of each country's domestic rice and further collaboration with the private sector.

CARD-related organizations and member countries have indicated that Phase 1 has promoted technology and information sharing, etc., among stakeholders, thus showing the success of the project. There have also been comments from CARD officials and government officials in the member countries that the NRDS, of which CARD supports the preparation, was well known in the formulation of rice policies, which led to an increase in rice policies and investments. In particular, the technical experience gained in Asia has been highly successful in terms of field level and human resource development.

On the other hand, in order to reach self-sufficiency in rice in Africa, the following issues were identified: clarification of the roles and responsibilities of each stakeholder, strengthening of coordination at the national level, raising the priority of rice policy in each country, and attracting investment from the private sector and other sectors in the formulation of NRDS. It was also recognized that the collection and analysis of appropriate statistical data and the improvement of monitoring and evaluation systems are necessary for the further utilization of improved varieties and technologies.

3.2.2 IFNA

The Initiative for Food and Nutrition Security in Africa (IFNA) is an initiative for African countries and donor agencies to work together to improve nutrition over the next ten years until 2025. At TICAD7 (2019), the IFNA Yokohama Declaration 2019 was adopted at an IFNA-related event, declaring that the support that had been provided mainly to the ten leading countries since the inception of IFNA in 2016 would be expanded to improve the nutrition of 200 million children in all of Africa.

IFNA's multi-sectoral approach is an approach that CARD and IFNA do not have. However, there is a view that multi-sectoral planning and implementation across multiple organizations is fundamentally less efficient because the basic organizational structure is a vertical system by sector not only for African countries but also for the government in each country and donor agencies. On the other hand, multi-sectoral interventions in agriculture, water, sanitation, etc., are essential to improve nutrition, and there have been examples of grassroots efforts, etc., at the field level. It is important to support the development of laws, policy formulation, and systems to promote multi-sectoral efforts.

At the 2nd IFNA Partners Meeting (June 2021), the following issues were raised: a lack of experts who can provide technical guidance when combining nutrition with other sectors; a lack of multi-sectoral coordinating bodies and coordination capacity; the need to coordinate roles and activities of stakeholders; and the establishment of evaluation and monitoring systems when crossing sectors. Similar to CARD, strengthening the coordination and technical capacity of the governmental agencies involved in the project, securing funding, enhancing awareness, and cooperating with other development partners were cited as important issues and future developments.

3.2.3 SHEP

The Smallholder Horticulture Empowerment & Promotion (SHEP) approach is an approach to support smallholder horticulture farmers developed through a technical cooperation project between the Kenyan Ministry of Agriculture and JICA that started in 2006. The SHEP approach is an approach to support

small-scale horticulture farmers. The approach aims to change the mindset of farmers who produce fruits and vegetables from “grow and sell” to “grow to sell,” and to increase their horticultural income by improving their farming and cultivation skills.

At a side event of TICAD7, the Joint Declaration on Better Livelihoods for One Million Smallholder Farmers through SHEP was adopted (Yokohama, August 29, 2019), which states that countries will work in partnership with government officials, development partners, the private sector, and other relevant organizations to implement the SHEP approach to help at least one million smallholder farmers achieve better livelihoods by 2030. SHEP is also working with donors and NGOs and is expanding beyond Africa to other regions and crops.

Some of the reasons why SHEP has been able to promote wider coverage include the careful assembly of issue-specific training and subsequent revision work; prior unification of intentions with headquarters, offices, and destination governments; careful follow-up on action plans; and an attractive SHEP concept and methodology. In addition, there are opportunities for sharing and understanding of the SHEP concept through opinion exchange meetings and capacity-building training between experts and consultants engaged in existing SHEP-related projects and JICA overseas offices and headquarters. Involving experts and consultants from the time of issue-specific training (including pre-training) and further follow-up is also considered to be effective in promoting the initiative.

3.2.4 Examples of Other Initiatives and Projects

The initiatives implemented mainly in Africa by other donors and others are based on the Malabo Declaration and the Comprehensive African Agricultural Development Program and provide technical assistance to agricultural production infrastructure and farmers, as well as comprehensive support for the entire food value chain. In particular, in recent years, from the perspective of comprehensive development of the food value chain, initiatives have been promoted to strengthen agribusiness, including financial support and involvement in activities of small and medium-sized enterprises in rural areas that have linkages with agricultural production sites.

3.2.5 Lessons Learned and Recommendations for Initiative Management

Lessons learned on the management of the initiative were summarized in terms of the functioning of the initiative, its management, collaboration with member countries, partner organizations, and the private sector, and consideration of how to deploy it.

Table 3.1 Examples of Lessons Learned in Initiative Management

Item	Lesson
Function of the Initiative	<ul style="list-style-type: none"> Clarify the concept of the initiative (e.g., limit the target crops. However, if the project is successful, it may be useful to expand the scope to other crops). However, it should not be a one-size-fits-all system, but a system that can be customized to suit the circumstances of the country.
Management of the Initiative (Secretariat, Steering Committee)	<ul style="list-style-type: none"> Secure sufficient staff and clarify the roles of each staff. Establish a system for follow-up and monitoring in each target country or region by assigning a secretariat, experts, and regional consultants.
Initiative Member Countries	<ul style="list-style-type: none"> Strategically select focal points. Select appropriate focal points and issue-specific training participants according to the content and purpose of the initiative, such as departments that can formulate government business plans, positions that can execute budget distribution, and extension agents and local officials who can serve as project implementers.
Collaboration with Partner Institutions and	<ul style="list-style-type: none"> Consider flexible collaboration not only with development partners but also with NGOs and private companies (there is room to consider collaboration with NGOs and companies operating in countries and regions where JICA cannot implement its

Item	Lesson
Private Companies	projects). Consider fully coordinating the speed of operations with the private sector, government agencies, initiative management, and partner organizations.
Consideration of Deployment Methods	<ul style="list-style-type: none"> Based on the concept of the initiative and past experiences, develop a roadmap on how to develop the initiative on a wide scale. Consider setting goals not only for Africa as a whole but also for the region, and how to develop the activities of the Initiative.

Source: JICA Survey Team (November, 2021)

CHAPTER 4 EXAMINING THE POSSIBILITY OF INNOVATION

4.1 Precedents and Issues Related to Agribusiness Promotion

4.1.1 Overview of Agribusiness Promotion

In recent years, Africa's agricultural sector has increasingly positioned agriculture and agro-processing as an important sector for industrial development in order to create new jobs and reduce poverty. These efforts to promote agriculture as a business, i.e., agribusiness, have been increasing year by year, and governments and companies in various countries have been focusing on disseminating and organizing agricultural technologies to small-scale farmers and on developing agro-industrial parks to integrate agro-processing industries.

On the other hand, the lower agricultural productivity and lower value-added agricultural products in African FVCs, as well as the weakness of linkage between farmers and agriculture-related SMEs, are major issues in promoting agribusiness. In recent years, there have been some efforts to improve the quality of agricultural products as raw materials, to ensure stable supply, to involve the government in adding value to agricultural products, and to collaborate with a wide range of stakeholders, including the private sector, in order to add value and reduce food loss although these efforts remain limited. Moreover, providing support for small-scale farmers to improve their production technology would be important and would need to be addressed immediately to strengthen the capacity of agribusiness firms, such as strengthening the management capabilities of SMEs operating in FVCs and improving financial access.

JICA is implementing Kaizen projects in 7 African countries² to improve corporate productivity and quality and strengthen corporate competitiveness. Depending on the situation in each country, the projects supports the development of human resources that are capable of providing training and consultation of basic Kaizen, such as 5S activities,³ waste elimination, and visualization, as well as advanced Kaizen, such as Toyota Production System (TPS), Total Quality Management (TQM), marketing, and finance & accounting through implementing Kaizen at pilot companies, training Kaizen trainer, and supporting the formulation of dissemination plans of Kaizen.

In addition, JICA supports the establishment of service provider systems and human resource development for the BDS (Business Development Service), which is a consulting service for improving corporate management for SMEs and supporting business management, such as the formulation of corporate strategy, marketing, finance and accounting, and human resource management. The targets of Kaizen and BDS already include agro-processing companies in FVCs, but this study examines the possibility of using the methods and support schemes developed through such corporate support for a wider range of agriculture-related companies and agricultural producers.

² "Kaizen" in this study is defined by the JICA Kaizen Handbook (2018) as "the essence of Kaizen, which is not just a management technique, but an attitude in which everyone in an organization always pursues a higher level of quality and productivity (improvement of the quality of work)." With this essence at its core, the entire body of knowledge encompassing a wide range of methods and techniques for implementing specific activities is defined as "Kaizen."

³ The 5Ss are represented by five words beginning with the letter "S": Sort, Set in order, Shine, Standardize, and Sustain.

4.1.2 Organize Precedent Cases and Issues

(1) Overview of Policies and Initiatives to Promote Agribusiness in Japan

Japan's agricultural industry is facing challenges, such as increasing competitiveness in international markets and a shortage of workers due to the declining birthrate and aging population. Agricultural producers are increasingly shifting from family management to corporate and are under pressure to correct their working environment (e.g., reduce hard, dirty, and dangerous work) and improve working conditions (e.g., raise salary levels, reduce overtime hours, secure holidays, and join social insurance). However, in order to achieve these goals, it is essential to generate profits through increasing labor productivity and adding higher value. As an approach to achieve this, the Japanese government is promoting collaboration with fields other than agriculture and the utilization of technology, know-how, and human resources.

(2) Application of Kaizen Methodology in the Agricultural Sector

1) Providing Kaizen consultation in the Agricultural Sector by Toyota Motor Corporation

In Japan, Toyota Motor Corporation is offering a service under the name "Housaku-Keikaku,"⁴ which consists of Kaizen consultation and an IT system (software) that supports the quantification for agricultural producers by Toyota's employees with experience in automobile production lines, as an approach of improving productivity in agricultural sector with the aim of solving the many issues facing Japanese agriculture, such as strengthening competitiveness and securing workers.

2) Utilization of Kaizen Methodology by Extension Instructors

In Ishikawa Prefecture, extension workers have received instructions from Toyota on how to implement Kaizen in the agricultural sector and are currently implementing Kaizen at 15 farms.⁵ When Kaizen is introduced at a new agricultural producer, personnel from Toyota Motor Corporation are invited to come and work with the producer, but regular support is provided mainly by extension workers.⁶ Also, it provides training for farmers by inviting personnel from Toyota Motor Corporation to give lectures on the basics of Kaizen.

(3) Support for Consultation on the Management of Agriculture (Support Equivalent to BDS)

The Ministry of Agriculture, Forestry, and Fisheries (MAFF) has established Agricultural Management Consultation Offices in each prefecture. Agricultural producers who wish to have an expert dispatched to their farm must first contact the agriculture and forestry office of the prefecture, and based on the application from the office, the management strategy meeting held weekly in the Shizuoka Agricultural Promotion Corporation (with the participation of the Shizuoka Agricultural Promotion Corporation, JA, and Japan Finance Corporation) decides whether or not to dispatch the expert.

Table 4.1 List of Main Interviewees (Agribusiness Promotion)

No.	Type	Overview
A-01	Private company	The "Demonstration Project for Establishing Advanced Model Agriculture through Cooperation between the Agricultural and Business Communities" is implemented by a consortium with other organizations.

⁴ For the first 3 years, the project was carried out under the "Demonstration Project for Establishing Advanced Model Agriculture through Cooperation between the Agricultural and Business Communities," as mentioned earlier.

⁵ Initially, the target agricultural producers were mainly rice farmers with a scale of 100 hectares, but now the scale of producers has diversified to include those with a scale of about 20 hectares.

⁶ Consultation by extension advisors is provided free of charge, while consultation by Toyota Motor Corporation employees is paid for.

No.	Type	Overview
A-02	Private company	Utilizing the above demonstration project, the "Rice-Growing Kaizen Network" was established in 2014 with agricultural producers in Aichi and Ishikawa Prefectures to demonstrate Kaizen guidance and IT systems in the agricultural field and has been commercialized under the name of "bumper crop planning." Currently, more than 100 organizations are using the system nationwide.
A-03	Administrative organization	In cooperation with Toyota Motor Corporation, we are incorporating Kaizen into our dissemination and guidance operations.
A-04	Local Public Agency	This agency is involved in supporting the development of a sixth industry and new farming in Ishikawa Prefecture and is the operator of an agricultural management consultation center. In cooperation with Toyota Motor Corporation, it is involved in the spread of the Kaizen method in the prefecture.
A-05	Agricultural Producers	In addition to its own rice production, the company is also engaged in contract work for surrounding rice fields. In 2014, the company joined the above-mentioned "rice-growing Kaizen network" and uses Kaizen guidance and IT systems provided by Toyota Motor Corporation.
A-06	Agricultural Producers	The company produces rice, lotus root, etc., and is receiving Kaizen guidance from Toyota Motor Corporation through an intermediary organization (A-04).
A-07	Organization	The organization is an operator of agricultural management consultation offices and dispatches experts to agricultural producers.
A-08	Organization	The organization conducted an experimental study on the deployment of the Kaizen method to dairy farmers through the Japan Racing Association (JRA) subsidized project "Experimental Study on Dairy Farmers' Work Style Reform."
A-09	Dairy farmer	Interviews were conducted when the Kaizen Check Sheet was developed for the "Experimental Study on Work Style Reform in Dairy Farmers." In particular, they are working on the visualization of information.

Source: Compiled by the JICA Survey Team based on websites and interview results.

4.1.3 Suggestions for Future Directions of Support

As an approach for the promotion of agribusiness in Africa, the possibility of utilizing Kaizen methods and BDS in the agricultural sector will be discussed from two perspectives based on the results of a survey of practices in Japan.

