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My First Trip to Sindh

AAI has been engaged in JICA feasibility studies and technical cooperation projects in the agricultural sector of Pakistan for more than 30 years. In recent years, AAI implemented a JICA technical cooperation project in Balochistan province from 2019 to 2023. This time, AAI has been given the opportunity to join the JICA Project, the Smallholder Horticulture Farmer Empowerment Projcet targeting Sindh province started in 2024.

Sindh province, which includes Pakistan's largetst city, Karachi, is about four times the size of Kyushu, Japan and lies in the Indus River basin. The Indus River often evokes Mohenjo-daro, the ancient city ruins of the Indus Civilization, recognized as one of the world's four great civilizations. The province lies within a desert climate, with an average annual rainfall of only about 150 mm, making irrigation indispensable for agricultural production. In the Indus plains, farmers have relied on the waters of the Indus River and mountain catchment areas for over 5,000 years through flood-based systems known as Sailaba irrigation. Under British rule in the 1930s, the construction of a barrage on the Indus River near Sukkur established a modern irrigation network, transforming the arid and barren land into a vast agricultural zone. Today, the province's agricultural output is still dominated by staple grains such as wheat and rice, alongside cash crops like sugarcane and cotton, making the province a vital breadbasket that contributes around 11 percent of Pakistan's GDP.

Well-maintained irrigation canal

Sindh province has two main cropping seasons: the Kharif season (From April to September), which coincides with the rainy season, and the Rabi season (From September to March), which is the dry season. Sugarcane and wheat are cultivated throughout the province, while cotton and rice are widely grown in both the northern and southern regions. The province is also a major producer of fruits and vegetables, including tomatoes and mangoes. In fact, the province is one of the world's leading mango-producing regions, with significant exports to international markets.

The core objective of this project is to introduce and promote market-oriented agriculture suited to the conditions of Sindh province, with the aim of improving the livelihoods of smallholder horticulture farmers. As specialists in horticulture and ICT/monitoring, AAI contributes by providing technical support in horticultural cultivation, designing an ICT-based monitroing system, and supporting for monitoring activities.

In my earlier work for the project in Balochistan, I was unable to visit Balochistan due to security restrictions. Through this project, I was finally able to observe fisthand issues such as waterlogging and salinity. I also observed landlords and tenant farmers conversing as equals, which contrasted with the impression I had gained from secondhand reports. This experience reminded me of the importance of gaining firsthand insights directly from the field.

Furrow-irrigated tomato field

One of the highlights was being able to see and reconnect with Pakistani colleagues from earlier projects. While challenges are expected, I hope to make full use of the lessons learned and experiece from other provinces and contribute to this new opportunity with the support of our trusted Pakistani colleagues.

(May 2024, Nakamura)

The Impact of Social Approaches on Agricultural Technology Dissemination <Part 3>

Effects on the Implementation of Marketing Strategies and the Establishment of Cropping Systems

The Northern Uganda Farmers' Livelihood Improvement Project (NUFLIP), in which AAI was involved from 2015 to 2021, focused on two core pillars: Market-Oriented Agriculture (MOA) and Quality of Life (QOL) Improvement. This series highlights how the social approach, Improvement of Quality of Life, affected the adoption and dissemination of MOA technologies.

Impact on the Implementation of Marketing Strategies

In market-oriented agriculture, the first step is to conduct a market survey. The survey itself is simple, but many farmers had never done it before and found it hard to start. With a little encouragement through project training and follow-up, however, farmers were able to take action and get useful results.

In market survey training, participants were paired as male-female teams to ensure gender balance. They conducted surveys in nearby markets, and many participants noted that "women are better at interviews." Since most vegetable vendors in local markets were women, female farmers could more easily engage in casual conversations and collect necessary information. Some participants also mentioned that by becoming more market-conscious, women were able to naturally gather market information during their daily shopping.

When it came to sales, women often managed money more carefully than men did. One male participant even commented, "I let my wife sell the vegetables because she won't waste the money on alcohol or socializing after selling vegetables." While men still tended to take the lead in larger or higher-volume markets, compared with the past when men held control over all money matters, the current situation showed a more complementary style of marketing that utilized the strengths of both men and women.

