Dynamic Daring Daily

Dhaka, Thursday
May 13, 2004

NEW AGE Op-Ed

Water diversion projects: Lessons from the past

In light of other river-linking or trans-boundary diversion projects that are implemented in different countries in the world, it is evident that none of these projects are successful in attaining the envisioned goals, and that the environmental and economic impacts resulting from these projects outweigh the benefits gained. Now the real question is, will the Indian government learn from the mistakes done by others, or will they go ahead with their plan, ignoring the lessons learned from the past, and in turn will repeat the history? — writes ***Dr Md Khalequzzaman***

The Indian government has recently announced to build 30 link canals in 37 major rivers in India to divert waters from water "surplus" basin to water "deficit" basin. This is known as the Interlinking of Rivers Project (ILRP). The ILRP envisages solving the twin problem of flood-drought in India and bringing additional 40 million hectors of land under irrigation in order to produce necessary food-grains for the growing population. According to the ILRP, the Ganges River and its tributaries and the Brahmaputra River are considered water "surplus." Waters from these rivers will be transferred to water "deficit" areas in southern and western parts of India via these proposed link canals, the total length of which will exceed 14,000 km. The project will cost over $120 billion dollars. More than 400,000 people will be displaced and over 2900 sq. km area will be acquired to implement this project. Since the proposed IRLP involves international rivers, both Bangladesh and Nepal expressed serious concerns about the potential environmental and economic impacts. Bangladesh lies in the receiving end of the Ganges-Brahmaputra basin and her agriculture, industry, navigation, fisheries, and Sundarban ecosystem are dependent on the flow of these rivers. Most of the Bangladesh is created by deposition of river-borne sediments. Should the ILRP implemented as proposed, the very existence of Bangladesh will be threatened. The experts and environmentalists from all

countries in the subcontinent have expressed concerns, and criticized the ILRP on the ground of technical, environmental, socio-political, and legal grounds.

The proponents of the IRLP argue that inter-basin diversion of rivers is not a new concept and that many countries in the world transfer waters from “surplus” basin to “deficit” basin. It is, therefore, imperative to examine a few water diversion projects and their ecological and economical impacts on those societies. It is important to keep in mind that all of these projects in question are much smaller in scale compared to the ILRP.

The question is: are there other countries that have implemented such a country-wide river-linking project? A short answer to this question is No. The proposed IRLP is the first of its kind in its dimension and scope. There are, however, other river-linking or diversion projects in different countries (Russia, USA, China, Spain, etc.) in the world and we can certainly learn from them. The most vivid example of an environmental disaster that is created by humans through diversion of water in upper reaches is the case of the Aral Sea in central Asia (in former USSR).

The Aral Sea is one of the worst ecological disasters on our planet. What was once the world’s fourth largest inlet sea, the Aral Sea has lost over 60% of its surface area, two-third of its volume, declined 40 m in depth, and has fallen to the eighth largest inland body of water in the world.

The cause is attributed to a vast expansion of irrigation in the Central Asian Republics beginning in the 1950s, which greatly reduced inflows to the Sea. The diversion of water for massive irrigation development was done deliberately by Soviet Union officials, unconcerned about the consequences of their actions.

The environmental, social, and economic damage has been immense. Winds pick up dust from the dry seabed and deposit it over a large populated area. The dust likely contains pesticide and chemical residues that are blamed for the serious rise in mortality and health problems in the region. The Sea, and the now exposed dry seabed, may also be contaminated by runoff from a former Soviet military base and a biological weapons lab. The ecosystem of the Aral Sea has collapsed, and climate changes in the Aral Sea Basin have been documented. Hundreds of agreements have been signed since 1980s on programs designed to address the “Aral Sea Problem” which, to date, have not been effective at preventing the continuing shrinking of the sea.. The diversion of water from the Aral was possible because of the presence of a totalitarian government at the time. There was no room for counter-argument against the government when the project was implemented. Furthermore, tremendous advancements in overall understanding about the role that river-flows play, and the complex ecosystems that such flows support have been made over the last few decades. Steps are being taken to correct the

mistakes of the past. For example, Russian scientists are reviving an old Soviet plan to divert some of Siberia's mightiest rivers to the parched former Soviet republics of central Asia. Its backers say it will solve a growing water crisis in the region and replenish the now desiccated Aral Sea, once the world's fourth-largest inland sea. The $40 billion scheme could also gain international support. The proposed scheme would be roughly equivalent to irrigating Mexico from the North American Great Lakes. It would drive a canal 200 meters wide and 16 meters deep southwards for some 2500 kilometres, from the confluence of the north-flowing rivers Ob and Irtysh, to replenish the Amudarya and Syrdarya rivers near the Aral Sea (The New Scientists, 2004).