■ Kaizen as a Method of Improving Productivity in the Agricultural Sector

The Kaizen method has been utilized not only in Japan but also in Africa, mainly in the manufacturing sector. However, it is a pioneering approach that has only recently started in the agricultural sector in Japan. In considering the development of this approach in Africa, it would be necessary to keep in mind the difference of social background between Africa and Japan. Also, Kaizen is still unknown in the African agricultural sector. Therefore, it would be necessary to raise awareness around the Kaizen method through its trial implementation in the African agricultural sector.

■ System for Dissemination of Kaizen Methods and BDS Providers in the Agricultural Sector

In Japan, Kaizen consultation in the agricultural sector is provided by private companies and consultants promoted through public support. For disseminating Kaizen in the African agricultural sector, it will be necessary to consider what kind of institutions and organizations can be service providers of Kaizen consultation by taking into account the situation in each country. The Agricultural Management Consultation Center in Japan will be a relevant model for providing BDS in the agricultural sector in

Africa. Through the review of Japan's case, this survey concluded that the Kaizen method would be an effective approach for supporting the development of BDS in the agricultural sector.

4.2 Precedents and Issues Related to the Promotion of Agritech and Foodtech

4.2.1 Overview of AgriTech and FoodTech

The global AgriTech/FoodTech⁷ market is booming. According to the US venture capital firm AgFunder's annual report,⁸ AgriTech and FoodTech start-ups from upstream agricultural production to downstream market access raised \$26.1 million in 2020, which was a 15.5% increase over the previous year, despite the impact of COVID-19.

On the other hand, the amount of investment received by AgriTech and FoodTech companies in Africa, where about 15% of the world's population lives, is less than 1% of the global total. Although many start-ups have been launched in the areas of information advisory services that provide farmers with farming information and market linkages that connect farmers with agricultural products and input markets, most are still dependent on donor funding, and only a few have succeeded in securing private funding and getting their business off the ground.

4.2.2 Organizing Precedent Cases and Issues

(1) Trends in Start-Up Companies

The digital solutions for agriculture that are gaining the most traction in Africa are digital and information advisory services that provide small-scale farmers with various information related to their farming practices. Services that provide digital financial services to small-scale farmers have also grown.⁹ Market linkages/e-commerce is another growing area of need. In East Africa, Kenya leads in the number of companies and services, with 20~30% of farmers having access to some agricultural digital solution. The main factors behind the difference in the speed of AgriTech diffusion among countries are (1) the state of the investment environment and start-up ecosystem, (2) the government's promotion of digital policies, and (3) the environment for telecommunications infrastructure and mobile money.

(2) Trends in International Organizations

International organizations, national government agencies, and DFIs also provide various support to start-ups and SMEs in the agricultural sector, including AgriTech. The support schemes can be divided into two main categories. One is through investment in funds for start-up companies, and the other is direct support through accelerator programs. Support organizations include the International Fund for Agricultural Development (IFAD), the African Development Bank (AfDB), and the European Investment Bank (EIB), the International Finance Corporation (IFC), the UK Department for International Development (DFID)/UK Development Corporation (CDC), the French Development Agency (AFD), and the German Agency for Economic Cooperation and Development (BMZ)/German International Cooperation Agency (GIZ).

⁷ This refers to advanced technologies, such as ICT and biotechnology, introduced and used in the agricultural and food value chains, as well as products and services that use these technologies. In the upstream, it includes cultivation data analysis and farm management support applications using ICT technology, sensors and IoT, automation of agricultural machinery, and environmentally controlled agriculture; in the midstream, it includes food safety and traceability assurance using blockchain, etc., and logistics and transportation; and in the downstream, it includes last-mile delivery and development of online marketplaces. This includes last-mile delivery, development of online marketplaces, etc.

⁸ AgFunder, 2021 "AgFunder AgriFoodTech Investment Report." Available at <https://research.agfunder.com/2021/2021-agfunder-global-report.pdf>.

⁹ GSMA, 2020 "Digital Agriculture Maps – 2020 State of the Sector in Low and Middle-Income Countries"

(3) Trends of Japanese Companies Entering the Market and Issues for Future Development and Collaboration

Cost is one of the biggest bottlenecks in the spread of AgriTech, and those who have a certain amount of financial resources will be the sellers and customers. In Africa, the targets of businesses trying to introduce new technologies are often medium- to large-scale farmers, farmer groups, and other organizations of a specific size, as well as companies and cultivators. For software companies dealing with AgriTech, the availability of policy support, such as the state of the network environment and the level of national efforts to digitize agriculture, was an important factor in considering expansion.

Table 4.2 List of Main Interviewees (AgriTech, FoodTech)

No.	Type	Overview
B-01	Private company	The company sells tractors, cultivators, combine harvesters, etc., as its main products, mainly to wage earners, and has a specialized division that invests in ICT-related companies and looks out for local companies.
B-02	Private company	The companies formed a business alliance in 2020, and the private company (B-02) launched a wholly-owned joint-stock company to export used agricultural machinery to Africa using a cross-border EC site in 2021. In the same year, they formed a business alliance with the private company (C-04) for financing the purchase of agricultural machinery.
B-03	Private company	This company is conducting “visualize farmland and agricultural processes” using satellite data and parcel information. They have been operating in India since 2019. In Africa, the company is conducting demonstration tests with donors in Burundi.
B-04	Private company	The company plans, develops, and sells industrial remote sensing services; it started a demonstration experiment in Cambodia in 2018.
B-05	Private company	The company is engaged in the construction of cultivation houses, sales of cultivation materials, and production and sales support, etc. The company was selected for a feasibility study by JICA's Small and Medium Enterprises Overseas Development Support Project in FY 2018 and conducted cultivation tests in Nakuru County, Kenya.
B-06	Private company	They launched a fund for seven African countries in 2018 and a second African fund in 2021. The company has been investing in diverse startups in finance, logistics, medicine, and agriculture.
B-07	International organization	They launched their Private Sector Strategy in 2019. They also launched Agribusiness Capital Fund (ABC Fund) in 2019 to engage in impact investing activities in the agriculture sector.

Source: Compiled by the JICA Survey Team based on websites and interview results.

4.2.3 Suggestions for Future Directions of Support

■ Establish an Environment to Promote Digitization

The spread of services in the AgriTech sector depends largely on government policies to promote digitization, the telecommunications environment, and the investment environment that makes it easy for private companies to enter the sector. International organizations and private companies will find it easier to operate in countries where the government is promoting digitalization and the policy environment is in place. In such countries, it is possible to consider introducing services of Japanese companies in cooperation with international organizations.

■ Support Local Start-Up Development (Accelerator Programs, Fund Investment, etc.)

JICA has already been providing support for entrepreneurs through Project NINJA (Entrepreneurship Support Activities for Business Innovation Creation in Developing Countries), but it is also providing services that contribute to issues such as improving farmers' productivity and income and combating climate change, such as programs for supporting entrepreneurs specializing in the agricultural sector. It

is desirable to strengthen support for finding and fostering entrepreneurs who provide services that contribute to improving farmers' productivity and income and combating climate change. At the same time, it is important to attract funds to private funds that invest in agricultural start-ups and small and medium-sized enterprises. International organizations and aid agencies are expected to play a role in bearing the first loss and attracting private investment.

■ **Match Support for Japanese Companies**

Although there are Japanese companies that are interested in expanding into Africa and collaborating with African AgriTech companies, it is difficult for private companies to find enough information about potential partners and good candidates for collaboration. In particular, when Japanese companies are considering entering the market, there is a high need for finding and providing information on potential partner companies and matching support.

■ **Collaborate with Existing Initiatives (Support for Improving AgriTech Users' Cultivation Techniques and IT Literacy)**

In order to disseminate AgriTech services, it is also important to train the farmers, who are the users of these services. Within existing initiatives and projects such as CARD and SHEP, collaboration can be considered in the form of introducing elemental AgriTech technologies that package existing cultivation technology guidance with IT education or introducing digital technologies as a tool for improving market access.

■ **Strengthen Financial Support for Farmers and Promoting Cooperation among Companies**

In order for AgriTech services to spread in the African region, it is essential to provide a set of financial services that can be utilized by small-scale farmers in addition to products and services. In the future, it will be necessary to provide access to finance and packaged products and services and to promote collaboration between AgriTech and FinTech companies.

■ **Support Climate Change Countermeasures and Efforts toward a Decarbonized Society**

Renewable agriculture and agricultural carbon sequestration are being promoted worldwide in order to achieve both greenhouse gas reduction and sustainable agriculture. In addition to the support for small-scale farmers and the use of Japanese technology, it is expected that the spread of AgriTech will be increasingly important from the perspective of contributing to the resolution of global issues such as the SDGs or creating an impact on the environment and society.

4.3 Precedents and Issues Related to the Development of Agricultural Investment Ecosystems

4.3.1 Overview of the Development of the Agricultural Investment Ecosystem

Due to the high risk of natural disasters such as droughts and low productivity in agriculture, financial services are not always available to meet the needs of small-scale farmers. In addition, many micro-, small-, and medium-sized enterprises (MSMEs) are involved in the agricultural sector in Africa on the FVCs of various crops, and MSMEs are often referred to as the "missing middle" of finance because they are too small to qualify for loans from commercial banks. In sub-Saharan Africa, MSMEs need to grow, and to do so, they need to be provided with financial services that meet their needs and promote their use.

Furthermore, the promotion of private investment and financing is essential for the sustainable growth of the agricultural sector in Africa. It is difficult for public institutions alone to finance the agricultural sector, and the key issue is how to attract private investment and financing in the agricultural sector. In recent years, in addition to the growing interest in ESG investment, there has been an increase in impact

investment initiatives. It is important to build an ecosystem to promote such private investment and financing activities further.

4.3.2 Organizing Precedents and Issues

The situation surrounding rural finance in Africa is changing rapidly, and there is a need for activities that go beyond the traditional framework of rural finance and are based on organic cooperation with various actors. In light of this situation, we define rural finance sector as “agricultural investment ecosystem development”. The following is a list of issues related to the development of the agricultural investment ecosystem in Africa.

(1) Rural Areas/Improving Access to Finance for Rural Women

There are still large gaps in access to financial services across regions and between men and women in Africa. There is a gap of about 9 percentage points between male and female account ownership across developing countries, and in Nigeria and Benin, the gender gap in account ownership exceeds 20% points.¹⁰ There is a strong need to improve access to finance for rural areas and rural women.

(2) Promoting Digital Financial Services

In Sub-Saharan Africa, digital financial services are rapidly gaining traction. In Kenya, more than 70% of the adult population has a mobile account,¹¹ and in Uganda and Zimbabwe, the percentage is about 50%. On the other hand, in countries such as Ethiopia, Nigeria, Niger, and Tanzania, the percentage of the adult population with mobile accounts has not increased significantly, and the adoption of digital financial services has been limited.¹² Against this backdrop, the absence of laws, regulations, and policies governing digital financial services may have contributed to the lack of widespread adoption of digital financial services.

(3) Promoting Private Investment and Financing in the Agricultural Sector

Private investment and financing activities in Africa, especially in the agricultural sector, are still limited. In order to promote private investment and lending, for example, efforts are being made to reduce the risks for private investors through blended debt financing schemes that combine public and commercial private capital to create impact funds that aim to create a more positive social impact and to provide incentives for investment and lending to micro-, small-, and medium-sized enterprises (MSMEs) in the agricultural sector, which are classified as the missing middle. These include efforts to provide incentives for investment and financing to micro, small, and medium enterprises in the agricultural sector.

**Table 4.3 List of Main Interviewees
(Development of Agricultural Investment Ecosystem)**

No.	Type	Overview
C-01	Research institution	A research institute of the World Bank Group. It works to improve the lives of the poor by providing access to financial services. It disseminates various information on financial inclusion.
C-02	Private company	It has jurisdiction over seven countries in West Africa. In recent years, opportunities for business investment as well as ODA have increased. It has also invested in start-up companies whose main customers are small-scale farmers.
C-03	Private company	They integrated their Africa-related businesses in 2017 and established a new Africa headquarters. The company manufactures and sells fertilizers in

¹⁰ Source: The World Bank, above.

¹¹ Source: The World Bank, “The Global Findex Database 2017” (2018).

¹² Source: The World Bank’s former bulletin.

No.	Type	Overview
		Kenya. In recent years, the company has launched a CVC and is accelerating investment in start-up companies.
C-04*	Private company	They launched their subsidiary in Kenya in 2018 and licensed their asset finance business in 2019. They are running a used car financing business using credit scoring.
C-05	Private company	Established in 2000 and started biofuel business. Currently, they are mainly engaged in rural financial service business using electronic money and other means. He is also a core member of the Agriculture WG of the African Business Council.
C-06	International Organization	It launched a Private Sector Strategy in 2019. It has also launched Agribusiness Capital Fund (ABC Fund) in 2019 to undertake impact investing activities in the agriculture sector.
C-07	Private company	They launched a fund for seven African countries in 2018 and a second African fund in 2021. The company has been investing in diverse startups in finance, logistics, medicine, and agriculture.
C-08	Private organization	Established in 2020, it is funded by donor contributions. It is working to promote access to finance for agricultural SMEs in Africa by providing incentives to financial institutions.

(Note) * Hearing sites that overlap with other emerging themes (Agri-Tech and Food-Tech promotion).

Source: Compiled by the JICA Survey Team based on websites and interview results.

4.3.3 Suggestions for Future Directions of Support

JICA already has several initiatives directly targeting small-scale farmers, such as SHEP and CARD, as well as a number of technical cooperation projects. There are also potential initiatives in agricultural and rural finance based on its past efforts in gender mainstreaming in the agricultural sector, as well as participation in an impact fund targeting the African agricultural sector in collaboration with other organizations.

