

Flood irrigation and people's livelihood along the Gash River in the Kassala State in eastern Sudan

From January to March 2011, I had a chance to visit Kassala State, Sudan, to participate in the Capacity Development Project for Provision of Services for Basic Human Needs in Kassala. Kassala is one of the 25 states in Sudan located in the eastern part of the country. (Note: according to the referendum conducted in January 2011, the separation of the South Sudan was decided.) Kassala's ethnic and language compositions are highly diverse. Since the ceasefire agreement in 2005 after the long years of civil war, the Kassala area is gradually progressing towards reconstruction. Around the Kassala City, making use of the warm climate and fertile soils, horticulture with pumping irrigation is widespread, producing vegetables such as onion, tomato and okra, and citrus such as orange and grapefruit, as well as banana and mango. Kassala is also one of the most popular tourist destinations in Sudan, with rare and attractive rock formations. It is also thriving as a popular honeymoon destination. There is also a wide range of regional variety in agricultural production apart from horticulture. There is gravity irrigated cash crop production, rain-fed water-harvesting agriculture, large-scale mechanized grain cultivation and farming floodplains using irrigated water from floodplains.

Basically, although Kassala is located in an arid area with an average annual rainfall of 300 - 400 mm, such diversity of farming has developed owing to the two rivers that flow vertically through the state called the Gash River and Atbarah River. The Atbarah River originates in Ethiopia and feeds into the Nile. Construction of dams (including the ones being constructed) has enabled the irrigated area to expand. Under planned production systems with farmers being

encouraged to move to this area, cash crops such as cotton and wheat are cultivated. On the other hand, the Gash River originates from Ethiopia and Eritrea but is a seasonal river. Except for the 2-3 months in the raining season between June and August when the flood water flows through the river courses, the river is dry. The riparian area along the Gash developed over millennia based on floodplain agriculture. More recently with the introduction of irrigation systems using pumped irrigation wells, the aforementioned horticulture and sorghum and cotton production have developed.

The Gash flood brought about yearly floods with different levels of water volume. The silt from the upstream has appropriate water permeability and water retentivity and is rich in nutrients. As a result of this, Kassala has developed horticulture producing citrus fruits and vegetables. Thousands of hectares of flood irrigated agricultural lands have been reclaimed, managing aqueducts to cope with excess flood water. However floods at times strike towns and settlements without mercy. Sometimes, increased water from rain travels through long underground tunnels that are dug by small animals flooding urban areas. In some cases, flooding causes epidemics such as cholera and dysentery and brings undesirable presents such as scorpions and snakes from upstream. As Egypt is a gift of the Nile, Kassala is a gift of the Gash. The river has shaped peoples' daily livelihoods with its positive and negative forces. The relationship between the seasonally flooding river and local livelihoods is so unique and complex with the intricate web of links, that it is extremely hard to describe in words. Finding out the secret of the connection between the people and the rivers has been a furtive pleasure of visiting Kassala, and I would like to continue my visits with such delight in future.

(April 2011 by Koga)



Agricultural scenery with distinctive Jebel Totil in the background



Bustling vegetable market in the western suburb of Kassala



Dried Gash River in dry season