



**Sasakawa Africa Association**

**Towards Building Africa's First "e-Extension Platform"  
for Smallholder Farmers**

Report by

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## **[Key Points]**

- 1. To build Africa's first "e-Extension Platform" for smallholder farmers**
- 2. The best mix of DX promotion and conventional face-to-face methods in agricultural extension**
- 3. To increase the efficiency of the entire regional food system as well as agricultural production**

### **1. About the Sasakawa Africa Association**

The Sasakawa Africa Association (SAA) was established in 1986 by Ryoichi Sasakawa, the first chairman of the Nippon Foundation, Dr. Norman Borlaug, who was awarded the Nobel Peace Prize for being the father of the Green Revolution, and former US President, Jimmy Carter, in response to the famine in the Horn of Africa in the 1980s. Since then, SAA has worked to strengthen agricultural extension services in 16 countries in Africa. Currently, we have offices in four countries - Ethiopia, Mali, Nigeria and Uganda - where we focus on field activities and human resource development projects at universities and educational institutions. We also do human resource development projects in seven countries: Benin, Burkina Faso, Ghana, Malawi, Mozambique, Sierra Leone and Tanzania.

In many countries in Africa, agricultural extension agents belonging to ministries of agriculture provide technical guidance to farmers. Due to lack of government budgets and other factors, however, robust extension systems have not yet been established or the skills and knowledge of extension agents are lacking. SAA has been working on technical training for farmers and extension agents, training young entrepreneurs to provide

processing services such as threshing, and developing curricula for universities to teach mid-career agricultural extension workers. To address the latest challenges, SAA has been supporting farmers by promoting climate smart agriculture, market-oriented agriculture, and gender and nutrition, taking into account the entire value chain from production to consumption. In the four focus countries, more than 10 million farmers have participated in the training of SAA so far. In Ethiopia, the government adopted SAA-style production plots as the country's agricultural extension system in 1995, which became the foundation for the current public agricultural extension system of approximately 70,000 agricultural extension workers. Nigeria also formally adopted the SAA's agricultural extension approach as one of the country's agricultural extension models. The SAA's major achievement is that the longstanding commitment to working with smallholder farmers in Africa has led to the adoption as part of the national extension systems.

## **2. Impact of COVID-19 in Africa**

The COVID-19 pandemic has had a significant impact on agriculture in Africa. In mid-April this year, SAA conducted a survey on the impact of COVID-19 on agricultural value chains in Africa in order to act urgent measures to mitigate its impact. The survey was carried out in 11 countries where SAA operates through telephone and email interviews with farmers, brokers, ministry of agriculture officials, university teachers and students in each country. The results of the survey revealed that various stakeholders in the agricultural sector have been impacted very severely. For example, restrictions on public transport and self-restraint on going out have made it difficult for farmers to access essential agricultural inputs such as seeds and fertilizers. There were also difficulties in accessing financial services and markets, and in recruiting agricultural labour. The impact was further extended to

agricultural extension services. The government ban on gatherings prevented extension workers from teaching farmers, and universities were closed to prevent the spread of infectious diseases, which meant that learning opportunities for students were lost. It was also found that many farmers felt "divided" because they could not get enough information related to agriculture from their surroundings. In response to this situation, SAA is working to strengthen the resilience of food systems in Africa, not only in the short term but also in the long term, through innovative approaches using information and communication technologies (ICT). In particular, three key areas of support have been identified: "technology transfer" and "labour-saving agriculture" using ICT to reduce human contact and keep a social distance, and "access to inputs" as a response to the logistical stagnation caused by the lockdown.

### **3. Activities in SAA focus countries**

In this section, I would like to introduce one of our activities to establish "e-Extension Platform" in the SAA focus countries. First, I will focus on Uganda, which is the most advanced of the four focus countries.

When SAA began its implementation in Uganda in 1997, the number of farms had been drastically reduced due to the structural adjustment policy in the 1990s, and the number of farmers per extension worker had increased to about 1,800 households, making it difficult to ensure the quality of agricultural extension. To compensate for this weak public extension system, SAA introduced an extension model in which farmers themselves were trained as Community Based Facilitators (CBFs). These CBFs have been the focal point in each community and have made a significant contribution to improving agricultural

productivity through the dissemination of technology in demonstration plots. In 2011, a new extension model was also introduced to train young farmers to become Commodity Association Traders (CATs) for agricultural inputs and commodities, which not only has improved agricultural productivity but also facilitated access to markets for agricultural products. It has also led to improved income for farmers. In recognition of these achievements, in 2018, the Ministry of Agriculture officially adopted the SAA's extension model as the Village Agent model into the national extension system, and now aims to train 32,000 CATs across the country.