■ Improve Access to Rural Finance through Built-In Technical Cooperation

Efforts to improve rural financial access could be incorporated in the technical cooperation. Specifically, it would be good for SHEP activities to include a package of financial education for small-scale farmers, encouraging them to save their increased cash income through market-oriented activities in appropriate accounts, practicing money management in their households, and supporting reinvestment in agricultural equipment and materials.

■ Strengthen Agricultural Technology-Related Services for Financial Service Providers

Through the technical cooperation project, the training of technical experts who can provide agricultural guidance to rural financial service providers and support for the introduction of agriculture-related services may be implemented. In addition, the SHEP approach will be introduced to various service providers such as MFIs, savings associations, and agricultural start-up companies. By involving service providers involved in rural finance in JICA's technical cooperation activities, the number of beneficiary farmers of existing initiatives such as SHEP will be increased and access to rural finance will be improved.

■ Promote Collaboration between Overseas Investment and Loan Projects and Technical Cooperation Projects

It is envisioned that the strengthening of the businesses of both parties will be further enhanced through collaboration, such as the inclusion of overseas investment and loan recipients in the scope of technical assistance (TA) for JICA's technical cooperation projects. In terms of structuring investment and loan projects, agricultural cooperatives and farmer groups that have been supported through technical

cooperation projects could be linked to such investment and loan projects as an exit strategy, and access to such funds could be supported.

■ **Mobilize Private Capital through Participation in Agricultural Impact Investment Funds of Other Donors**

Some other donors are already involved in activities related to agricultural impact investment funds. For example, through its ABC Fund, IFAD is engaged in investment and financing activities targeting agricultural SMEs, agricultural cooperatives, and financial institutions that support them. By participating in these activities, IFAD could play a role in promoting investment and loans to local farmer groups involved in JICA projects and promoting the fund to Japanese private companies through JICA.

■ **Promote Innovation in Rural Financial Services**

JICA has been supporting the business development of Japanese companies in Africa by utilizing the private sector partnership scheme. On the other hand, JICA's efforts to provide technical assistance to local companies and support for demonstration projects are limited. By collaborating in the technical cooperation scheme and supporting business development including small-scale local companies, it will be possible to accumulate information on local companies, return the information to Japanese companies, match the information, and promote business investment.

■ **Incorporating Digital Financial Services into Existing Systems**

In Africa, new service providers such as digital financial service providers are emerging. On the other hand, there are traditional financial service providers that are rooted in the community. It would be effective to support the collaboration between existing financial service providers and digital financial services or the introduction of digital services to existing organizations. JICA will act as a facilitator to promote collaboration between these two different financial service providers.

4.4 Precedents and Issues Related to Agricultural and Rural Resilience Strengthening

4.4.1 Overview of Agricultural and Rural Resilience Strengthening

The Sub-Saharan Africa region is highly dependent on rainfed agriculture and is more vulnerable to climate change and natural disasters than any other region, with limited adaptive capacity. Climate change (global warming, drought, changes in rainfall patterns), infectious diseases (malaria, Ebola, COVID-19, etc.), and damage by the desert locust are all factors that make the agricultural environment vulnerable to widespread negative impacts.

■ **Climate Change**

According to the World Meteorological Organization (WMO), the worst-case scenario is expected to reduce average agricultural yields by 8–13% by the middle of this century. To address the risks of climate change and natural disasters, a holistic approach to risk management support is effective and has been implemented in various fields (e.g., CMDRR: Community Managed Disaster Risk Reduction). In recent years, there has been a growing need for index-based agricultural insurance.

■ **Infectious diseases**

Major infectious diseases include malaria, tuberculosis, HIV/AIDS, cholera, meningitis, hepatitis, schistosomiasis, lymphatic filariasis, African sleeping sickness, Ebola hemorrhagic fever, and SARS. Infectious diseases have been found to be closely interrelated with malnutrition. In order to address malnutrition, it is important to intervene in a cross-sectoral (multi-sectoral) manner from various sectors such as health, agriculture and food, water and sanitation, and education.¹³

¹³ Source: <https://www.jica.go.jp/activities/issues/nutrition/index.html>.

■ Desert locust

From 2019 to 2021, the damage caused by the desert locust was widespread, especially in eastern Africa. The main countermeasure for locust damage has been insecticide spraying, but these conventional control methods require extensive surveys of large areas, which is expensive and involves the risk of environmental pollution due to the reliance on insecticides. Therefore, there is a need for labor-saving control of grasshoppers by predicting their distribution patterns.

4.4.2 Organize Precedent Cases and Issues

Events such as climate change, infectious diseases, and the Sabaktobi grasshopper pose a major risk to agriculture and even human livelihoods in Africa. This section summarizes the measures that can be taken to mitigate and reduce the risks and contribute to strengthening resilience.

1) Indexed Crop Insurance

Index-based crop insurance is an insurance policy that uses a specific observation as an index of crop yields and determines insurance payments based on the index. Index-based agricultural insurance has the following advantages: it can provide objective and transparent insurance, which is expected to reduce moral hazard,¹⁴ and it can pay insurance claims quickly and reduce operating costs because it does not require loss adjustment.

2) CSA (Climate-Smart Agriculture)

Climate-Smart Agriculture (CSA) is an approach proposed by FAO in 2010 to manage agriculture properly and is defined by three main objectives: sustainably improving agricultural productivity and farmer incomes, enhancing resilience and adaptation to climate change, and reducing greenhouse gas emissions. The main CSA practices currently being implemented worldwide include water management, crop tolerance to stress, intercropping, organic inputs, conservation agriculture, etc.¹⁵

3) Response to Infectious Disease Response (One Health Approach, Telemedicine/Medical ICT, COVID-19–Compliant FVC)

The “One Health Approach” is an approach that considers the health of humans, animals, and ecosystems as a single entity and protects them. The cost of prevention through the One Health approach is much less than the damage caused by COVID-19.¹⁶ Mobile health services, such as medical ICT for infectious disease control, tend to be more prevalent in countries where electronic currency is widely used. Mobile health services, such as healthcare ICT for infectious disease control, tend to be more prevalent in countries where electronic currencies are widely used, confirming the promise of linking fintech and health services to promote more initiatives in the health sector. The concept of a “smart food chain” has also been identified as a means of strengthening the food supply chain against COVID-19. It efficiently optimizes the food chain by integrating, linking, and utilizing information from production, distribution, sales, and consumption.

4) Irrigation and Reservoir Development

In order to cope with climate change such as global warming, drought, and changes in rainfall patterns, the following measures can be considered: irrigation development to prepare for droughts and changes

¹⁴ Moral hazard refers to problems caused by the inability of health agencies to observe and control the behavior of the insured. It means that by purchasing insurance, the insured will be reassured that the insurance company will be able to cover any losses to the crop and will have less incentive to exert more effort than before.

¹⁵ Source: “Bringing the Concept of Climate-Smart Agriculture to Life -Insights from CSA Country Profiles across Africa, Asia, and Latin America,” p. 5, 2018, World Bank.

¹⁶ According to the World Health Organization (WHO), the cost of preventing a pandemic, applying the “One Health” approach and other measures, is only 2% of the total damage caused by a new corona pandemic, estimated at \$11.5 trillion as of July 2020. The cost of preventing a pandemic is only 2% of the total damage. He also emphasized that “the risk of the next pandemic can be significantly reduced if we invest about 266 billion dollars (about 27.5 trillion yen) over ten years. (Source: <https://www.wwf.or.jp/activities/basicinfo/4546.html>)

in rainfall patterns, construction of reservoirs to store excess water, introduction of water-saving technologies in the agricultural sector, active collection and utilization of rainwater in rainfall-dependent agricultural areas, and reuse of wastewater. The promotion of irrigated agriculture will not only ensure a stable supply of water for agriculture but will also improve farming techniques, diversify crops, increase yields, and improve farmers' income.

5) Small-Scale/Family Farmers

Small-scale farmers face challenges such as limited access to resources such as land and water, public support measures such as loans, health services, and technical assistance, and markets.¹⁷ One of the reasons for the importance of family farming is the food crisis that occurred in 2007–2008 due to high food prices worldwide. Large-scale, commercialized, export-oriented agriculture can cause harmful effects, such as high food prices. Expectations are rising for small-scale family farming to maintain healthy food prices and stabilize the food supply.

Table 4.4 List of Main Interviewees (Strengthening Industrial and Rural Resilience)

Organization Name	Type	Overview
D-01	Private company	They have been developing a business that combines the sanitation and FVC fields. They are modeling the flow of food from the ingredients to the serving of food in a restaurant and are working on a package for food hygiene and food industry promotion.
D-02	Private company	The interviews were conducted to understand the current status of medical resources and trends in healthcare business (telemedicine, medical ICT, etc.) in Africa. Optimization of medical resources is important. Medical tech is being utilized by startups at a fast pace, creating a gap between the public and private sectors. Medical ICT has a high affinity with FinTech.
D-03	Private company	They conducted a feasibility study on a "biomass carbonization project" in Kenya. The biggest issue is the low cost of installing the equipment and the low purchasing power of the carbonized material produced. The most likely customers for the equipment are food processing plants and medium-scale farmers who grow high value-added crops. It can also help reduce food loss upstream in the value chain.
D-04	Research institution	The Great Food Transformation calls for climate action, soil conservation, and food production with minimal resource inputs.
D-05	Private company	They have been promoting water-saving agricultural technology using glass foaming material (Porous Alpha) based on non-toxic foaming technology of waste glass. They are addressing climate change through new material inputs at the production stage. Porous Alpha is simple and easy to introduce as a water-saving technology.

Source: Compiled by the JICA Survey Team based on websites and interview results.

4.4.3 Implications for Future Support Possibilities

Possible approaches to strengthening resilience include linkages between small-scale agricultural production sites and the overall food system that surrounds them, as well as policies to work with institutions that already have climate change response and adaptation technologies.

■ Promote POC (Proof of Concept) and Matching of Private Companies to Investment Destinations through Collaboration with JICA Projects

To support sustainable agricultural and rural development by matching companies (Japanese and local) with technologies that contribute to strengthening agricultural and rural resilience with private sector interest in investment and business and developing new agribusiness opportunities. Provide

¹⁷ Source: https://worldfoodday-japan.net/cms_wp/wp-content/uploads/2017/07/hinto_no.7.pdf.

opportunities for POC through the use of new technologies and JICA technical cooperation projects to solve problems.

■ **Support Strengthening the Management Capabilities of Small, Medium, and Start-Up Companies that Solve Social Issues to Support Climate Change Countermeasures**

Companies with specific themes, such as technologies to solve the effects of climate change such as natural disasters, diseases and pests, or technologies to adapt to them, will be planned and invited to pitch events (e.g., NINJA), and support will be provided to selected companies to strengthen their management capabilities. This will enable small, medium, and start-up companies to improve their technologies and management capabilities, including financial aspects and is expected to spread their services/technologies to a wider range of farmers.

■ **Create Linkage with Existing Initiatives (SHEP, CARD, Irrigation Infrastructure)**

Utilizing the knowledge and lessons learned from small- and medium-scale irrigation development implemented by JICA projects, the project will support the promotion of the introduction of irrigation infrastructure (e.g., simple weirs that can be constructed with local materials) and the promotion of the use of water-saving technologies by private companies. In addition, the establishment of an early warning system to prepare for the risk of natural disasters in cooperation with agricultural production sites such as SHEP and CARD, and the use of tools that enable farm management support based on weather data are also technologies that can contribute to the stable improvement of farmers' livelihoods.

4.5 Precedents and Issues related to the Establishment of a Platform for Co-creation of Agricultural Human Resources

Japan has ensured its difference from other donors and trust in technical cooperation by conducting international cooperation with an emphasis on field-based approach and capacity development. Utilizing JICA's existing platform for human resource development, etc., is in line with the trend of Japan's international cooperation and the trend of human resource development in Africa.

▪ **Human Resource Development in the SSA Region through the African Agricultural Innovation Platform Initiative (Establishment of AFICAT) (JICA)¹⁸**

JICA plans to activate the functions that can be done ahead of time so that some of the functions of AFICAT will be operational by TICAD8. In addition, AFICAT is expected to conduct trials using JICA Tsukuba's fields and facilities; the establishment of AFICAT and the strengthening of its functions in tandem with JICA Tsukuba's training projects are considered to be effective support measures.

▪ **Digital Co-creation for the International Expansion of Society 5.0 for SDGs (Japan Business Federation, JICA)¹⁹**

The menu book "Co-creating Digital Development to Achieve Society 5.0 for SDGs" jointly prepared by Nippon Keidanren (Japan Business Federation) and JICA will be shared with stakeholders in developing countries and other countries to introduce the excellent digital technologies and methods of Japanese companies to developing countries and other stakeholders, to promote DX businesses that can contribute to the achievement of the SDGs in developing countries. It would be effective to create future opportunities such as collaboration with AgriTech companies and use as a technical support tool to strengthen SMEs on FVC.

¹⁸ Source: https://www.maff.go.jp/j/kokusai/kokkyo/food_value_chain/attach/r3-2_af_haifu2_2-4.pdf, December 18, 2021

¹⁹ Source: Nippon Keidanren, JICA, Digital Co-Creation for the International Deployment of Society 5.0 for SDGs, May 29, 2020

- **Japan Platform for Migrant Workers towards Responsible and Inclusive Society (JP-MIRAI) (ASSC, JICA)²⁰**

JICA and The Global Alliance for Sustainable Supply Chains (ASSC), a general incorporated association, serve as the joint secretariat for this initiative, which was launched together with private companies and industry organizations that accept foreign workers in Japan. JICA's involvement in a reliable technology acquisition opportunity in Japan will help to leverage the knowledge and lessons learned in human resource development that JICA has accumulated over the years.

