

Irrigation management transfer in Egypt

Morning in Cairo is often overcast with thick clouds blanketing the city. One might think that rain is coming but usually it does not. The clouds wither and vanish, and the hot sun emerges. Why the clouds? Why no rain? The answer is the Nile. The famous Greek writer, Herodotus called Egypt the gift of the Nile. The clouds over Cairo are due to evaporation. The Nile is breathing and water vapour forms the Cairo clouds in the morning. This is water circulation. And one immediately feels how important and powerful it is. One still cannot discuss agriculture and other forms of water utilization without the Nile. The river accounts for 97% of the water resources in the country.

Egypt is a desert country with less than 50 mm of annual average precipitation. Yet agriculture is a major industry! Largely in the sediment rich Delta region in the lower stream of the river, Egypt farms 3.3 million ha of land, producing crops such as wheat, rice, maize and sugar cane, for a population of 82.5 million (as of 2011). Around 50% of wheat is for domestic use. However crops such as rice, potato, cotton and citrus fruits are important export items. More than 98% of the production is on irrigated land, and most of this depends on water channel networks with the Nile as the principle water source. Times change like water flow and water availability. Egypt, the irrigation superpower, is now facing dilemmas. On one hand, there is a tremendous demand for irrigation expansion due to the pressure for securing food production to feed a population that is increasing at 2% per year. On the other hand, there is growing pressure for greater control to curtail water demands by the irrigation agriculture sector. Non-agricultural sectors need Nile water, too.

Egypt is a downstream nation, dependent on upper Nile regions where competition for water source development is rapidly progressing. Egypt's seemingly eternal and dependable water tap might be closed and the country could run dry. New water resource development in highly limited and effective utilization of the water from the Nile is an extremely pressing issue. Irrigation fields, the largest water using sector, are currently under the strictest ever scrutiny to ensure that water use efficiency is improved. These efforts by the Egyptian government are hampered by financial difficulties and, as a result, the government led irrigation management system is on the brink of collapse. A breakthrough is required and to enable this, the government is in the process of actively promoting "Water Management Transfer (WMT)", with proactive participation of beneficiaries for irrigation management.

In irrigation systems that are dependent on a large water source such as the Nile, the intaked water is distributed through a series of channels. From the river to the main channel, and then to the secondary and tertiary canals, before it reaches an enormous number of individual

farming plots. Water is a shared natural resource and it needs to be shared cooperatively. Therefore individual farmers often form water user associations (WUAs) to ensure equitable distribution and use of water resources. WMT aims to transfer work on irrigation operation and management to the WUAs. In Egypt in recent years, WMT is actively promoted, and my stay in Egypt this time was also to support capacity building for WMT promotion at different levels of the administration. In the field, I cannot really say that WMT is progressing totally smoothly, however it was obvious that it was a very important issue.

Large scale irrigation systems are benefiting individual farming plots, as blood in our body goes to individual cells from the aorta to arteries, and is then dispensed through small blood vessels. However, cells and body sections (end users) should not be simply receiving blood (water) which is pumped from the heart (water sources). WMT seems to suggest that end users should enhance their understanding on how the entire system can be sustained and function to lessen the load of the upper part of the irrigation system structure. There may be limitations on what end users and WUAs can do, but they need to naturally share responsibilities and roles, if the whole body (the whole irrigation system) is not to dry up and die. They must provide a cure because the scenario is dire and involves survival. There are, of course, many different discussions and problems related to WMP promotion. However these will certainly continue to be important issues in Egypt and in other countries with irrigation agriculture which is dependent on large scale irrigation systems.

Egypt is currently facing a political crisis and in the midst of the chaos caused by the Jasmin Revolution, I see no signs of the situation calming down. The world's attention is on the politics. This is short sighted. The irrigation systems are the foundation of the nation's survival, and the management of water is also on a major crossroad. I cannot and should not ignore the Nile. Egypt depends upon this great river.

(By Matsushima, July 2013)



A primary channel that forms the main irrigation facilities of the Delta region



Members of the WUA working towards more active management and operation of the irrigation system through WMT at a pier