



Connecting people, agriculture and the environment through appropriate technologies

Inaugural address from the new representatives of AAI

Naoki Koga and Nobuki Kojima have been appointed as representative directors, taking over from their predecessor Hiroyasu Onuma. Appropriate Agriculture International Co. Ltd. (hereinafter referred to as AAI) is about to change generations, and for the last few years, we have been thinking about the future of our organization. What remains after the generation that laid the foundation of the company retired from the front line? And what can we younger generations inherit from AAI to keep it as it is? What can we leave for the next generation? We asked such questions of ourselves and came up with three thoughts.

The first thing to recognize is that the organization effectively remains a "small" group of engineers. Because the organization is small, we can see each other's faces, and by seeing each other's faces, we can see each other's efforts. In an environment where you can see each other's efforts, the way you operate in the workplace differs from a normal office environment. It doesn't matter even if the members change. AAI wants to maintain its unique personality and position by remaining a small group of engineers. As was the case in the past, we are particular about discussions at the "work place" which is a small table in the Machida office, and think that AAI is a place where the ideals and accumulated experience of each member can be maximized.

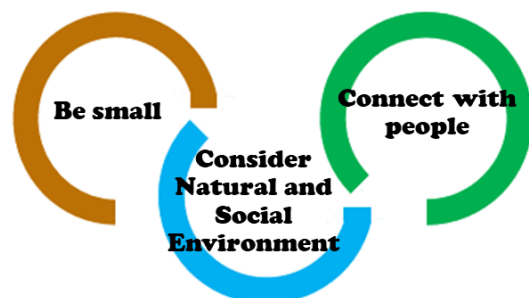
The second is to always consider the historical context and cultural/natural characteristics of the target/project sites. The environment surrounding international cooperation is changing dramatically, and as the world becomes smaller, there are many global issues that must be considered when implementing international cooperation. AAI always pays attention to, and considers, such issues. On the other hand, the starting point of the issue of international cooperation is the local people and the natural and social environments surrounding them. We are hoping that the results of our activities can contribute to the success of those people. AAI initially developed such activities mainly in arid regions, but now the range of target areas is expanding. Nevertheless, we will continue

to utilize the knowledge, skills, and experience of each member in line with the environment and people's lives at each site in the world.

The last point is the importance of "connecting", and this closely relates to the point we first made about the strength and advantages of being "small". But in a small group of different personalities, such as AAI, we can only enhance the power and effectiveness of the organization by respecting each individual and making the most of each other's skills and ideas. We would like to demonstrate the power of the company that is derived from our prioritization of the strength of "connecting". Also, since it is a small company, there is a limit to what can be done by AAI alone. In order to carry out meaningful and effective international work, cooperation with other consultants, researchers, NGOs, and people in the target area is indispensable.

AAI has been developed with the kindness and cooperation of many people concerned. In the future, while valuing the bond with everyone and sticking to knowledge and experience in respective fields, such as arid land, agriculture, extension/training, environment, we would like to seek what can be done by a small group of engineers and how international cooperation can be promoted by small organizations. We look forward to the continued guidance and encouragement of all concerned parties in the future.

(November 2019 Naoki Koga, Nobuki Kojima)



The three things to keep AAI as it is.

Ingenuity of demonstration fields <Part 5>

Step-up demonstration field

“Northern Uganda Farmers’ Livelihood Improvement Project (NUFLIP)”, a JICA technical cooperation project, aims to increase the income of farmers through market-oriented vegetable cultivation, and here we have implemented farmer training using demonstration fields.

The project targeted a group of small-scale subsistence farmers. They mainly grow field crops such as maize, groundnuts, beans and sesame. There were also farmers who grew cash crops such as cotton and soybeans, but all of their cultivation methods were extensive, very few farmers had experience of growing vegetables for sales. It was difficult for farmers who have only experience in extensive farming to grow vegetables which require detailed cultivation management. Even if they could do it under the project implementation, they can’t continue it without the project support.