- **ABE Initiative (JICA)²¹**

The African Business Education Initiative for Youth (ABE Initiative) aims to develop industrial human resources in Africa and to foster “pilots” who can support Japanese companies in their business in Africa. Effective utilization of ABE initiative graduates is an important initiative that contributes to improving the presence of Japanese technology and accelerating the growth of Japanese companies.

- **Agricultural Co-creation Hub Initiative (JICA Tsukuba)²²**

In April 2020, JICA Tsukuba announced a plan to establish a co-creation cycle for projects that will lead to the utilization of new agricultural technologies and human resource development. The concept of the Agricultural Co-Creation Hub and the establishment of AFICAT are considered to have sufficient synergy effects for the future development of agricultural human resources.

- **Japan's Regional Development (JiPFA Subcommittee (Japan's Experience and Regional Development))²³**

This is an initiative to share information on good practices and formulate projects in order to build a model for the joint development of rural areas in developing countries and regions in Japan by strengthening the relationship between “rural areas in developing countries that send out technical interns” and “regions in Japan that receive technical interns.” It is considered to be an effective means of supporting the smooth acceptance of foreign human resources while at the same time leading to efforts for the sustainable development of both rural areas in developing countries and regions in Japan.

4.6 Text Mining

Text mining is the process of dividing a text document into units such as words and phrases, aggregating their frequency of occurrence and co-occurrence in the document, and analyzing them quantitatively through data analysis. A text mining analysis was conducted on the issues and aid trends related to projected mid- to long-term agricultural sector development in Africa.

(1) Analysis of Policy Documents in African Countries

Step 1: Identify the characteristics of the entire document (word frequency analysis).

Since they are agriculture-related policy documents, terms directly related to agriculture, such as “agriculture” and “farmer,” appear frequently. On the other hand, words that are not directly related to agriculture, such as “private sector,” “investment,” and “women,” also appear with a particular frequency in each country. As characteristic verbs, positive words, such as “promote,” “increase,” and “improve,” frequently appear in all countries.

Step 2: Understand how the word of interest is described in the document (word of interest information and clause frequency analysis).

²⁰ Source: https://www.jica.go.jp/press/2020/20201016_20.html, December 18, 2021

²¹ Source: <https://www.jica.go.jp/africahiroba/business/detail/03/index.html>, December 18, 2021

²² Source: Takuma Noguchi, Towards a New Agricultural Training Practice, International Development Journal, October 2021, p.64

²³ https://www.jica.go.jp/activities/issues/agricul/jipfa/ku57pq00002jjx83-att/jipfa_guidance.pdf, December 18, 2021

Words such as “civil society” and “public” were extracted with high frequency from words used in the same sentences as “private sector” mentioned above. When the term “private sector” was used, it was often used in conjunction with public institutions and civil organizations such as NGOs/NPOs, indicating that the private sector is commonly discussed in the context of cooperation and coordination in each country.

For “increase” and “improve,” the word with the highest number of affixes was “production” (including “agricultural production”), followed by “development” and “income.” In the frequency analysis, common words such as “agricultural production,” “income,” and “access” (to people, goods, and money) were extracted as words with a high frequency of relations.

Step 3-1: Identify agricultural development needs (issues) (reputation extraction: ranking of unpopular words).

The extraction of negative words (adjectives) and their attendant relations was done by reputation extraction. The word with the highest frequency of dependency was found to be “youth.” The aging of the agricultural sector and the lack of interest in the agricultural sector among young people were cited as issues, indicating that the inclusion of young people in agriculture is an urgent issue in African countries where urbanization is progressing.

Step 3-2: Identify agricultural development needs (issues) (time-series comparison of feature words).

Comparing text documents from different publication periods, the current (recent) agricultural development needs (issues) emerge. It was found that words related to civil society, such as donors, other domestic agencies, and NGOs, were frequently used in the current (recent) text documents. This result is similar to the trend of cooperation and collaboration with the private sector shown in Step 2 above and indicates that these are keywords that have been attracting particular attention in recent years, common to all governments.

(2) Analysis of Donor Documents

Step 1: Identify the characteristics of the entire document (word frequency analysis).

Words such as “women” and “investment” appear with a certain frequency level common to each donor. Then, verbs that mean positive actions, such as “increase” and “improve,” appear frequently. In addition, verbs specific to donor agencies, such as “support” and “provide,” are also frequently used.

Step 2: Understand how the word of interest is described in the document (word of interest information and clause frequency analysis).

The extraction of co-occurring words was conducted focusing on “women” and “investment.” Words such as “youth” and “economic empowerment” were extracted with high frequency from words used in the same sentence as “women.” As these words indicate, they are considered to be the main targets of donor support. Also, these words indicate that the donor support is aimed at promoting women’s economic empowerment.

As for the word “investment,” the most frequently used word in the same sentence was “infrastructure.” The document mentioned that attracting investment in “physical” and “institutional infrastructure” from both the public and private sectors is essential for the agricultural sector and all sectors, clearly indicating that infrastructure development remains an important issue in African development.

As for verbs, “provide” and “support” were focused on. The word with the highest frequency of co-occurrence was “access,” followed by “opportunity.” In the donor documents, it can be seen that “platform” was a characteristic word in IFAD text documents, and “climate adaptation” was a characteristic word in AfDB text documents.

Step 3: Identify support policies (countermeasures) (reputation extraction: ranking of favorable words).

From the results of Step 2 described above, it became clear that the direction of donor support included the “promotion of women’s economic empowerment” and “infrastructure development.” In addition, the extraction of positive words (adjectives) and words with engaging relationships was done by reputation extraction. “market” and “agribusiness sector” were extracted as keywords with a high frequency of positive adjectives.

(3) Analysis of SNS (Twitter Tweet Documents)

Text mining was also conducted on SNS text data (Twitter tweet documents) to analyze the text information sent out in the most recent year to try to understand the trend words. The target extraction period was from 1/1/2019 to 10/31/2021, and the target accounts were the AfDB_Group, NEPAD_Agency, IFADnews, and WorldBankAfrica.

A significant increase in tweets has been observed since March 2020 with the hashtag “#COVID-19.” Analysis was conducted on documents tagged with “COVID-19.” Words directly related to COVID-19, such as “pandemic,” frequently appeared in nouns. In addition, the term “woman,” which was also focused on in the donor documents mentioned above, was used with high frequency in the tweet documents.

When the co-occurrence of the word “woman” was extracted, terms such as “girl,” “child,” and “empowerment” were extracted with high frequency. In the case of COVID disasters, donor support is often directed toward women and young people, who tend to be socially and economically vulnerable. As the risk of COVID-19 infection does not seem to be diminishing globally, it is expected that support in this direction will continue to be promoted in the future.

4.7 Online Country Hearings

This report presents the results of a survey of agricultural ministries in African countries regarding local issues in the agricultural sector, policies and plans to solve these issues, as well as their expectations and requests to JICA.

• Themes of Challenges in the Agricultural Sector in African Countries

From the survey results, the promotion of employment of young people and women in agriculture was cited as a challenge. For young people and women to engage in agriculture, they need support in terms of financing, securing land, and technology. At TICAD7, the FAO, United Nations Industrial Development Organization (UNIDO), AU, and other organizations launched the Flagship Initiative for Accelerating Youth Employment through Promoting Agriculture and Agribusiness in Africa.

The issue of climate change was raised by several countries. Due to various weather problems and disasters caused by climate change in recent years, addressing climate change has become a policy issue in many countries, and support from development partners has been provided. In particular, the development and dissemination of varieties that are tolerant to poor weather conditions, the collection and analysis of weather information, and the development of data-based weather information notification systems are being undertaken. Support for the introduction and promotion of the Climate Smart Agriculture approach (defined by the three pillars of sustainably improving agricultural productivity and farmer incomes, strengthening resilience and adaptation to climate change, and reducing greenhouse gas emissions²⁴) was also highly expected.

• Expectations and Requests to the Japanese Government and JICA

²⁴ Source: Climate-Smart Agriculture Case studies, FAO (2018), available at <https://www.fao.org/3/CA2386EN/ca2386en.pdf>.

The most common themes which the Japanese government and JICA were expected to support were nutrition (cereals and horticultural crops) and agro-processing and distribution (horticultural crops and cash crops). In addition, support for input materials, cultivation technology, and infrastructure (small-scale irrigation, mechanization, reservoirs) was also expected for cereals, horticultural crops, and cash crops. On the other hand, there were few expectations for support for introducing ICT. This may be because policies and plans for introducing ICTs and communication infrastructure in their countries are not yet in place.

Rural finance, support for youth and women, and Climate-Smart Agriculture were cited as areas expected to become new themes in the future. Expectations for support for rural finance were raised in countries where development banks do not exist and where the spread of agricultural finance for farmers is still limited. As for other themes, there were high expectations for support for agricultural diversification, sustainable food systems, remote sensing technology, data-driven agriculture, microfinance, climate change response, and small-scale farming (family farming).

On the other hand, there were not as many expectations for support related to community-supported agriculture, blockchain systems, precision agriculture, impact investing, support for start-ups, e-learning, etc.

4.8 Results of the Field Survey

4.8.1 Narrowing Down Support Themes and Countries for the Field Survey

In recent years, financial support for Africa has become a mainstream trend in order to attract private investments other than those of public institutions, considering agriculture as a business. Among the support themes mentioned above, we decided to focus on “agribusiness promotion” and “development of agricultural investment ecosystem,” which are related to business and finance, as the support themes for the JICA project proposed in this study and conducted a field survey to gather information on both.

4.8.2 Ethiopia

(1) Survey Results and Discussion on Agribusiness

Ethiopian Kaizen Institute (EKI), a counterpart organization of JICA project, has been providing technical cooperation to improve productivity and enhance corporate competitiveness, focusing on Kaizen. EKI has also provided Kaizen consultation to agro-processing companies. Also, in a limited number of cases, EKI consultants have provided Kaizen consultation to small-scale farmers through the intermediary of agro-processing companies that have experienced the effects of Kaizen.²⁵ Utilizing EKI's existing knowledge and human resources to provide Kaizen and BDS to the agricultural sector would be a possible approach to support the promotion of agribusiness.

(2) Survey Results and Discussions on the Development of an Agricultural Investment Ecosystem

Ethiopia has been the target of various JICA initiatives in the agricultural sector (SHEP, IFNA, CARD). Resilience-related projects are also being implemented, and efforts will likely be made to promote rural financial inclusion through linkages with existing initiative projects. Since technical cooperation

²⁵ As an example of Kaizen consultation in the agricultural and food processing fields, EKI cited the case of Company A, a sugar refinery that employs several thousand people, not only on the production line but also in the production and transportation of sugar cane. EKI consultants provided consultation on basic Kaizen methods, such as 5S and waste reduction, and improved the management level at the production site. In addition, EKI consultants reduced costs by producing replacement parts for equipment in-house and introduced an internal award system for effective Kaizen activities. In addition, EKI has experience in conducting training sessions on Kaizen for contracted smallholder sugarcane growers under the mediation of the sugar factory. For some farmers, their homes are their workplaces, and we suggested that they create space by removing things that have not been used for a long time. He also believed that Kaizen in agriculture could lead to the reduction of wastage in many cases through standardization of work.

projects often directly target small-scale farmers, more effective measures to improve financial access through financial education are expected. JICA has also provided US\$500,000 to the Women Entrepreneurship Development Project (WEDP) through the Ethiopian Development Bank. It is hoped that further efforts to improve access to finance targeting rural areas and women will be made through collaboration with other donors.

4.8.3 Kenya

(1) Survey Results and Discussions on Agribusiness

The government's strategy envisions small- and medium-sized agribusiness companies' support for small-scale farmers and the establishment and operation of agricultural and food processing complexes. Still, efforts such as collaboration between small- and medium-sized agribusiness companies and small-scale farmers are limited. To strengthen small-scale farmers, collaboration with private companies and start-ups related to the agricultural sector can be considered as an initiative. Some advanced small-scale farmers have plans to expand their business beyond agricultural production, such as food processing, or to add value to their crops by utilizing the services of start-ups. By adopting these new technologies, farmers will be able to contribute to increasing the profits of start-up companies and the income of farmers.

(2) Survey Results and Discussions on the Development of an Agricultural Investment Ecosystem

Kenya has a relatively high level of education, a highly developed telecommunications infrastructure, and widespread use of cell phones and mobile money (M-PESA), which has created an investment environment and a start-up ecosystem. The growth of start-ups and small- and medium-sized private companies is essential to support FVCs. These companies' technological and management capabilities are also crucial in supporting the further development of small-scale farmers who support the production base. Meanwhile, supporting existing small-scale farmers and strengthening financial literacy, including among peripheral agribusiness firms, can contribute to strengthening small-scale farmers and enhancing the competitiveness of SMEs related to FVC as a whole.

4.8.4 Malawi

(1) Survey Results and Discussions on Agribusiness

Malawi has identified agriculture as a core industry and has emphasized "industrialization of agriculture" for sustainable growth of the agricultural sector. Sustainable agricultural production and productivity, sustainable irrigation development, agricultural mechanization, agricultural market development, agro-processing, and value addition are identified as priority activities. In addition, a comprehensive agricultural policy aims to strengthen linkages between the agricultural sector and other sectors so that better value can be added to economic growth through agriculture. By providing financial literacy either on their own or in collaboration with other institutions, it is expected that small-scale farmers will be able to shift to "farming as a business" and establish a foundation for obtaining loans from financial institutions.

(2) Survey Results and Discussions on the Development of an Agricultural Investment Ecosystem

The commercial banks are not offering standardized financial products to those in the agricultural sector, but rather tailor-made solutions tailored to the borrower's business needs, targeting primary producers and off-taker and processing SMEs. The Malawi Innovation Challenge Fund (MICF) provides risk capital in the form of matching grants to companies with the capacity to implement inclusive business ideas in six sectors: agriculture and agribusiness, manufacturing, distribution, irrigation, SME finance, and tourism. It also provides risk capital in the form of matching grants to companies that have the

capacity to implement inclusive business ideas. In addition, the Malawi Agricultural and Industrial Investment Corporation (MAIIC) is promoting private sector-led economic development.