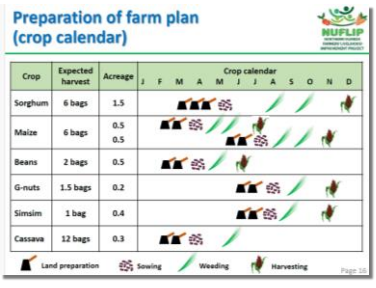
Impact on the Establishment of Cropping Systems

Even if farmers learned new cultivation techniques, these techniques would not be sustained unless they were integrated into the existing farming system. One of NUFLIP's challenges was how to incorporate vegetable cultivation as a cash crop into their traditional farming systems.

A symbolic incident occurred in the project's second year. One farmer group carefully managed his tomato field, and the plants grew very well. However, when the harvest season arrived, the tomatoes remained unharvested and turned red in the field. This was because the tomato harvest coincided with the sesame harvest. The farmers chose to prioritize sesame. In terms of profitability, tomatoes were more valuable. The farmers prioritized sesame because it is indispensable in the traditional cuisine. For many farmers, food crops had a higher priority than cash crops.

A tomato field where the harvest was delayed, and the fruits turned red without being picked.

To avoid repeating such failures, the training session on "Farm Planning for Food Production" played an important role. Originally the session was designed as part of the QOL component to address food shortages during the dry season and to promote nutrition improvement. In the session, farmers visualized their annual farming calendar and this helped avoid scheduling conflicts between food crops and cash crops. Additionally, the subsequent training on "Farm Planning for Vegetable Production" became much more effective. This effect was also unintended at the outset, and a positive outcome of the social approach to agricultural technology dissemination.



Training material for "Farm Planning for Food Production" (left) and a session on "Farm Planning for Vegetable Production" (right). By making a food production plan, farmers could clearly see how to include vegetable production in their yearly work.

Useful plants in Sudan < Epilogue >

Instead of an afterword

In this series, I have introduced several useful plants that I encountered through various JICA technical cooperation projects in Sudan. The term “useful plants” refers to those that provide humans with various benefits and functions. “Useful” here means “serving human life.” However, the line between useful and not useful is not always clear-cut. For example, mesquite, which I discussed in Part 6, is often regarded as a nuisance weed in fields, yet when seen from another perspective, it has useful aspects such as dune fixation and as a source of fuel like firewood and charcoal. Similarly, even crops such as sorghum, wheat, and oilseeds, which are undoubtedly recognized as food sources of economic value, can be viewed differently depending on the historical and cultural context of a given country or region, revealing their relative aspects.

Throughout this series, I have described small observations and accumulated insights gained from daily interactions with Sudanese people during my work in Sudan. There are still more topics on useful plants in Sudan that I would like to write about on another occasion. I would also like to explore animal culture and the usefulness of livestock, but I will leave those as tasks for the future and bring this series to a close for now.

Now at this juncture, I would also like to touch on the recent situation in Sudan and the progress of our technical cooperation activities during this period. As you know, in April 2019 a military coup occurred in Sudan, ending the 30-year-long Bashir regime. This political upheaval occurred at a time when the domestic economy was deteriorating and exhausted due to rising prices and a worsening exchange rate, and persistent public demonstrations were intensifying calls for the president to step down. Subsequently, after periods of COVID-19 lockdowns and travel suspensions, efforts were made domestically and internationally to build frameworks for political agreement under unstable circumstances, raising hopes for democratization. However, the military’s reversal in October 2021 set the clock back, bringing about the resurgence of military rule.

During this time, the technical cooperation projects, for security reasons, were repeatedly forced to suspend the travel of Japanese experts, necessitating remote implementation. Nevertheless, despite such difficult circumstances, the projects were not terminated and were able to continue. In fact, a new project was launched in the midst of the COVID-19 pandemic in 2021, and it has been carried forward into the current technical cooperation project (Phase II) in River Nile State. Building on the achievements of the previous project, this initiative has expanded its support to farmers within the state’s irrigation schemes.

However, just as the project was beginning to gain traction, another unexpected crisis struck: the conflict that erupted in April 2023 between the national army and the Rapid Support Forces (RSF), followed by ongoing intense fighting in Khartoum and other areas. This has resulted in devastation across the country, countless casualties, and the displacement of many people both internally and abroad—an extremely grave situation. Fortunately, River Nile State has remained relatively stable, allowing the project to continue. This has been made possible thanks to the strong will and tireless efforts of the State Ministry of Production, as well as the C/Ps and the NSs who are committed to continuing farmer support.