The project, therefore, developed a training system which gradually makes farmers independent using the medium of demonstration fields. Due to the twice-yearly rainy season in northern Uganda, the project could fortunately set up a demonstration field twice a year. Therefore, the training during the first rainy season aimed to equip farmers with cultivation techniques. In the training, after learning the knowledge in the lecture, all the members of the farmer group learned to apply the techniques and theory efficiently by practicing it physically in a demonstration field. Even when there was no training, the project staff visited often and carefully instructed on cultivation management according to the plant growth and field condition. This intensive commitment had farmers understand the importance of timely and careful management. It could be said that the demonstration field in the first rainy season was a preliminary step for farmers to learn cultivation techniques. The second rainy season offered the chance of another step to practice the cultivation techniques by themselves. Group members were divided into sub-groups of 5 to 7 people and had each set up a demonstration field. Since the number of fields became more than five times that of the first rainy season, it was not possible for the project to visit the fields frequently.



Step 1.; To learn cultivation techniques in group. The profit is saved for the step 2.



Step 2.; To practice learned techniques in small group. The profit is saved for the step 3.



Step 3.; To start cultivation independently based on techniques and fund obtained in step 1 and 2.

Each sub-group had to manage their field and crops themselves, remembering what they learned in the first rainy season. In addition, the project asked agricultural extension officers to play an essential role in monitoring and cultivation instruction, and the project stepped back and assumed the position of supporter. As a result, farmers could acquire practical experience of vegetable cultivation, and agricultural officers also could accumulate experience of technical instruction.

Since vegetable cultivation costs much more for agricultural materials such as seeds, fertilizers, and pesticides than field crops, there were some farmers who lacked financial resources and, because they could not purchase enough materials, they gave up cultivation. Also, many farmers were not accustomed to investing their money in agricultural production in the first place. Therefore, instead of preparing all the agricultural materials required for the demonstration field in the first season as training materials, the project instructed participants to save all the profits from the demonstration field for use in the second season. In the second season, the project prepared only the minimum necessary materials, and farmers had to purchase other necessary materials by themselves using the profit from the first season. This condition provided farmers the experience of buying and using agricultural materials themselves. As the final step of this system, the profits finally obtained in the second season became funds for each farmer to grow vegetables independently the following year.

In order to establish the intensive vegetable cultivation technology for farmers who have only experience of extensive farming, the project needed to strengthen the financial aspect and change the mind-set of farming at the same time as providing the cultivation technology. The step-up type demonstration field which can gradually improve farmers’ capacity worked effectively in this case.

Explore the world of beekeeping <Part 5>

Visiting Ishizuka Bee Farm (2)

Continuing from the previous issue, we report on the activities of Ishizuka Bee farm in the Koya district of Marumori Town, Miyagi Prefecture.

In modern beekeeping, a hive called "the Langstroth hive" is used. About 9 wooden frames can be fitted in the hive, and the bees build a comb according to the frame, where they store collected nectar and lay eggs. Since this frame is of the sliding type and can be taken in and out easily, it is possible to inspect the inside of the hive and monitor egg laying, growth of the larva, honey storage status, etc. of each frame. With these observations you can keep the hive in an appropriate state. In addition, the work of splitting the hive of a "strong swarm" in which the hive is in good condition and the number of bees is increasing into another hive to increase the number of swarms can be easily performed by relocating some frames to new hives. Furthermore, honey can be extracted efficiently and hygienically by using a centrifuge that can be set with the frame as it is, and since the comb remains within the frame even after the honey is extracted, the frame can be returned to the hive again. In traditional hives, laying egg and honey storage cannot be observed and a hive must be destroyed when honey is collected. In comparison to such traditional structures, the Langstroth hive technique is practically much more efficient.

At the time of this visit, one Zambian was receiving on the job training on these modern Japanese beekeeping techniques. From the appearance of the trainee performing the "hive inspection" and "splitting a hive" work together with the Japanese staff in a well-arranged and accurate manner, it seemed that the trainees had mastered not only the skills but also the style of Japanese teamwork. Koya district of Marumori Town has hosted many Zambian trainees since accepting the counterpart training of the JICA project in Zambia in 2010, and from 2016 to 2019, a grassroots project in Zambia was



Inspection of a Langstroth hive

being carried out by the farmers of Koya district. Ishizuka bee farm has also accepted 17 trainees from Zambia. After accepting trainees in the district, Mr. Ishizuka was dispatched to Zambia as a short-term expert for the JICA project and provided beekeeping guidance there. Based on his experience in Zambia, Mr. Ishizuka thinks that the development of apiculture in Zambia requires the development of beekeepers with modern techniques, but improvements in traditional or intermediate beekeeping techniques are also important to improve the livelihood of small farmers in Zambia. Therefore, in his bee farm he tries to improve and test the intermediate type of hive that is popular in Africa called the Kenyan top bar hive, and improve the centrifuge suitable for the fragile comb taken from top bar type hives. Mr. Ishizuka also thinks that not only technical improvement of colony management or nectar collection but also observation of the behavior of honeybees and the phenology of nectar source plants throughout the year is important to improve Zambia's apiculture. He believes that it will help Zambian beekeepers to reconsider the year-round schedule of honey collection, which is traditionally fixed.