CHAPTER 5 ORGANIZING ISSUES AND RESPONSES FOR TICAD8

5.1 Organizing Support Details

(1) Determination of Support Details and Discussion Points for Consideration of Agricultural Strategies

Based on the policy that JICA's initiatives such as CARD and SHEP will continue to support agricultural production sites, we propose that the themes of support for TICAD8 should be "agribusiness promotion" and "agricultural investment ecosystem" to contribute to employment promotion and to strengthen small- and medium-sized enterprises (SMEs) that contribute to the development of rural areas. When considering the focus of JICA's support for the study of agriculture sector strategy at TICAD 8, we will confirm that it is consistent with "(1) the directionality of Japan/JICA's support for the agriculture sector in its assistance to Africa" and "(2) the directionality of the focus of support based on the results of this study."

I. The Direction of Japan/JICA's Support for the Agricultural Sector in Africa

The consultations for the agricultural sector at TICAD7 are CARD, SHEP, IFNA, and GFVC, and the private sector support is Kaizen and Innovation. In terms of support to Africa, the agricultural sector will focus on improving food security and nutrition, transforming and revitalizing agriculture, and strengthening resilience. In the industrial development sector, efforts have been made to improve industrial policy and business environment, improve access to finance, and enhance corporate competitiveness.

For TICAD8, the agricultural sector-related policies of JICA's Economic Development Division include continuing the CARD and SHEP initiatives and promoting themes such as AIPA and resilience (climate change) as contribution measures.

Table 5.1 JICA Economic Development Department's Policy on Agriculture, Forestry and Fisheries Promotion for TICAD8

Correspondence Positioning	Support Theme
Concrete Contribution Measures (Promotion of Agriculture, Forestry and Fisheries)	<ul style="list-style-type: none"> - CARD Phase 2 - SHEP - AIPA - Agriculture and resilience (climate change) - Promotion of blue economy in fisheries - Livestock
Cross-Sectional Strengthening Measures	<ul style="list-style-type: none"> - Strengthening the resilience of the post/with COVID-19 society - Utilization and promotion of DX and science and technology innovation (STI) - Promoting gender mainstreaming - Strengthen cooperation with various actors (aid coordination, universities/research institutes, etc.) - Strengthen partnerships with Japanese private companies - Contribution to the African continental agenda and promotion of regional cooperation - Formation and strengthening of a network of Japanese development experience and intellectuals

Source: JICA Survey Team.

In addition, JICA's Economic Development Division's industrial sector-related activities include the Kaizen Initiative (Kaizen 2.0) and the National Entrepreneurship Network for Business Innovation

(NINJA), which are designed to promote the development of a high-quality African economy and an attractive business environment. Kaizen has a comprehensive support concept that includes general management, financial access support, start-up support, and support for digitalization. It also plans to promote the fostering of entrepreneurs who seek to solve social problems as businesses and create new industries and contribute to the SDGs.

II. Consideration of the Direction of Focus of Support Based on the Results of this Survey

Interviews were conducted with Japanese companies operating in Africa about their expectations for JICA to develop and continue their business in Africa in the future.

Table 5.2 Expectations of JICA by Japanese Companies Doing Business in Africa

Theme	Details
Human Resource Development (Access to Humans)	<ul style="list-style-type: none"> • Support for the development of private agricultural service providers • Support for basic financial literacy of farmers • AFICAT promotion leading to agricultural machinery operator training
Financial Assistance (Access to Funds)	<ul style="list-style-type: none"> • Financial support for AgriTech start-ups and players in the investment ecosystem • Improving access to finance for small-scale farmers • First loss takers in private assistance • Investment in private funds • Develop financing for logistics and land transportation businesses • Financial support to sustain new businesses • Financial support for the continuation of new businesses
Infrastructure Improvement (Access to Objects)	<ul style="list-style-type: none"> • Development of social infrastructure such as irrigation, roads, railroads, and electricity to increase crop production • Irrigation development in combination with agricultural guidance and use of farm machinery • Development of CARD related infrastructure to meet the demand for agricultural machinery • ICT communication infrastructure development for the construction and utilization of agricultural digital infrastructure
Institutional Support (Access to Information)	<ul style="list-style-type: none"> • Promotion of the digital infrastructure platform concept • Matching with Japanese companies and local start-ups • Database of past agricultural research results in Africa • Distribution service for information on agricultural start-ups • Asset protection system for service technology development • Administrative management support when multiple ministries and agencies are involved • Food safety support combining FVC and infectious disease control • Support for development of combined maternal and child health and sanitation sectors
Other Focus Areas and Countries	<ul style="list-style-type: none"> • Support in the areas of FinTech, HealthTech, AgriTech, Logistics and Mobility. • Healthcare and decarbonization sectors • Focus countries include Kenya, Nigeria, South Africa, Egypt, Ghana, Uganda, Cote d'Ivoire, and Senegal. Focus regions are East Africa.

Source: JICA Survey Team.

In addition, the interview with the local government (Ministry of Agriculture) was conducted about the results of JICA's projects to date and current issues, as well as their expectations for future JICA projects.

Table 5.3 Expectations of JICA by African Countries (Officials of Ministries Related to Agriculture)

Theme	Details
Support for Youth and Women	<ul style="list-style-type: none"> As agriculture is a major industry, the promotion of employment of young people and women in the agricultural sector is an issue, and support is expected. In some countries, young people are moving away from agriculture due to the development of other industries. Additionally, even in countries where agriculture is the main industry, employment of young people and women is not being promoted due to issues such as high risk, instability, and lack of funds and technology.
Climate Change Measures	<ul style="list-style-type: none"> As the country is affected by various natural disasters, bad weather, pests, and diseases, we expect support for mitigation and response measures. We have received support from other donors, but the damage has exceeded the support. There are high expectations for Japan's support for small-scale irrigation facilities and reservoirs to cope with drought.
Rural Finance	<ul style="list-style-type: none"> There are many countries that do not have development banks or where the penetration of rural finance by agricultural financial institutions is still limited, and expectations are particularly high in African countries with small-scale farmers who have limited access to finance. The following issues were cited as challenges: the small number of financial institutions, especially in rural areas; the lack of products specific to agriculture; the fact that products for agriculture still require government support; and the fact that farmers cannot use these products due to high interest rates. Along with improved access to financial institutions by farmers, support from financial institutions is also required.

Source: JICA Survey Team.

As shown in the various interviews, in recent years, African countries have been promoting value chain development and agricultural investment in collaboration with the private sector towards the establishment of the AU Comprehensive FVC. Based on this situation, “promotion of agribusiness” and “the development of an agricultural investment ecosystem” will be set as support themes for TICAD8 to improve agricultural productivity surrounding small-scale farmers in Africa, strengthen the management capabilities of small-scale farmers and their surrounding agriculture-related SMEs, utilize new technologies, and strengthen financial literacy.

Both themes are consistent with the perspectives of agriculture, forestry, fisheries, and industrial development of JICA's Economic Development Division, and the activities do not overlap with JICA's ongoing projects (CARD and SHEP in the agricultural sector, Kaizen and NINJA in the industrial sector, etc.). It will play a role in further promoting existing activities. It is also expected to contribute to the next phase of Japanese companies' business development in Africa, such as AIPA, which was announced at TICAD7.

(2) Confirmation of Affinity Between Aid Themes and Trends in African Aid

In considering the issues related to the study of JICA's strategy for the agricultural sector (determination of support themes), we will confirm the affinity between two points: the strategy for the development of the agricultural sector in Africa and the strategy for the food system of developed countries in globalization.

■ Affinity with African Agricultural Sector Development Strategies (Including National Policies and Donor Policies)

The AU's Malabo Declaration (2014) intends to drive forward efforts to eradicate hunger and improve nutrition in Africa by 2025. The Malabo Declaration is a strategy to comprehensively advance Africa's agricultural development, including strengthening resilience for food security and nutrition, agricultural growth and transformation, and creating employment opportunities for youth and women through FVCs and agricultural investment. In addition, African start-up founders and tech entrepreneurs, led by the millennium generation, have an increasing opportunity to act as game-changers in solving previously unsolvable social challenges.

Further promotion of private investment and financing is expected for the sustainable growth of Africa's agricultural sector. It is estimated that US\$83 billion of investment in the agricultural sector is needed to achieve the SDGs and ensure adequate food supplies, and the ability to attract private sector investment and financing in the agricultural sector is key to future aid strategies for Africa. Thus, the promotion of agribusiness and the development of agricultural investment ecosystems are inclusive of the comprehensive FVCs and the attraction of private investment promoted by the AU Strategy, as well as the development of agricultural investment ecosystems to attract private investment in agriculture in collaboration with recent start-ups and companies promoting the sharing economy. This is consistent with all of these initiatives and plans.

■ Affinity with Food System Strategies of Developed Countries

In recent years, developed countries have articulated policies such as Green, Sustainable Food Systems, Climate Crisis Response, Climate Smart Farming, Global Food system, Build Back Better, Green Recovery, and Circular Economy. The EU has advocated and launched initiatives such as the Circular Economy in 2015. Japan's Green Food System Strategy also calls for innovation to improve the productivity and sustainability of the food, agriculture, forestry, and fisheries industries. The promotion of agribusiness and the development of agricultural investment ecosystems are in line with current policies in developed countries, as they include the promotion of start-ups that solve social problems by combining innovation such as digital technology with support for small-scale farmers and the promotion of cooperation with the latest technology, based on the concept of comprehensive FVC.

5.2 Propose Projects that Utilize the Focus of the Support

With regard to agribusiness promotion and agricultural investment ecosystem, the table below shows the issues that need to be solved for each support theme and the details of support to solve the issues. The issues to be solved are those identified through this study, and the support contents are described as a way to further promote the existing JICA support for small-scale farmers and agribusiness enterprises.

Table 5.4 Support Themes and Focus of Support (Draft)

Support Theme	Issues to be Resolved	Focus of Support (draft)
Promotion of Agribusiness	Stabilization of agricultural product markets (productivity improvement, higher quality)	<ul style="list-style-type: none"> Support for adding value to agricultural products and increasing profits through collaboration between farmers (primary industry) and commerce and industry (secondary and tertiary industries) (agricultural-industrial collaboration, Kaizen approach, DX utilization)
	Strengthening linkages between agriculture and commerce to add value to agricultural products	<ul style="list-style-type: none"> Support for adding value to agricultural products and increasing profits through collaboration between farmers (primary industry) and commerce and industry (secondary and tertiary industries) (agricultural-industrial collaboration, Kaizen approach, DX utilization)
	Economic development of rural communities using agriculture as a growth driver	<ul style="list-style-type: none"> Support for the development of agricultural business operators for expansion into secondary and tertiary industries (BDS)

Support Theme	Issues to be Resolved	Focus of Support (draft)
	Creation of employment opportunities (securing excellent human resources/improving workability (3D* in the agriculture environment))	<ul style="list-style-type: none"> Support for farmers' employment using AgriTech/FoodTech Support for the promotion of ICT-based smart agriculture that makes it easier for young people and women to work (mainly focusing on future economic drivers such as the millennium generation in Africa)
Development of an Agricultural Investment Ecosystem	Foster agricultural producers (strengthen financial support)	<ul style="list-style-type: none"> Promote rural finance using DX (improve efficiency, development and expansion of agricultural finance business, improve farmers' financial literacy, etc.) Improve access to finance for small and medium-sized agribusiness enterprises (two-step loans/overseas investment and loans)
	Improving access to finance for rural and smallholder farmers	<ul style="list-style-type: none"> Support for developing rural financial service providers (supply side) Improving financial literacy, strengthening management capacity of farmers and rural women (demand side)
	Mobilizing more private capital to achieve the SDGs	<ul style="list-style-type: none"> Support for mobilization of private sector funds through participation in agricultural sector impact funds (overseas investment and loans) Support for promoting investment and financing for small and medium-sized agribusiness companies (two-step loans, etc.) Establishment of a technical assistance facility for investment and financing in the agricultural sector in collaboration with overseas investment and financing projects
	Training opportunities for agricultural service entrepreneurs	<ul style="list-style-type: none"> Support for start-up businesses specializing in the agricultural sector (collaboration with foundations and other funding sources, use of human resource co-creation platforms, etc.) Strengthening the capacity of agricultural service providers and agricultural producers in conjunction with overseas investment and loan projects

(Note) *3D: An acronym for Difficult, Dirty and Dangerous. This represents one of the reasons why African youths are not employed in agriculture.

Source: JICA Survey Team.

As a more concrete example, the following sections will provide more specific support for agribusiness promotion and agricultural investment ecosystem development, respectively.

Table 5.5 Examples of Specific Support Targets for Each Support Theme

Support Theme	Specific Focus of Support and Targets
Promotion of Agribusiness	<ul style="list-style-type: none"> Technology matching using NINJA, etc. (small-scale farmers and start-up companies, etc.) Utilization of Kaizen (small-scale farmers, agricultural production corporations, etc.)
Development of an Agricultural Investment Ecosystem	<ul style="list-style-type: none"> Improvement of financial literacy (small-scale farmers, small and medium-sized agribusiness companies, etc.)

Source: JICA Survey Team.

■ **Project Proposal 1: Agribusiness Promotion (Small-Scale Farmers x Small and Medium-Sized Enterprises/Start-Up Companies Support)**

(1) Background and Issues

Currently, JICA is implementing projects in African countries, mainly through initiatives (CARD, SHEP, IFNA). These are being promoted especially through support for the improvement of production technology, which is leading to increased productivity and profits for horticulture and rice farmers. In recent years, the AU and donor agencies have also begun to involve agribusiness companies in solving FVC problems, including those at production sites, by incorporating a comprehensive FVC development perspective in addition to production technology improvement.