Thus, SAA's work in Uganda has sought to establish a model of using farmers themselves as private sector personnel to complement the weak public agricultural extension system. However, restrictions on movement and other sanctions imposed by COVID-19 have resulted in compelling obstacles to face-to-face technology transfer by CBFs and to the trade in agricultural inputs and products by CATs. Even under these circumstances, the e-Extension Platform has the potential to ensure that farmers are not fragmented in terms of technology transfer and access to necessary resources such as inputs.

As part of the e-Extension Platform, SAA Uganda has introduced a smartphone app from two ventures in Uganda, m-Omulimisa and Akorion. SAA is training extension workers on how to use it. The m-Omulimisa app allows extension workers to distribute information that farmers need on the app as needed. Farmers can also send questions to extension workers and receive replies, enabling two-way communication online. For example, farmers can send photos of crops suspected to be affected by a disease, and the extension agent can analyse the photos and send a message to the farmer about how to deal with a

particular disease or other issues, even if he/she is not able to go to the site. It is also possible to register your location on the app and receive information on markets and weather in the vicinity. The EzyAgric app developed by Akorion allows users to check the sale of agricultural inputs such as seeds and fertilizers online and purchase them. This is a breakthrough for farmers, who previously bought face-to-face from middlemen at unfair prices, to be able to buy at the right price instantly on the app and get the right inputs at the right time without traveling to a distant market.

In addition to these initiatives, Uganda is also conducting information sharing through the radio and connecting local traders and agricultural input suppliers through the WhatsApp message app to facilitate information sharing. Radio talk shows are produced in collaboration with the International Food Policy Research Institute (IFPRI) and HarvestPlus, an international agricultural research project that provides regular information on agriculture and nutrition. Videos on pest control, post-harvest handling, etc. are produced in several local languages and shared through WhatsApp.



Teaching agricultural extension workers how to use m-Omulimisa

I would also like to introduce the initiatives in three other focus countries. In Ethiopia, SAA provided smartphones to extension workers and introduced Bitrix24, a customer relationship management (CRM) system platform, which enables SAA staff and extension workers to share information remotely, allowing them to communicate with extension workers at a high frequency and in both directions without visits to the project sites. The 'digital classroom' produces video learning tools to help farmers learn about post-harvest handling and storage techniques, composting and water resource management, and serves as an alternative to the face-to-face approach used by extension workers. In Mali, smartphones were first provided to extension workers, regional promoters and farmers as a basis for technology transfer. Training videos on sealed storage, drying of products and storage management were also produced. These videos were stored in the provided smartphones so that extension workers and farmers could watch the training videos at any time. On access to inputs, we worked with the National Seed Research Institute of Mali (LABOSEM) to produce training videos on home-grown seeds in French and local (Bambara) languages. Online training will be conducted in the future, using the smartphones provided. Nigeria is disseminating the nutrient expert fertilizer recommendations and cassava-maize intercropping agronomy systems using the Maize and Cassava app. These apps are being scaled-up under the e-Extension Platform.

Since 1993, SAA has also implemented the Sasakawa Africa Fund for Agricultural Extension Education (SAFE) to retrain mid-career extension workers in universities and agricultural institutions, in partnership with 29 universities and educational institutions in 11 countries. Support for curriculum development is provided. The curriculum is designed to