Beekeeping is an interesting technical system that requires understanding and consideration of the small environment inside the hive and the environment of the entire area, such as the forests, grasslands, and fields surrounding the hive. Since the style of selling products developed by himself is also a concrete example of diversification of agriculture, the activities of Ishizuka Bee Farm were intriguing as a "livelihood" that comprehensively tackles nature and society. I felt the potential of beekeeping when I saw Mr. Ishizuka, the staff, and the Zambian trainee working vigorously and happily.



The Zambian trainee inspecting a top bar type hive

Conservation of Ethiopia Forest Coffee through value addition

Participation in SCAJ2019

The richly biodiverse forest areas in southwestern Ethiopia are known as the birthplace of Arabica coffee. Local people living in this forest have traditionally collected fruit from naturally grown coffee trees to create Forest Coffee, which is drunk and enjoyed locally as well as sold to provide income and livelihoods. The JICA's technical cooperation project in the Belete-Gera Forest in Ethiopia, where AAI has been engaged, aimed to develop a mechanism that can harmonize sustainable forest use and the preservation of this natural forest as Arabica's origin. Through the technical cooperation, the Forest Coffee Producers conserved forest and applied appropriate management techniques to enhance product quality to create coffee that can be exported to Japan.

Ethiopia is the sixth largest coffee producing country in the world, and the export of Arabica coffee is a main source of foreign currency. The Ethiopian government is encouraging the planting of improved varieties of coffee, which produce more fruits than those of Forest Coffee, to increase exports. Due to the influence of these policies in recent years, expansion of coffee cultivation areas and improved varieties for the purpose of increasing the coffee yield have become remarkable. Even though the project has mainly worked with the government agency responsible for forest conservation, there are various government and private stakeholders involved in coffee export and marketing. In discussions with them, they made the following comments on the subject of Forest Coffee - "Since Forest coffee is low in yield, chemical fertilizers should be applied or coffee producers should replant using improved varieties" and "Forest Coffee is poor quality coffee suitable for local farmers and but not adhering to standards that make it suitable for export." We were surprised to see that the value of Forest Coffee was not fully recognized even by coffee sectors within Ethiopia.

To improve the situation, the project organized a symposium "Ethiopian Wild Coffee as a Gift to the World" in Addis Ababa in March 2019. More than 100 participants related to coffee sectors from government agencies and private companies gathered to share thoughts on the situation and challenges facing Forest Coffee's management and increasing its value. Furthermore, we supported the exhibition of Ethiopian coffee as well as Forest Coffee at the World Specialty Coffee Conference



Ethiopian Ambassador and coffee exporters at the exhibition booth of SCAJ2019

and Exhibition (SCAJ2019) held at Tokyo Big Sight where we aimed to expand the sales channel of Forest Coffee in Japan and make it an opportunity for Ethiopian stakeholders to recognize its true value.

At the exhibition booth, the project offered Forest Coffee for tasting alongside various other Ethiopia coffees presented by participants from the Ethiopian Coffee Exporters Association (ECEA). Some AAI staff also participated in the booth management and were overwhelmed by the success of the SCAJ event. There were so many visitors in three days, and there were some Japanese buyers interested in trading in Forest Coffee and asking for details such as prices and shipment methods from Ethiopia.

In the SCAJ2019, two seminars were also held; "Attractiveness of Ethiopian Coffee" and "Initiatives toward specialty of Ethiopian Forest Coffee." In addition to experience and achievements of the project for Forest Coffee, the uniqueness and potential of Ethiopian coffee were introduced by Ethiopian experts and government officers. In both seminars, we were able to get positive responses from the many participants who attended and raised interest in Ethiopia and Forest Coffee. In addition, some Ethiopian officers said, "we discovered that Forest Coffee is special and valued in the world." Through planning and participating in those events, the common understanding has been strengthened for promoting Forest Coffee by protecting the precious natural forest where Arabica coffee first originated.



Tasting and cupping of Forest Coffee were offered at the booth