



SUSTAINABLE WATER DEVELOPMENTS

Younus Ali BISWAS, Masudur RAHMAN

ID 091

Bengal Water Enterprise, Water and Environment
Dhaka, BANGLADESH
masud_raina@yahoo.com

ABSTRACT

Sustainable development presumes fair and equal social and economic development while protecting the long-term carrying capacity of the life support system. Water plays fundamental roles for sustain ability in each of these three areas indisputable at least to water professionals! Without access to clean and adequate amounts of water resources, there cannot be any social development and likewise no long-term economic development. The role of water for the overall health of the environment is obvious. Water management issues continue to be dealt with in a fragmented and rudimentary manner, dominated by sectorial perspectives and neglecting the role of the water cycle as the bloodstream of the biosphere as a whole. Water management tends to be seen as linked to human health rather than the total well-being of humans, as a cheap resource to be used by industry and agriculture rather than the ultimate resource for any economic development to take place, or as the specific component of the life support system rather than the fundametal resource for all living organisms. Moreover, water professionals tend to remain isolated from the key actors that set the agenda for development. Economic social and environmental policies often contain very little on the role of water.

LINKAGES BETWEEN FLOOD RISKS AND LAND USE CHANGE

Growth of cities and industrialization bring significant change in physical properties of land surface, influencing the river flow regime. As the area of impermeable surface increases, infiltration decreases and surface runoff accelerates, bring flood risks, riverbank erosion, sediment transport and pollution downstream. Intensive agriculture and deforestation may also accelerate runoff formation, increases sediment transport and chemical pollution in the river. Temporary storage or water in dams may constitute an important source of water for water supply and irrigation, mitigating seasonal variations in water availability. Flooding in a river basin may bring disastrous effects and destroy human constructions and agricultural land, but it may also contribute in increasing soil fertility by deposition of mud. River regulations and flood mitigation strategies may constitute useful tools for a wise river basin management. There is a large family of measures giving possibility to manipulate urban and rural river flows and mitigate flood risks. Besides dam construction, here belong many methods of increasing surface storage, evaporation, infiltration and percolation to ground water. It is also possible, and sometimes desired, to store excess runoff temporarily, by for example, diverting excess flow to other streams, natural or artificial ponds, lakes and wetlands.

WATER FOR FOOD AND ENVIRONMENTAL SECURITY

On the one hand, the fundamental fear of food shortages encourages ever greater use of water resources for agriculture. On the other, there is a need to divert water from irrigated food production to other users and to protect the resource and the ecosystem. Many believe this conflict is one of the most critical problems to be tackled in the early 21st century.

The possible trade-off in transferring water from nature to agriculture and vice-versa. As more and more basins are experiencing critical water shortages, the pressure to develop the remaining resources will grow or remain high. At the same time the increasing awareness of the impacts of taking water out of nature, and possibly undermining the resource base, is growing too. Many are convinced that transferring water out of agriculture is the only feasible solution. How can we achieve food and environmental security? Healthy people and a healthy environment?

Key words: .