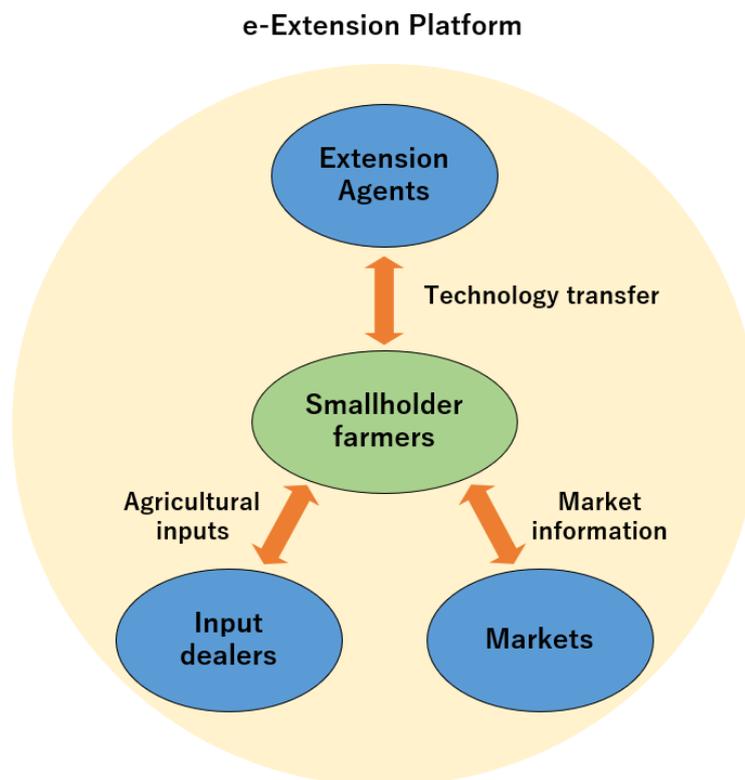
enable extension workers to learn about the latest issues surrounding smallholder farmers, including courses on climate smart agriculture, gender equality and nutrition. The SAFE project is also promoting the use of ICT technology. Specifically, the project has provided two universities, Bahir Dar University in Ethiopia and Segou University in Mali, with the necessary materials, such as computers and webcams, and introduced applications such as the Zoom Pro online conference tool, in order to build an "e-Learning Platform". In addition, preparations are underway to enable extension workers to attend university classes online from a distance.

#### **4. Future Prospects and Challenges**

SAA has about 160 staff members, mostly Africans, working in the four focus countries, and despite travel restrictions imposed by COVID-19 that have prevented many overseas experts from visiting the field, SAA continues to promote conventional agricultural extension and the e-Extension Platform. The SAA's greatest strength today is its "on-the-ground" capability, which it has used to study the impacts of COVID-19 as quickly as possible and to resolve the issues in three key areas highlighted by the research. The three areas were: technology transfer and labour-saving agriculture using ICT to reduce human contact and keep a social distance; and access to inputs as a response to the logistical disruptions caused by the lockdown.

However, the fact is that the circumstances surrounding COVID-19 are ever-changing, and the needs we initially picked up on are changing. Specifically, restrictions on movement across states and cities have been lifted, farmers are once again gaining access to materials they need, such as seeds and chemical fertilisers, or universities have been

reopened and students are once again taking classes face-to-face. In this situation, SAA has had to rethink the direction of its activities. Based on the results of regular online meetings with offices in the four focus countries, the SAA's current e-Extension Platform concept was reorganised as follows.



Conceptual diagram of the SAA's 'e-Extension Platform'

SAA envisages the e-Extension Platform that prevents smallholder farmers from being fragmented under any circumstances and allows them to access three elements of technology transfer, agricultural inputs and market information at any time. And most importantly, in building the e-Extension Platform, it is not just a measure to deal with the impact of COVID-19. In other words, SAA believes that the e-Extension Platform should not only improve agricultural productivity in the COVID-19 era, but also resolve the "information

asymmetry" that can occur in the extension of agriculture throughout the value chain through the active use of ICT even in the post-COVID-19 era. In the case of Uganda, discussed earlier, the use of m-Omulimisa has enabled two-way communication between smallholder farmers and extension workers online and is creating a situation where access to 'technology transfer' is ensured. At the same time, the use of EzyAgric has facilitated smallholder farmers' access to 'agricultural inputs'. In 2021, we will invest a large part of our activities in the promotion of the e-Extension Platform. The results of this initiative to build Africa's first e-Extension Platform for smallholder farmers will be disseminated to the world through webinars and other means.

#### **5. Aiming for the best mix of DX and conventional face-to-face methods**

While we have introduced innovative initiatives that actively use ICTs, we believe that the establishment of e-Extension Platform will not be achieved by itself. As for explicit knowledge that can be shared widely with the general public, it would be possible to expand the number of farmers targeted by the "digital classroom" in Ethiopia and the use of video training on smartphones in Mali, among others. On the other hand, for the tacit knowledge in agricultural extension that is difficult to convey, it will continue to be necessary for agricultural extension workers to provide direct guidance to farmers as they have up to now. We believe that the ideal form of support is a "best mix" of support that combines the conventional face-to-face method of technology transfer when necessary with the promotion of DX in agricultural dissemination.



Agricultural extension in the field with COVID-19 measures in Uganda