In order for small-scale farmers to further expand their businesses, they are also required to have knowledge and skills in managing the organization as a whole (e.g., agricultural cooperatives and agricultural groups) and as a company. However, financial institutions avoid lending to small-scale farmers due to their high collection risk and lack of credit information, so farmers face difficulties in raising funds and have limited opportunities to invest in services and equipment for new challenges. As a result, they have limited opportunities to ensure the sustainability of agriculture as a business or to expand their business as a business.

On the other hand, investment in African start-ups has grown significantly in recent years, especially in the FinTech sector. The number of AgriTech and FoodTech companies is estimated to be around 400–500 companies that are either providing or preparing to provide tech-related services in the agricultural sector. Of these, about less than 70% of the companies provide digital advisory and agricultural digital financial services. However, although these companies have developed technologies and services, they have not expanded their customer base, and their sustainability and scale-up are said to be a challenge.

The reasons for this include the fact that although new technologies and services have been developed, the services cannot be used due to the low level of education, literacy, and IT literacy on the part of the farmers, and that the farmers do not have the economic or technological power to use the services. As a result, it is difficult to know whether the services provided are effective for farmers (lack of demonstration experience), and it is difficult to obtain information to develop new technologies and services, which prevents companies from carrying out activities necessary to expand their business further.

Therefore, we are proposing a project to match individual farmers and farmer groups who have already acquired a certain level of knowledge and skills and have financial resources with small and medium-sized enterprises and start-up companies among the small-scale farmers who JICA projects have supported and to conduct demonstrations to solve their problems.

(2) Hypothesis for JICA-Supported Projects

As a result of the implementation of the JICA project, the project has information on the technology level and financial status of the farmers, as well as on the issues they are facing, and thus can utilize the information on the technologies and services they are seeking to solve their problems. Therefore, we plan to set up matching opportunities with SMEs and start-up companies that can provide these technologies and services to the farmers seeking them. By implementing the matching of farmers and SMEs as a JICA project, the companies can provide technical advice to the farmers on how to use the technologies and services in the demonstration. On the other hand, the company will be able to provide guidance to the farmers on how to solve new problems and how to utilize the company's technologies and services.

These projects are expected to lead to continuous business expansion for farmers aiming for further business growth, improvement of FVC through higher productivity and quality of agricultural products,

and beneficial effects on neighboring farmers. In addition, SMEs and start-up companies will be able to expand their customer base, demonstrate their own technologies and services, and develop and disseminate new technologies and services through JICA-supported projects. Both farmers and companies will be able to increase their profits through these activities, which will increase the trust of their customers and financial institutions and enable them to continue their business.

In addition to improving the technology of agricultural production sites, the demonstration project will also consider improving farmers' financial literacy and supporting agricultural management, etc. Linkages with stakeholders related to "production" on the FVC will be made through pitch events held by JICA's NINJA and donors other than JICA. In addition, we will consider creating matching opportunities between farmers and small and medium-sized enterprises (SMEs) with a view to using the AFICAT opportunity to hold pitch events for start-up companies and SMEs that are expected to support existing small-scale farmers. The pilot project proposed above is proposed to be conducted in collaboration with the SHEP project currently being implemented by JICA.

(3) Outline of the Pilot Project

1) Objective

Small-scale farmers who have received support through the SHEP project will be selected as those who are willing to acquire technologies and further expand their businesses, and matching support will be provided to SMEs and start-up companies that have solutions to the new issues they are facing. After the match is made, the SMEs will actually provide support for the use of their technologies to solve the new problems that the farmers have been facing and build a system to ensure the continuity of business and business expansion for both the farmers and the companies.

2) Target

The target audience for this pilot project is as follows:

- SMEs/start-up support organizations (local ministries, NGOs, development banks, commercial banks, investment funds, foundations, etc.)
- Start-ups/SMEs
- Farmers/associations, groups, etc.

3) Contents

The target of JICA's support is assumed to be organizations that support small and medium-sized enterprises and start-ups. In this case, JICA will provide two types of support: (1) technical guidance (including financial support) and (2) investment. In addition to financial support for holding pitch events to discover SMEs and start-ups, it is assumed that JICA will provide matching opportunities with existing JICA project targets. Specific activities are expected to include the following:

- I. Select advanced farmers and agricultural groups from the target area.
- II. Select major themes from the issues faced by farmers and agricultural groups, and recruit SMEs and start-up companies that provide technologies and services to solve them (in collaboration with other projects).
- III. Match farmers and agricultural groups with SMEs and start-up companies.
- IV. Plan demonstration projects to utilize technologies and services provided by SMEs and start-up companies.
- V. Conduct demonstration projects using the technologies and services, and JICA will provide

technical support to both farmers and companies.

- VI. Follow up with the project (especially support for financial management, matching with financial institutions, etc., to ensure the continuation of the project on both sides).

The recipients of support for the demonstration project are assumed to be start-up companies, SMEs, or farmers and cooperative groups. These support recipients will be farmers and groups of farmers in existing projects (e.g., SHEP farmers and farmers aiming to further expand their business from SHEP activities) and will be provided with matching opportunities with technologies and services owned by start-up companies and others. The matching opportunities will also include the use of matching opportunities held by organizations other than JICA, such as a new agricultural version of JICA's NINJA pitch (AgriTech/FoodTech version) and collaboration with other donors and investment funds that hold pitch events.

The points to be considered in the demonstration are the method of selecting the targets, the method of identifying issues, the method of publicizing and implementing the matching event, and the method of providing business support after the matching, and the evaluation will be based on the degree of establishment of the matched technology, the cost-effectiveness of the project (matching event, business support, etc.), and the contribution of the targets (both small-scale farmers and SMEs/start-ups) to profits. The evaluation will be considered based on the degree of establishment of the matched technology, the cost-effectiveness of the project (matching events, business support, etc.), and contribution to the profit of the target (both small-scale farmers and SMEs/start-ups). In addition to the comparison between target/non-target regions, if it is possible to implement the project in more than one country or region (e.g., suburban and rural areas), the content of the pilot project should include a comparative study of methods and effects tailored to the characteristics of each region.

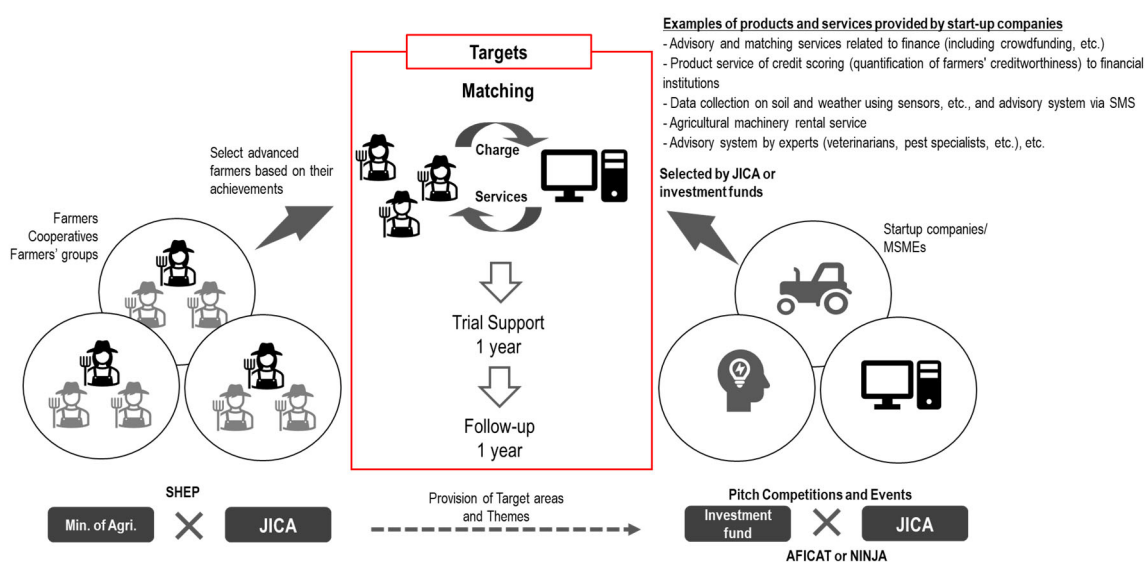


Figure 5.1 Hypothesis and Positioning of the Demonstration Project in the SHEP Target Area as an Agribusiness Promotion Project.

Source: JICA Survey Team.

4) Assumed Target Countries

The first target countries for this pilot project are the countries where SHEP projects are implemented. Since SHEP is currently being implemented in 23 countries in the African region, the most suitable countries for this pilot project are those that have already achieved a certain level of success in the SHEP project, especially those that have started Phase 2 of the project or are expanding the project area. In

countries where AFICAT is being considered for establishment under the AIPA initiative (Tanzania, Kenya, Cote d'Ivoire, Nigeria, Ghana), it is planned that AFICAT will have various functions (advice, demonstration, human resource development, etc.) in the future. Therefore, by implementing this pilot project in the countries where AFICAT is being considered, it is expected that there will be synergy effects between the two organizations and that AFICAT will become a part of the implementation body of the project.

In addition, Ghana, Nigeria, Uganda, Kenya, Tanzania, etc., where investment in AgriTech is concentrated in Africa, are considered suitable as target countries for demonstration projects. In addition to the amount of investment and the number of investments, these countries are also considered to be well-positioned for business development, as they have substantial government support for AgriTech and have already established systems that facilitate the implementation of business by AgriTech companies.

Based on the status of the implementation of SHEP, the possibility of collaboration with the AFICAT concept, and countries with a well-developed AgriTech environment, countries such as Ghana, Nigeria, Kenya, and Tanzania can be considered for the said pilot project.

Table 5.6 Relevant Organizations in the Project Proposal on the Theme of Agribusiness Promotion

Item	Subjects
JICA's Assistance Targets	SME/start-up support organizations (local ministries, NGOs, development banks, commercial banks, investment funds, foundations, etc.)
Services Provided by JICA	1) Technical guidance <ul style="list-style-type: none"> • Organize events to identify good SMEs/start-up companies, publicize them, provide financial support for their organization, etc. • Provide opportunities to match existing projects with target regions and target audiences, and provide ongoing support. 2) Investment (development banks, commercial banks, investment funds, foundations, etc.)
The Ultimate Beneficiary	<ul style="list-style-type: none"> • Start-ups/SMEs • Farmers/associations, groups, etc.
Details of additional technical assistance to final beneficiaries	<ul style="list-style-type: none"> • For start-up companies/small and medium-sized enterprises (SMEs), provide opportunities to match existing projects with target regions/people, and support the provision of technology/services (support for improving financial literacy, if necessary; support for proposal formulation/refinement, etc.). (Support for financial literacy improvement, etc.; support for proposal formulation/refinement, etc.) • Support to improve financial literacy for recipients such as farmers/associations and groups (agricultural management, Kaizen, etc.). • ※Collaboration with existing projects or addition
Details of additional technical assistance to the final beneficiaries Provision of opportunities to strengthen linkages with peripheral relevant stakeholders	<ul style="list-style-type: none"> • Start-up/SME Pitch Event • Set up a section in AFICAT to support start-up companies, and this section will organize events for selection (in collaboration with NINJA).

Source: JICA Survey Team.

Table 5.7 Hypotheses for the Implementation of the Pilot Project in the SHEP Target Area

Item	Subjects
Current Status and Issues on the Farmer Side	<p>[Current situation and issues on the farmer's side]</p> <ul style="list-style-type: none"> • The SHEP project is helping farmers to improve their productivity and increase their income. • A different technical challenge has arisen, and a means to solve it is needed. • In order to further expand business, knowledge and skills related to management of the organization as a whole (agricultural cooperatives, agricultural groups, etc.) and management as a company are needed. • Financial institutions avoid lending to small-scale farmers, making it difficult for them to raise funds. In addition, they are reluctant to introduce new services and technologies because they cannot avoid borrowing at high interest rates.
	<p>[Current status and issues on the part of SMEs and start-ups]</p> <ul style="list-style-type: none"> • They have developed technologies and services but have not been able to expand their customer base. • Although technologies and services have been developed, it is not clear whether farmers can actually benefit from the technologies and services (lack of demonstration experience, lack of capacity of farmers). • There is a need to develop new technologies and services while demonstrating the developed technologies and services and to obtain information about customers in order to provide new technologies and services.
Hypothesis	<ul style="list-style-type: none"> • JICA has information on farmers who have advanced both technologically and financially through the implementation of SHEP projects (including new issues), so it can use the information on technologies and services that are required. • There is a need to provide technical advice to small and medium-sized companies and start-up companies when they conduct demonstration trials of their technologies and services.
Expected Results	<ul style="list-style-type: none"> • Farmers will have solutions to new challenges after graduation from SHEP projects. • The project is expected to contribute to the continuous expansion of the business of advanced farmers, improvement of FVC by increasing productivity and quality of agricultural products, and contribution to neighboring farmers. • SMEs and start-ups will be able to expand their customer base, demonstrate their own technologies and services, and develop new technologies and services. • Increased profits for both farmers and businesses will increase trust in customers and financial institutions and enable them to continue their business.

Source: JICA Survey Team.

■ **Project Proposal 2: Development of an Agricultural Investment Ecosystem (Financial Institutions x Ministry of Agriculture Support)**

(1) Background and Issues

Like many countries around the world, financial inclusion, including the use of mobile accounts and mobile money, is advancing rapidly in Africa. On the other hand, it is estimated that there are still about 1.7 billion adults in the world who do not have an account with a financial institution, including mobile accounts. In Africa, in particular, there are large gender and regional gaps in the proportion of people with accounts at financial institutions, and efforts are needed to improve access to finance. Small-scale farmers, in particular, still rely on government subsidies and lack the financial resources necessary to purchase agricultural equipment and machinery, limiting their opportunities to acquire new technologies

and expand their businesses. In addition, the limited budget for government subsidies means that opportunities for small-scale farmers to expand their businesses are not sustainable.