Even now, with persistent political divisions and violent clashes stemming from the struggle for dominance under the military regime, it is through the dedication and actions of our Sudanese partners that we Japanese experts are able to continue providing remote support. While the current situation remains highly uncertain, it is important to recognize that farmers, C/Ps, NSs, and the Sudanese people at large are the true victims of the conflict. We intend to continue supporting Sudan with technical cooperation to the greatest extent possible. While praying for a speedy return to peace in Sudan, we would like to do whatever we can to support farmers.

Activity report from the weekly seminar with CPs. Japanese experts participated online.

Farm visiting reports <Part 6>

Tanokura Farm in Manazuru Town

This is the sixth article in our occasional series introducing farms in Japan, featuring Tanokura Farm located in Manazuru Town, Ashigarashimo District, Kanagawa Prefecture.

A Town Surrounded by Sea and Mountains

Manazuru is a small fishing town of about 7,000 residents in southwestern Kanagawa prefecture. Facing Sagami Bay and enclosed by the outer rim of the Hakone volcano, it offers a rich natural environment despite being only 90 minutes away by train from central Tokyo. In recent years, the town has also seen an increase in new residents moving in.

Our destination this time, Tanokura Farm, is the family home of our colleague at AAI. Our colleague being a local guide, introduced us to citrus cultivation in Manazuru as well as the town's unique local initiatives that we are going to introduce in the following article.

Extending the Harvest Season

When we visited Manazuru in late December 2024, we were struck by its mild climate. With the influence of the Kuroshio Current, Sagami Bay brings warm winds even in midwinter. On the coastal hillsides sloping down toward the bay, citrus trees are cultivated everywhere.

A 10-minute drive up a gentle slope from the town center, where the station and port are located, brought us to the first orchard, Asamayama, adjacent to the family home. The 35a farm featured citrus trees ready for harvest, a storage house, and a monorail used to transport the harvested fruit.

Tanokura Farm cultivates as many as 16 different varieties of citrus, though it focuses mainly on Unshu mikan(Satsuma mandarin). The early-ripening variety, Miyagawa wase, is harvested in October; mid-season varieties, Ōtsu, Aoshima, and Ishiji, from November to December; and late-season varieties, such as Ponkan and Amanatsu, from January to early May. This succession of varieties allows for harvesting over an extended period.

Unshu mikan varieties, such as Miyagawa wase, Ōtsu, Aoshima and Ishiji, are not shipped immediately after the harvest. Instead, they are stored for about a month in a storage house before being sent to the agricultural cooperatives in neighboring Yugawara town. In this region, known as the northern limit of Unshu mikan cultivation, farmers use storage houses in each orchard to soften the acidity and make them mature before shipment. This additional step is key to achieving a well-balanced flavor of sweetness and sourness.

Oranges are stored in wooden crates inside the storage

The storage house at Tanokura Farm was constructed with wooden beams and earthen walls. Inside, wooden shelves held about fifteen layers of crates filled with oranges, neatly lining the space. Peering into the crates, we saw the oranges with a beautiful luster, glowing like diamonds in the dim light of the storehouse.

New Initiatives at the Farm

Citrus cultivation was spread in Manazuru after World War II, continuing through the period of rapid economic growth. At Tanokura Farm, it was our colleague's grandmother who built stone terraces on the hillside and began planting orange trees. Today, many of these original trees are over 60 years old and time for its renewal. However, due to limited labor for maintenance, vegetables and other crops are being cultivated in areas where the old trees have been removed.

The third-generation owner, Mr. Endo, is now embarking on new initiatives to make the most of the orchard farm. At Gōbe, the second site we visited, tea trees had been planted long ago on the terraces for erosion control. In 2019, Mr. Endo launched a "tea-picking experience program" using these tea trees, which had previously been grown only for household use. To date, seventeen groups, mainly from the Tokyo metropolitan area, have participated and enjoyed the activity. He also organizes annual orange-picking events for friends and their families.

Looking ahead, Mr. Endo aims to promote Manazuru as an agritourism destination and contribute to the revitalization of the local community. Having witnessed his passion firsthand, we look forward to seeing how Tanokura Farm continues to grow and evolve in the years to come.