

Feature

Development

Water Problems of Bangladesh and Suggested Solutions

by Amjad Hossain Khan

BANGLADESH river system drains an area of about 2 million square kilometer of the Catchment areas of the Ganges, the Brahmaputra and the Meghna of which only 7 per cent lies in Bangladesh. The extreme variation of availability of water in the monsoon and in the dry season is a major constraint to the development of agriculture which dominate the economy. The excess water during the monsoon causes wide spread flooding which damages crops; and scarcity of water in the dry season hampers irrigation.

The unilateral withdrawal of the Ganges water at Farakka by India has caused damage to the northern and western region of Bangladesh affecting 40 million people. The adverse impacts caused widespread salinity intrusion and desertification of the northern region, affected navigability of the rivers and brought destruction to fish resources and the Sunderbans, the largest mangrove forest in the world. All these pose an overall threat to development of industries and agriculture and the eco-system as a whole. Environmentally, the damage done by the Farakka Barrage can be considered as the worst by any man-made intervention of natural flows of an international river, the Ganges.

The Ganges Water Agreement

The drastic reduction in the dry season flow of the Ganges at Farakka due to upstream withdrawal by India is a serious concern to Bangladesh.

As per Ganges Water Agreement of 1977 which was in force from 1978 to 1988, the shares of Bangladesh and India based on the flows reaching Farakka are shown in Table-1.

The agreement provided for approaching Nepal in the side letters for their cooperation in augmenting the Ganges flows. The agreement also provided for 80% guarantee clause to Bangladesh in case of exceptionally low flows.

While signing the MOU in 1982; India deleted the 80% guarantee clause. India also refused to approach Nepal on some plea or the other.

A statement showing the availability of the flows to Bangladesh during the period covered by the Ganges water agreement (1978-88) and that during the period when there was no agreement (1989-93) is shown in Table-2.

The critical situation occurred in 1993 dry season in March and April as can be seen below:

1993, March 1-10 12,533 cusec
11-20 11,084 cusec
21-31 10,014 cusec

April 1-10 9,587 cusec
The lowest flow was recorded on 7th April, 1993 as 9,437 cusec.

Impacts of Farakka Barrage

The reduction of Ganges flow in the South Western region of Bangladesh wholly de-

reduced due to siltation.
—Goral offtake dry.
—Chai formation.

Salinity:—Surface water salinity at Khulna increased to 20000 micro mhos/cm in April, 1993 (pre diversion figure 18000 ppm/cm).

—500 mm/cm salinity front moved 280 km further north.

Industry:—Industrial belt around Khulna sustained heavy losses for replacement and repair of corroded parts and import of sweet water by barges from other sources.

Drinking water:—Drinking water both surface and ground water has become unfit for human consumption.

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Forestry:—Increased salinity has led to top dying of Sundri trees in the Sunderbans.

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A study conducted in 1991 show that the direct losses in agriculture through soil moisture depletion, delayed plantation and increased salinity exceed taka five hundred crore annually. The direct losses resulting from sacrificing the additional benefits which could be achieved if we could get sufficient water (pre-diversion situation) amounts to taka twenty-three hundred crore in a year estimated at 1991 to Bangladesh.

In spite of these categorical statements by the Prime Minister of India, no progress has been made for the last 12 months.

Water Negotiation

The Joint Declaration of the

WATER, it has been said, will be the cause of the next Middle East war. But Gil Elon of the Jewish National Fund (JNF) believes the opposite is true — that a shared interest in keeping the water flowing will contribute to peace in the region.

The Palestinians, for example, want the impending autonomous region of Jericho extended a few miles to the northern shore of the Dead Sea to enable them to develop their own tourist industry.

For though lifeless, the Dead Sea is far from valueless. Its waters have curative powers known since ancient times. Israel has a thriving tourist industry along the Dead Sea shores serving both the healthy wishing a little bodily rejuvenation and thousands of sufferers of such ailments as arthritis, psoriasis and respiratory diseases from all over the world who flock to the spas each month.

The Sea is fed by the river Jordan. Since water from the river entering the salty inland lake is effectively useless, in recent years practically all the Jordan's water is utilised before reaching the Sea. That has caused a significant drop in the level of the Dead Sea, in turn causing shore recession and the practical disappearance of the shallow southern end of the salt lake.

If Israel does extend the borders of the Jordanian entity to the Dead Sea, the Palestinians will not have much of a tourist industry unless shore recession is stopped.

And that, says Elon, "will require joint cooperation between Israel, Jordan and the Palestinians on the issue of the water allocation of the Jordan river."

Pointing out that the Jordan has helped maintain peace between Israel and Jordan, he says "it's possible that a shared common interest in keeping the water flowing will contribute to stability in the region. Certainly, current Jordanian-Israeli cooperation is a hopeful precedent."

One of those areas of cooperation can be seen in the Is-

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Fishery:—Severe dislocation to the life cycle of fish population. Fish production reduced drastically.

Navigation:—Dislocation of navigation routes due to shallow depth.

—Ferry services closed.

Hydro-morphology:—

Hydraulic efficiency of channel

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