As the government, donors, JICA, NGOs, and other organizations have been providing support to improve agricultural productivity, it has been found that there is a high need for agricultural financial services for small-scale farmers to use and purchase agricultural materials, equipment, and machinery. However, due to the high risk of natural disasters such as droughts and low productivity in agriculture, financial services are not always available to meet the needs of small-scale farmers. In addition, most of the existing financial services for the agricultural sector are limited due to the fact that they do not design their products to match the agricultural production cycle and set appropriate interest rates, and the service operation costs are high in rural areas.

Access to financial services is also limited for many MSMEs involved on the FVCs of each crop. Loans with small amounts and short repayment periods, which are intended for low-income groups and sole proprietors, are not suitable, and the scale of business is too small to be eligible for loans from commercial banks. In sub-Saharan Africa, where the population is growing rapidly, the growth of agribusiness-related MSMEs is necessary to create jobs in rural areas. To this end, there is a need to provide, expand, and promote the use of financial services that meet the needs of MSMEs.

In the past few years, more and more countries in Africa have been seeking to commercialize agriculture, and more and more countries are emphasizing policies to support financial business in the agricultural sector and to increase investment and loans from the private sector. Therefore, support for financial institutions, such as the development of financial products and improved access to finance for the agricultural sector (small-scale farmers and SMEs), and support for appropriate use of finance by improving the financial literacy of borrowing farmers and SMEs, will help to create employment in SMEs and agriculture, improve the quality of agricultural products, and commercialize the handling of agricultural products. By providing support to financial institutions, such as the financial literacy of farmers and SMEs who borrow money, we can make a significant contribution to creating jobs in SMEs and agriculture, improving the quality of agricultural products and promoting agricultural business.

(2) Hypothesis for JICA-Supported Projects

JICA has been supporting small-scale farmers on a continuous basis and has a good understanding of their livelihoods. Therefore, by sharing this information on the livelihood status of the farmers with the financial institutions, it will be possible to propose financial products and services that the farmers need from the financial institutions.

For MSMEs located in the peripheral industries of the farmers who are responsible for production on the FVC, it will be possible to design products and services suitable for the farmers and calculate the effect of financing based on the information on the livelihood status of the farmers. With the support from financial institutions, products suitable for the target farmers of JICA projects can be developed and farmers can use them to improve their productivity and expand their business. It is also expected that management improvements will be made in peripheral industries connected to production on the FVC, which will increase trust in customers and financial institutions and lead to further business expansion.

Recent JICA-supported projects include the provision of optimized agricultural financial services for processors, distributors, agricultural machinery and agricultural financial service²⁶ providers to improve

²⁶ Reference: JICA website, "Republic of Côte d'Ivoire, Domestic Rice Promotion Project Phase 2 Preliminary Evaluation Table," https://www2.jica.go.jp/ja/evaluation/index.php?ankenNo=1900342&schemes=&evalType=&start_from=&start_to=&list=search (February 2022).

the rice supply chain, and capacity-building support²⁷ for governmental financial institutions as development finance specialized in agriculture. In addition, some advanced projects have been launched. When implementing pilot projects, it is recommended to refer to the progress and results of these projects.

(3) Outline of the Pilot Project

1) Objective

Financial institutions that are able to provide loans to small-scale farmers and agribusiness-related companies supported by the CARD project will be provided with support for developing products for agriculture and for taking necessary actions when providing loans. On the other hand, small-scale farmers and related companies that are the borrowers will be provided with support to improve their financial literacy. By providing support to both sides, the project will promote sustainable business development in the agricultural sector by financial institutions and establish a mechanism for small-scale farmers and MSMEs, whose access to and utilization of finance has been limited, to sustain and expand their businesses, increase their income, and expand their employment.

2) Target

The target audience for this pilot project shall be as follows:

- Financial institutions
- Small, medium, and micro enterprises
- Farmers/associations, groups, etc.
- Related ministries and agencies

3) Contents

The target institutions for JICA's investment and support are financial institutions and ministries of agriculture that deal with financial products specific to the agricultural sector. The content of the support is the development of financing services based on the premise of the adoption of technical assistance by JICA. Starting with the selection of pilot districts, the project will analyze the growth potential of farmers' technical level and other factors, analyze the impact of growth potential in cultivation and management technology on repayment capacity, and assist local counterparts in determining and modifying loan terms. In addition, technical assistance will be provided to the final beneficiaries, i.e., agriculture-related small- and medium-sized enterprises and farmers/associations/groups, when the counterparts, i.e., financial institutions, provide technical training.

During the demonstration, it is expected that more optimal financing services will be developed by comparing the effects of different financial institutions and pilot districts to be supported, different types of financial products to be offered, and different target audiences for the financial products (e.g., suburban and rural areas) and their growth potential. We will also examine the possibilities and effects of collaboration between agriculture-related financial institutions and the Ministry of Agriculture. First, the target countries, regions, and crops should be limited, and the projects should be monitored to determine whether the final beneficiaries' profits and management, etc., have been improved by the support projects, in addition to the cost-effectiveness, sustainability, and development potential of the financial products.

²⁷ Reference: JICA website, "Tanzania Agricultural Development Bank Capacity Building Advisory Business," https://www2.jica.go.jp/ja/announce/pdf/20211208_215968_4_02.pdf (February 2022).

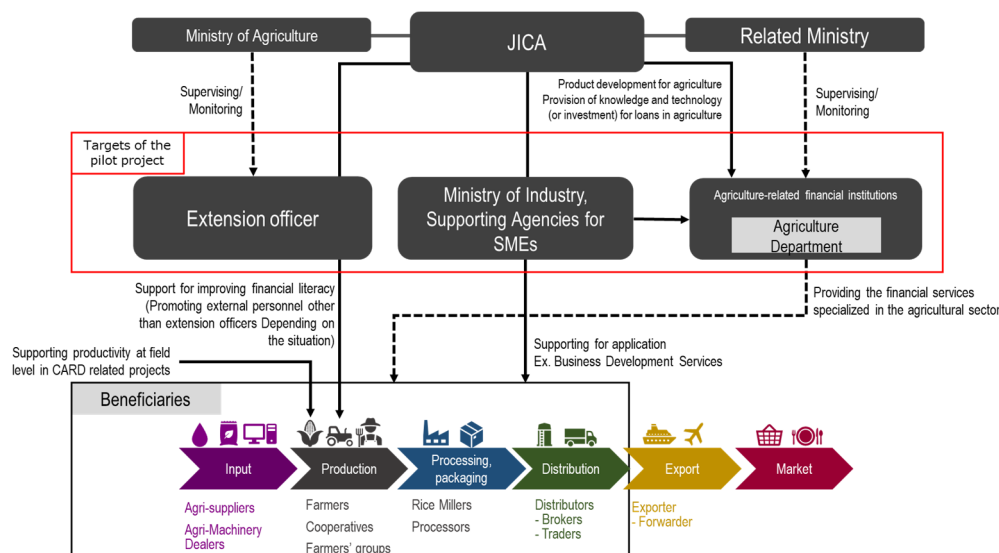


Figure 5.2 Hypothesis of “Collaboration with CARD Target Areas as an Agricultural Investment Ecosystem Development Project” and Positioning of the Demonstration Project

Source: JICA Survey Team.

Those who will receive support from financial institutions include agro-based companies and farmers and agricultural cooperatives. The former includes food processors, off-takers of agricultural finance, and agricultural machinery service providers. These recipients will receive assistance in improving financial literacy and applying for loans. By providing support not only to agricultural producers but also to a series of FVC stakeholders at the same time, it is expected that synergies will be generated by improving the management capacity of each party and that highly sustainable services will be established with profitability. Financial institutions can provide improved access through the establishment of agribusiness liaison offices, optimal financial services for the agricultural sector, support for risk mitigation, and support for BDS in the industrial sector.

4) Assumed Target Countries

The target countries of the pilot project could be the countries where CARD and SHEP projects are implemented. For example, of the 32 countries currently covered by CARD, countries in Group 1 and Group 2, which have been participating as member countries since Phase 1, would be suitable. Furthermore, by selecting countries that have developed or are in the process of developing policies related to seeds and agricultural mechanization, we can expect a wider range of opportunities to utilize agricultural finance.

According to the ARD Secretariat, 10 pilot countries for seed policy support, namely Burkina Faso, Cameroon, Cote d'Ivoire, Ghana, Guinea, Madagascar, Nigeria, Senegal, Tanzania, and Uganda, have already prepared concept notes on seed production. Regarding agricultural mechanization policies, Cameroon, Cote d'Ivoire, and Madagascar have prepared concept notes and others are in the process of preparing them.

Among the CARD implementations, countries such as Camaire, Cote d'Ivoire, and Madagascar, which have prepared concept notes on seed production and agricultural mechanization, will be considered as candidates for the relevant pilot projects, and countries where agriculture-related financial institutions already exist or where rural finance is promoted as a policy will be given top priority as candidates for the pilot projects.

On the other hand, in the case of SHEP implementing countries, countries such as Ghana, Nigeria, Kenya, Tanzania, etc., can be considered as the target countries for the said pilot project, as shown in the agribusiness Project Proposal 1 above.

Table 5.8 Relevant Organizations in the Project Proposal on the Theme of Agribusiness Promotion

Item	Subjects
JICA's Assistance Targets	<ul style="list-style-type: none"> Financial institutions (financial institutions considering handling financial products specific to the agricultural sector) Other relevant ministries: Ministry of Agriculture, ministries with jurisdiction over financial institutions
Services Provided by JICA	<ul style="list-style-type: none"> Development of financial services based on the assumption that JICA technical assistance will be adopted Selection of pilot sites Analysis of farmers' current level of technology and room for growth Analysis of the impact of growth potential in cultivation and management technology on repayment capacity Determination of loan terms and conditions in light of the bank's internal rules Consideration of additional technical assistance and modification of loan terms and conditions
The Ultimate Beneficiary	<ul style="list-style-type: none"> Organized agricultural enterprises (food processing, off-taker, etc., including SME) Farmers, cooperatives, groups, etc.
Details of Additional Technical Assistance to Final Beneficiaries	<ul style="list-style-type: none"> Technical training for local counterparts
Details of Additional Technical Assistance to the Final Beneficiaries Provision of Opportunities to Strengthen Linkages with Peripheral Relevant Stakeholders	<ul style="list-style-type: none"> Agribusiness liaison in financial institutions BDS service provider during implementation of JICA other sectors (BDS/loan application preparation support) Collective support by FVC officials for each crop

Source: JICA Survey Team.

Table 5.9 Hypotheses for the Implementation of Pilot Projects in CARD/SHEP Target Areas

Item	Subjects
Current Status and Issues on the Farmer Side	<p>[Current situation and issues on the farmer's side]</p> <ul style="list-style-type: none"> Inability to purchase inputs and promote agricultural mechanization due to lack of funds. Lack of ability to effectively utilize profits after borrowing, making it impossible to fully repay the loan. Dependence on government subsidies (inadequate subsidies due to budget shortfalls), which does not ensure sustainability of funds. Lack of access to appropriate financial services. They do not know which services are appropriate for them. The CARD/SHEP project is improving the productivity of farmers.
	<p>[Current status and issues at financial institutions]</p> <ul style="list-style-type: none"> Lack of development of products and services tailored to the realities of the agricultural sector Lack of information on investment and lending to the agricultural sector (risk, expected return, etc.) and lack of successful case studies make lending uneasy. On the other hand, in countries where the agricultural sector accounts for a large proportion of the industry, policies to expand investment and lending are being developed.
Hypothesis	<ul style="list-style-type: none"> JICA is in a position to understand the potential growth potential of farmers due to its technology for rice farming/management support.

Item	Subjects
	<ul style="list-style-type: none"> • Therefore, when JICA supports agricultural financial institutions, it can contribute to identifying potential financing opportunities. • Along with assessing the rice farming/management capacity of farmers, it is also possible to develop agricultural training packages that are designed to be outsourced to local consultants and others.
Expected Results	<ul style="list-style-type: none"> • The financial institutions will develop products that are suitable for the target farmers, and the farmers will be able to use them to improve their productivity and expand their business. • Improved financial literacy and the profits earned will enable them to repay their debts on time, which will increase trust in their customers and financial institutions and lead to further business expansion. • In the same way, the industries surrounding the farmers will also improve their management, which will increase the trust of financial institutions and their respective customers, leading to business expansion.

Source: JICA Survey Team.

■ Project Proposal 3: Pilot Project of “Agriculture x Kaizen” as a Promotion of Agribusiness in Africa

(1) Background and Issues

In Africa, the lower agricultural productivity and lower value-added agricultural products in FVCs are major issues in promoting “agriculture as a business.” In recent years, efforts have been made to improve the quality and secure a stable supply of agricultural products as raw materials and to increase the added value of agricultural products by involving the government. However, the lack of basic management skills in organizations, such as agricultural enterprises, cooperatives, and producer groups, is one of the challenges.

In the field of agriculture, standards have been established for the production of chemical fertilizers and pesticides, food processing and safety, and livestock. These standards must be certified for domestic and international sales. In addition, there is a tendency for the youth to shy away from working in agriculture. Therefore, it is necessary to pay attention to “decent work” in the agricultural sector, as it is essential to secure workers to achieve FVC sustainability.

