

## Challenging dryland agriculture through business

Summer in Sudan is quite intense. Temperatures gradually start to rise from March, and from April onwards, day time temperatures can exceed 40°C for several months. Arid regions with annual precipitation of less than 200 mm extend from the central to the northern parts of the country.

I had a short visit to Sudan in December 2022. The purpose of the visit was to explore the potential for local adaptation of a water-saving agricultural technique developed by a Japanese company; Tottori Resource Recycling Inc.. AAI's role in this survey was to provide a field coordinator and as I had experience of staying in Sudan for three years prior to joining AAI I was qualified. This time I was given a valuable opportunity to get involved in the agriculture sector in Sudan through the lens of a business perspective.

Agriculture in Sudan can be broadly divided into two production systems; irrigated agriculture and rain-fed agriculture. Irrigated agriculture mainly extends along the Nile River, where wheat, cotton, horticultural crops, and fruit trees are grown. Irrigated agriculture accounts for only 10% of the total cultivated land, but it comprises around 50% of the total agricultural production, making it an important area for the economic development of the country. In many irrigated areas, including the state-run Gezira scheme (880,000 ha), which was built in 1925, irrigation facilities such as pumps and sluices are now deteriorating, and irrigation canals are lacking maintenance. In these areas, there is a need for introducing water-saving technologies due to the water use constraints. In this survey we found that recent government reductions in subsidies for energy (electricity and oil) have had an impact on the operation of irrigation facilities. It was confirmed that there is an increasing need for more efficient use of water resources in order to reduce the energy costs associated with facility operation, especially at privately operated irrigation facilities.

In areas away from the Nile River, rain-fed agriculture is practiced. Although the productivity of the rain-fed agriculture is much lower than that of irrigated agriculture, grains such as sorghum and millet are produced on a large scale, making it an important area for the food security of the country. It is also an area that



**Taking water from the Nile using floating pump**

will be most susceptible to the effects of climate change, since the production is dependent on rainfall. In such areas, there is a great need for water-saving agricultural techniques that make effective use of limited water, but because the majority of producers is comprised of vulnerable farmers, it is difficult to establish economically feasible businesses. Therefore, it will be necessary to introduce the water-saving technology using various approaches, such as doing business with private companies engaged in production activities in mechanized large-scale rainfed areas, collaborating with development projects conducted by government and international organizations, and corporate CSR activities. In these areas, business planning needs to adopt a medium to long term perspective.

The situation in Sudan has been unstable since the political upheavals that began in April, 2019. Much development assistance stopped after the military coup that occurred in October 2021, and government has been unable to function as normal. We had opportunities to interact with the private sector in Sudan and observed that they are constantly proceeding with their businesses by confronting the various issues the country faces. I witnessed the continued efforts of the companies to meet challenges and this led me to recognise the strength and potential of the country.

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