The natural flow in the Klamath River in USA is controlled via diversion and dams. This project was initiated several decades ago and the population affected by the project is not great. This project serves California and Oregon in various capacities. However, environmental degradation can be noticed in downstream regions, and the environmentalists have been complaining about the degradation for sometimes now. A new state (California) report on the Klamath River supports contentions by fishermen, environmentalists and several American Indian tribes that 33,000 fish died on the lower river last fall because the Bush administration allowed too much water to be diverted to farmers.

International experience shows that countries with a history of playing around with their rivers to "control" them are now investing billions of dollars to "restore" them by removing dams and embankments constructed at enormous financial and social cost in the first instance. In the U.S.A alone, more than 100 dams were removed between 1999 and 2002. In 2001, over 115 miles of River Baraboo were "restored" in Wisconsin State. Attempts are now on to revive the Colorado River in south-western USA as its waters dry up before reaching the ocean, and a $8 billion plan has been passed in California to revive some of its rivers. (Ramaswamy R. Iyer as quoted by S Vombatkere, 2004). All of the major water diversions projects in the U.S.A. were implemented during pre-environmental legislation era. As the public awareness of the environment increases, and more stricter environmental laws are enforced during the 1970s, 80s, and 90s, no major dam on a river or inter-basin diversion project has been implemented in the USA.

The countries with totalitarian regimes and less environmental regulations are going full force with transboundary transfer of water and building of large dams on their rivers. China is an example of such countries. China has officially launched the world's largest water diversion project, which will divert water from the Yangtze River in the south to the country's dry north, including Beijing. Chinese Premier Zhu Rongji gave the go-ahead on 27 December, for the first phase of the south-north cross-country water-transfer project at a

ceremony held at the Great Hall of the People. The project, valued at US$59 billion, may cost twice as much as the ongoing Three Gorges Hydroelectric Project. The project will be the biggest of its kind in the world and the largest engineering program in China. It consists of three canals running about 1,300 km through the country's eastern, middle and western parts.

"The whole idea is based on the false assumption that water from the Yangtze is a limitless resource," said Yang Dongping, a member of Friends of Nature, a Beijing-based environmental group. "Why not push for water conservation instead? It's much more cost-effective." "Both the United States and Russia have put off large water-diversion projects because their impact on the environment is too great and they don't solve the fundamental problems," said Wang Weiluo, a Chinese engineer based in Germany who has extensively studied the issue. "Yet China is going ahead with its plans. They rushed it through without much public debate, so few Chinese people know about its downside."

We also need to take into account the fact that China is ruled by a totalitarian government and there is not much room for public debate against government plans. If China were a democracy, then it would be very difficult to brush aside the points of views that are different from those of the central planners.

The Spanish National Hydrological Plan (SNHP) proposed a massive transfer of water from the Erbo River in the north of the country to the Valencia and Murcia Rivers in the south, which suffers severe water shortage difficulties due to such things as intensive agriculture and tourism. This proposal has caused an outrage among environmental groups since it was first suggested. Protestors claimed it would have dire social, environmental and economic consequences for the region and ruin one of Europe's most ecologically important wetlands. Taking the mass opposition into consideration, the newly elected Spanish Prime Minister, Jose Luis Rodriguez Zapatero, has ordered a review of the entire workings of the Spanish National Hydrological Plan and cancelled its most controversial project, the Ebro Transfer, a la river-linking.

In light of other river-linking or trans-boundary diversion projects that are implemented in different countries in the world, it is evident that none of these projects are successful in attaining the envisioned goals, and that the environmental and economic impacts resulting from these projects outweigh the benefits gained. Now the real question is, will the Indian government learn from the mistakes done by others, or will they go ahead with their plan, ignoring the lessons learned from the past, and in turn will repeat the history?

Dr Md Khalequzzaman writes from Lock Haven University, Lock Haven, Pennsylvania, USA

http://www.newagebd.com/oped.html (May 13, 2004)