As shown in Chapter 3 of this study, agribusiness is becoming more and more important in Japanese agriculture in recent years as the businesses shift from the traditional family ownership to a corporate structure. Some agricultural corporations are already taking steps to improve productivity and quality by applying Kaizen methods developed in the manufacturing industry to the agricultural sector. In addition, the Ministry of Agriculture, Forestry, and Fisheries (MAFF) has set up consultation offices in each prefecture to provide support for organizational management, such as BDS, in the agricultural sector. The utilization of Kaizen and BDS has led to an increasing number of successful cases. Reviewing the practices, standardization and development of human resources while using the basic Kaizen methods such as “5S,” “elimination of waste,” and “visualization” not only generates profits through improved productivity and quality but will also lead to the acquisition of certifications related to the agricultural sector, a reduction of the workload and working hours of employees, securing human resources, and decent work, etc.

JICA has already provided support for companies in the field of private sector development in Africa through the Kaizen method and BDS. Therefore, the knowledge gained from the past projects and the resources of Kaizen promotion organizations can be utilized for supporting FVCs, including agriculture. On the other hand, it should be noted that even though the Kaizen method and BDS have been utilized in the agricultural sector in Japan, the social background is different in Africa and there are differences among countries. Therefore, before implementing a full-scale project, a trial study should be conducted

to see if the Kaizen method is effective for supporting FVCs. At the same time, cooperation with organizations should be considered.

(2) Hypothesis for JICA-Supported Projects

The use of the Kaizen method in the agricultural sector will add new value to JICA's Kaizen dissemination and existing agricultural support in the future. Farmers have room for productivity improvement in each process from production to sales, and JICA-supported Kaizen Promotion Organizations can provide support to small- and medium-scale farmers if they work with agricultural extension workers.

JICA and the Kaizen-implementing countries have already accumulated know-how on Kaizen consultation. However, obtaining the needs and knowledge of the agricultural sector through Kaizen consultation in the primary industry, which has been limited so far, will lead to expanding the scope of Kaizen to include the secondary and tertiary industries involved in the food value chain. This will help to expand the scope of Kaizen to include secondary and tertiary industries involved in the food value chain. In addition, with the cooperation of relevant ministries such as the Ministry of Agriculture, the understanding of Kaizen by agricultural extension workers will make it possible to expand the Kaizen consultation system in countries where it is difficult to expand the number of consultants due to financial constraints.

JICA's support for the agricultural sector has so far focused on technical and financial assistance in the production sector, but if the results of Kaizen consultation can be confirmed, it will be possible to use this as a starting point to expand the menu of support to the processing, distribution, and retail sectors (especially the CARD project). Also, in the production field, SHEP encourages continuous improvement of production activities with the market in mind, rather than teaching cultivation techniques. Furthermore, SHEP supports developing the ability to judge what cultivation techniques are important. Therefore, it is expected to have a synergistic effect by implementing Kaizen consultation that promotes awareness of organizational management in the agricultural sector. Not only on-site Kaizen activities such as 5S but also the improvement of the business operations of agriculture-related businesses are expected to lead to profit generation and contribute to "profitable agriculture," which is the goal of SHEP.

(3) Outline of the Pilot Project

1) Objective

The Kaizen method and BDS have begun to be utilized in the agricultural sector in Japan, but they may not be equally effective in Africa due to the differences in social background and conditions in each country. In order to utilize the Kaizen method and BDS as an approach of consulting management in FVC, it should be tried out through pilot projects. The purpose of the pilot project is to verify and confirm the effectiveness of the Kaizen method in FVCs and to study the establishment of a management support system in agriculture that includes the Kaizen method.

2) Target

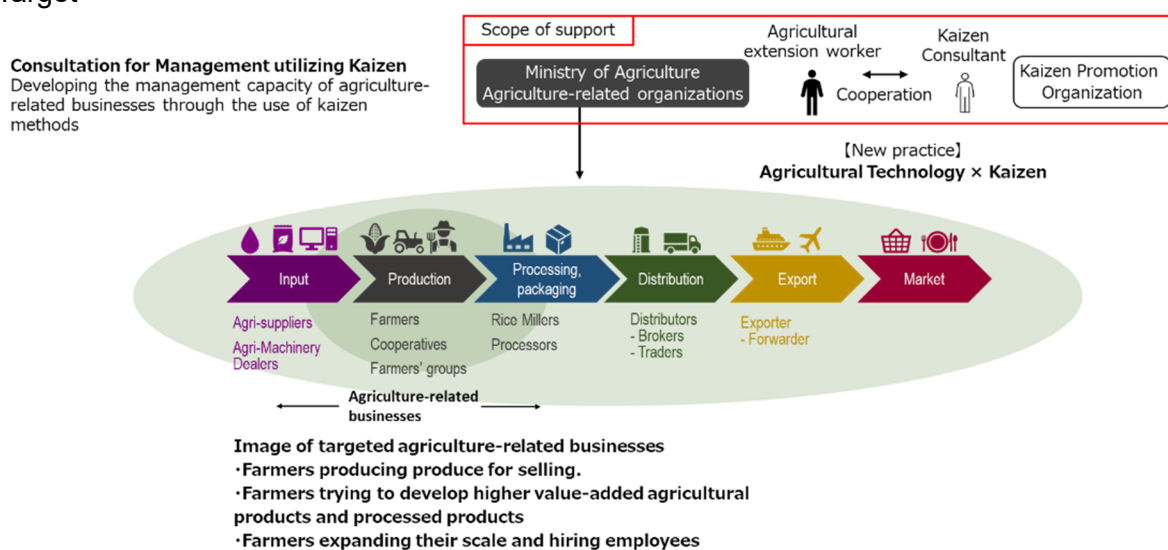


Figure 5.3 Scope of the Pilot Project

Source: JICA Survey Team.

In the pilot project, a pilot agriculture-related business will be selected as a place for the Kaizen OJT training for officers and extension workers of the Ministry of Agriculture and related organizations, and OJT consultation will be provided. The term "agriculture-related businesses" refers mainly to agricultural producers, but also including agro-material suppliers and agro-processing businesses, which are the pre- and post-actors in FVCs. The image is shown in Figure 5.2.3.

Then, for the implementation of the pilot project, businesses that will be subject to Kaizen consultation will be selected from among the "agriculture-related businesses" based on the following criteria:

- Agricultural Material Suppliers: Companies and organizations that deal in seeds, fertilizers, agricultural chemicals, agricultural machinery, etc.
- Agricultural Producers: Farmers who provide agricultural products to processors, farmers who graduated from SHEP.
- Agro-processing Industry: Relatively small-scale agro-processors (washing, cutting, fruit selection, rice milling, etc.).

3) Contents

In the pilot project, JICA's Kaizen experts will try to provide Kaizen consultation to agricultural producers in FVCs and verify the results. Specifically, the pilot project is expected to include the following:

- I. Selection of C/P organization
- II. Selection of pilot agriculture-related businesses
- III. Trial of JICA Kaizen expert's Kaizen consultation to pilot agriculture-related businesses
- IV. Evaluation of the impact of Kaizen consultation (quantitative and qualitative)
- V. Research of organizations that can provide Kaizen consultation to agriculture-related businesses
- VI. Research of BDS providers and other organizations that can cooperate

VII. Examination of required learning materials, etc.

4) Assumed Target Countries

For the pilot project, candidate countries are assumed to be those that are focusing on industrialization of agriculture and have resources for Kaizen consultation. Ethiopia and Malawi were identified as candidate countries because both countries have positioned agriculture as an important industry and have experience in providing Kaizen consultation in the agricultural sector, albeit limited.

Ethiopia

Ethiopia's agriculture accounts for about 30% of the country's GDP, with maize, sorghum, wheat, barley, coffee, etc. as major products, and the agriculture and agro-processing industry is an important export industry. EKI, which is supported by the JICA project, is an organization that promotes Kaizen and provides consultation to agro-processing companies. It has also provided consultation to farms owned by food processing companies and even to small-scale farmers who supply materials even though these are limited cases.

In the future, JICA's collaboration with the Ministry of Agriculture and other agriculture-related organizations may lead to more widespread deployment of Kaizen in the agricultural sector. In addition, Ethiopia's situation with the Kaizen method being already widely recognized by the ministry and private companies will motivate new related businesses and organizations in the agricultural sector to accept and utilize Kaizen. In addition, EKI hopes to be a Center of Excellence (CoE) and is willing to share its Kaizen methods with neighboring countries in the future, and if the effectiveness of Kaizen and BDS for FVCs is confirmed, it will be easy to expand in Africa.

In terms of support for organizational Management in agriculture, FBPIDI, which provides BDS to the food and beverage manufacturing industry and receives support from JICA's BDS project, has sent its staff to participate in EKI's Kaizen training. FBPIDI is developing a system to provide BDS including Kaizen to agro-processing industries. Moreover, in the agricultural sector, ATA is planning to provide BDS in the future, and one of the options would be adding Kaizen methods to the content of instruction.

(Note: As of February 2022, the Ministry of Foreign Affairs of Japan has issued a danger alert due to the unstable situation.)

Malawi

In Malawi, agriculture accounts for nearly 30% of GDP, and primary products such as tobacco, sugar, nuts, beans, and tea account for about 80% of total exports, making agriculture a key industry driving economic growth. The national agricultural policy, enacted in 2017, calls for the "industrialization of agriculture," with the goal of strengthening the linkages between the agricultural sector and other sectors so that better value can be added to economic growth through agriculture. In addition, the Malawi Bureau of Standards (MBS) has established various standards and certification systems, and companies considering nationwide expansion, regardless of their size, need to meet the standards.

Two staff members from the Technical, Entrepreneurial and Vocation Education and Training Authority (TEVETA) participated in a training course in South Africa and a training course in Japan to learn about Kaizen in a project implemented by the Japan Productivity Center, commissioned by the Ministry of Economy, Trade and Industry (METI) in FY 2018. After completing the training, a consultant has been continuously providing Kaizen consultation to small-scale agro-processing companies, etc., and the scope of the consultation sometimes extends to farms.

The staffs of TEVETA are also actively involved in the activities of the Africa Kaizen Initiative (AKI) working groups, which makes it easy for them to share information in Africa. In addition, the OVOP

project implemented by JICA in the past included Kaizen in the training program for technicians. The production, supported by the OVOP project, such as herbs, baobab oil, moringa, cassava processing, and beekeeping, is still continuing. The technicians who were trained at that time now belong to the Value Addition Division under the Department of SMEs and Cooperative of the Ministry of Industry and are supporting SMEs. The fact that the technicians are familiar with Kaizen methods and are providing support to both agriculture and processing sectors makes it easier to gain an understanding of the pilot project.

It is necessary to verify the effectiveness of the pilot project by implementing it, keeping in mind the organic collaboration among the Ministry of Agriculture, Ministry of Industry, and MBS.

Table 5.10 Relevant Organizations in the Proposed Project on “Agriculture x Kaizen”

Item	Subjects
JICA's assistance targets	<ul style="list-style-type: none"> • Ministry of Agriculture, agriculture-related organizations • Kaizen Promotion Organization and Productivity Centers
Services provided by JICA	<ul style="list-style-type: none"> • Kaizen consultation by Kaizen experts to officers and extension workers of the Ministry of Agriculture and agriculture-related organizations • Consideration of collaboration between the Ministry of Agriculture and agriculture-related organizations Kaizen and Kaizen promotion organizations and Productivity Centers
Ultimate beneficiary	<ul style="list-style-type: none"> • Agribusinesses: mainly agricultural producers but also include agro-product suppliers and agro-processing companies, which are pre- and post-actors in FVCs.
Details of additional technical assistance to final beneficiaries	<ul style="list-style-type: none"> • Selection of pilot agriculture-related businesses as sites for Kaizen On the Job Training (OJT) of officers and extension workers of the Ministry of Agriculture and agriculture-related organizations.
Details of additional technical assistance to the final beneficiaries Provision of opportunities to strengthen linkages with peripheral relevant stakeholders	<ul style="list-style-type: none"> • Agriculture-related businesses in FVCs: input goods, agricultural producers, and agro-processing and packaging

Source: JICA Survey Team.

Table 5.11 Hypotheses for the Implementation of the “Agriculture x Kaizen” Pilot Project

Item	Subjects
Current status and issues on the farmer side	<p>[Current situation and issues on the farmer's side]</p> <ul style="list-style-type: none"> • Lower agricultural productivity and value addition of agricultural products in FVCs. • Lack of basic management skills in organizations such as companies, cooperatives, and producer groups related to agriculture has been a stumbling block in establishing cultivation and agro-processing technologies. • There is a tendency for the youth to shy away from agriculture. • In order to expand the sales of products domestic and overseas market, it must meet the standards and receive certification. <hr/> <p>[Current status and issues on the agricultural support side]</p> <ul style="list-style-type: none"> • Kaizen methods have been utilized for manufacturing industries, including food processing industries, but providing Kaizen consultation for agricultural producers is very limited.
Hypothesis	<ul style="list-style-type: none"> • Farmers have room for productivity improvement in each process from production to sales, and JICA-supported Kaizen Promotion Organizations can provide support to small- and medium-scale farmers if they work with agricultural extension workers. • JICA's support, as well as the Kaizen promotion organizations and productivity centers in each country, will be able to obtain the needs and knowledge of primary industries, such as agriculture, which have been limited so far. It will lead to extend the scope of Kaizen to secondary and tertiary industries involved in the FVC around the agricultural sector. • In cooperation with the relevant ministries such as the Ministry of Agriculture, the understanding of Kaizen by agricultural extension workers who provide technical support in the field will make it possible to extend the system of Kaizen consultation even in countries where it is difficult to increase the number of Kaizen consultants due to financial constraints. • It is expected to have a synergistic effect with SHEP's "Profitable Agriculture" concept by promoting awareness of management and improving the business operations of agriculture-related businesses to generate profits.

Source: JICA Survey Team.