FOCUS

LAND AND WATER RESOURCES MANAGEMENT IN EGYPT

MOHAMMED A. RADY(*)

The human beings worked seriously since the dawn of history to secure their needs of fresh water. This was always done in the absence of an overall plan which takes into consideration the constants and variables in the field of water resources development and use. In the meantime no consideration was given to the negative impacts which result from water resources projects. Recently, scientists started to draw up integrated management plans for water resources development and use. Generally, the main elements of integrated water resources management are summarized as follows:

1. Planning of the main water structures.
2. Drawing up the plans of water distribution among different sectors.
3. Study the economic frame of water use.
4. Water drainage as well as recycling and reuse. In the meantime to draw up the optimal relation between water supplies and drainage within the proper environmental frame.
5. Ensure the participation of water users.
6. To draw up the proper mechanism of cost-sharing within the overall economic situation.
7. Develop the legal and administrative regulations.
8. Develop an integrated public awareness plan.

In Egypt the future of integrated water resources development will be controlled by the following items:

1. The ability of the society to acquaint the suggested changes both economically and socially.
2. The way that both the G.O.s and N.G.O.s will be able to mobilize the society as one unit.
3. The proper methodology of technology transfer.
4. The overall pricing policy and its impact on water economy.
5. The international concept of water problems all over the world.
6. The economic and environmental equilibrium between transferring water to the people or transferring people to water sources.

Therefore planning to achieve integrated management in Egypt consists of four main factors.

A) Development:

– The use of non-conventional resources, such as using treated waste water for desert-grown crops and limiting desalination to high quality potable water only in economically feasible sites.
– Separating potable water from that of other uses, e.g. turbid water can be used to irrigate gardens, whilst high quality water may be bottled and sold.
– Reducing losses of water from plumbing, evaporation, leakage, etc.
– Cooperation between Nile Basin countries is necessary for water conservation.
– The use of mathematical models to enable resource development.

B) Water Usage:

– Land cultivated with rice & sugar cane should not exceed 700,000 acres, and 200,000 acres respectively. Sugar cane should then be replaced by sugar beet.
– Recommending options of profitable crops, other than rice, to save water.
– Using genetic engineering to develop salt and drought tolerant crops.

C) Institutions and Legislation:

– We need to promulgate existing water laws to encourage the involvement of water users and devise mechanisms for law enforcement, with the objective of protecting fresh water resources against polluters.
– Cost recovery policies must take in consideration the poor and low-income sectors of society.

D) Management:

– Decentralization of Institutions equipped with a large storage capacity is important to meet crop land requirements.
– A continuous evaluation and monitoring of the standards of management.
– Keep high standards of maintenance for irrigation, drainage and pumping.
– Provide continuous training to Institutions to ensure further development.
– Integrating GIS, CAD with the expert system.

Egypt has a fixed share of 55,5 billion cubic meters of the Nile which is being fully used in spite of the fact that the highest capacity for usage is about 75%, representing one of the highest percentages in the globe.

As such, the water crisis in Egypt is critical, getting even more complicated with the increase in population. We must consider new projects for the Nile water's development in cooperation with the countries of the basin and expand society's potential and capacity to deal with any drop of water as a social and national legacy that stands for peace and national security.

To conclude, as you may know for a very arid country like Egypt, the prime factor which makes land productive is water, which is in the meantime the constraint for any further expansion.

The mighty and eternal Nile is our main vein of life which supplies 96% of total water used in Egypt. In the meantime the Egyptian quota of Nile water is completely committed.

Long-term water resources policies address the optimization of water use as well as development.

The most reasonable scenario for the year 2025 assumes the following:

– Improved field irrigation efficiency
– Reuse of agricultural drainage water
– Increased efficiency in urban and industrial uses
– Nile resources development
– Ensure sustainability of development.

As you are well aware, the role of N.G.O.s is going to be very important in the future. In the meantime it is also necessary to enrich our scientific march in the field of integrated water management through a non governmental forum of eminent experts and scientists in that field. Therefore we suggest to establish a new international N.G.O. named: «Scientists across borders (S.A.B.)», or «Scientists without constraints (S.W.O.C.)».

We are ready in Egypt to host such an organization and to introduce all the required facilities. I ask our colleagues representing the different agencies to consider the support of such suggestion T.O.R. of the suggested organization will be sent to all the interested countries. For anyone who would like to know more, please fill the form you can get from the secretariat of the conference.

Secondly, as you are well aware, the U.N.D.P. water conference was held in Mar del Plata in 1977. i.e. 17 years ago, so the time has come to hold an international conference under the umbrella of U.N.D.P. with the title: «Water resources management concepts for the future».

Egypt is ready to host this conference in 1997. ●

(*) Minister of Public Works and Water Resources, Egypt.