



**River Water Sharing: Transboundary Conflict and Cooperation in India.**

Shantha Mohan, Salien Routray and N. Shantikumar (eds). Routledge, Taylor & Francis Group, 912-915 Tolstoy House, 15-17 Tolstoy Marg, New Delhi 110 001. 2010. xi + 192 pp. Price: Rs 595.

The book gives a many-faceted account of the history of water treaties, disputes, issues, hydrology, legalities and more. It also prepares the ground for the looming water crises. Further, concerns are articulated on moving to more composite water scenarios that include groundwater and integrated water resource management (IWRM). The authors are knowledgeable experts; their views provide informed reading on the complex and contentious issues of river water distribution. Plenty of data and detail is provided about human stakeholder interest and the sharing of river flows, but perhaps there are some more fundamental ideas about river water that need to be aired.

Maybe a better starting point is to understand that rivers have an ecological identity of their own regardless of the human stakeholder interest. The river, its catchment and basin is a water course made by nature over evolutionary time of tens of millions of years, which once damaged cannot be reclaimed. Rivers are now hopelessly overdrawn, silted and polluted. We cannot afford to cause further injury to the health of a river and its basin or we will lose it all, treaty or no treaty. The health of a river system, then, must be the first priority.

Rivers in India are monsoon rivers which have deep and wide extended floodplain aquifers that run for thousands

of kilometres and are an enormous natural storage for water that gets recharged by the river flow and flood especially during the monsoon. They feed groundwater aquifers in their environs. Given the increasing scarcity of water they are likely to be one of the few perennial water resources of the future.

If not polluted by human intervention, the water in the rivers is the best mineral water. In millions of years of flow the rivers have washed down salinity and other salts to give good quality water, which makes rivers a special and vital survival resource. Priority must rest in the sustainability of all the ecological services rivers provide. Care has to be taken to avoid injury to the catchments, floodplains and the basin by overbuilding dams, canals and discharge of pollution into rivers, and ecological flows have to be maintained. This needs more attention than is given in this book.

Whereas the book brings out working treaties such as the Mekong and Indus river treaties, it does not bring out the flaws in treaties which often emphasize simply the engineering, legal and social aspects of equitable division in the flows of river water. An example is the Indus water treaty that is discussed at length in the book.

The Indus water agreement was made about 50 years ago when environmental concerns were not well-articulated. By allocating the waters of the three northern rivers; the Indus, Jhelum and Chenab to Pakistan and allocating the southern rivers, the Ravi, Sutlej, Beas water to India the flow of the southern rivers into Pakistan has been stopped. This is a disaster for river ecology as a minimum environmental flow has to be maintained. Now, a canal system from the Chenab feeds Lahore on the Ravi and the Ravi, Sutlej, and Beas feed a canal network that services Punjab (Indian) and Rajasthan agriculture.

The consequences are: (i) The Ravi river channel is dead, because it is being used as a sewage dump and is full of city sewage, polluting the floodplain and adjoining aquifers. Empty rivers invite invasion of river and their floodplains by gravity flow from their surroundings, that can do permanent damage. (ii) Lahore gets non-local water through canals, run-off from the Chenab, in the north. This has the effect of increasing salinity and water logging along canals as good river water dissolves salt and

passes it to the groundwater. (iii) There are large losses in the canals.

Clearly, it will take a long time to change this. The Indus treaty and others need to be revisited and drawn up on ecological grounds. We can maintain the same water sharing volumes but ascertain that all rivers run and are used non-invasively. But it must be done over the next decade or so, to save the rivers and the extensive and deep water resource of the floodplains which are likely to be the water resource of the future. Or, we will finish this hugely useful and important evolutionary resource forever. Besides, these are potent reasons to avoid tampering with river ecology by linking them.

The Yamuna in Delhi has also become a sewage discharge drain and the floodplains are being destroyed by the real estate mafia. Another kind of disaster is exemplified by the recent extinction of the Aral sea and the rivers flowing into it, the Amu Darya and the Syr Darya. Canals were run off from the source rivers of the sea to irrigate a vast area for cotton cultivation. Less attention was paid to the ecology of the sea. The sea's surface has now shrunk by 70% and its volume by 80%. River basin policies and treaties must avoid such losses.

With an eye on the future it is important to note that half of all agriculture area in the country is already groundwater deficit. Further, human demand, particularly for agriculture which consumes 80% of all water, is likely to adversely shift more burden to the rivers. But, rivers are already so overdrawn that any water treaty will have to have protective ecological integrity built into it. 'Engineering approaches, floodcontrol, soil and water conservation ...' (p. 14), described by Shantha Mohan will not be enough. Given this situation we must safeguard and use all other local waters and use rivers and their basins non-invasively – this must be the backbone of a river water policy.

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