

## Decommissioning Dams

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This \*book under review attracts the attention of its readers from the pictures on its front and back covers. These are respectively of the Embrey Dam in operation, Embrey Dam being removed, and River Rappahannock flowing freely after removal of Embrey Dam. In a nutshell these three pictures tell the story of what the book contains between the covers—the costs of the dams, what people should do with them, what happens to the river afterwards and the benefits to the society that accrue as a result. The subject is quite new to the Indian readers who are used to hearing of only the benefits from operation of big dams. The removal of dams is quite unknown to them. They consider river flows as wastage of water. The editor has done a yeoman's service by pointing to other side of the story and for doing this he has drawn lessons from America.

Unfortunately, it is now a hard reality that in India most major rivers have lost their free flows due to repeated obstruction by dams for irrigation or hydropower generation and also due to construction of bridges raised on multiple columns on the riverbed leading to sedimentation around them which obstruct the river flow and thus reduces the navigability of the river. Naturally whenever the rivers are crossed, people find everywhere lost of sand and little of water in the river.

The long (36 pages) and quite exhaustive introduction given by the editor at the beginning is a very important guide for the reader. It brings home the point that there should be increasing awareness about the benefits of free flow of rivers. A large number of issues are covered in the articles included in this volume. He has shown why dams are not always economically beneficial. He has also shown that while assessing the benefits of hydropower dams, the economic value of electricity is often overestimated. He has pointed out that hydropower is not always renewable against the common belief in India. One very unique and recommendable feature of the text is the systematic inclusion of the chapter references (not available in other books) to enable the concerned reader to refer to the relevant chapters to learn more details wherever he feels interested with a particular issue.

The volume is divided under five parts, each containing a number of articles. Total 19 articles are included in the book. The different parts are : 1. Why dams are being removed in America? 2. Examples of dam removals in America. 3. Cost-benefit analysis of hydropower dams. 4. Environmental impact of hydropower dams. 5. Economic value of free flow of river. Of these the first two are related to the dam removal in America and they can be combined into a single part. Similarly parts 3 and 4 may be combined into one as both of them are related to hydropower dams. The whole book is enriched with a number of pictures, statistical diagrams and tables.

It is peculiar to observe that while dams are removed in the US in large numbers, they are being constructed in equally large number in India. Though objectives for the dams are the same in both the countries, yet in the US many dams are found *uneconomic* while in India they are mostly *believed* to be economic. This happens because the cost-benefit analysis undertaken in India ignores many costs and overestimates many benefits. Some dams are being removed in the US as they have become obsolete. Many dams were made to facilitate the movement of barges over stiff flows of rivers but now this is being replaced by road transport. Examples of several dams are given here belonging to this category. Change of

values in American society has also contributed to removal of dams. Previously the major focus was on economic development. Nowadays there is more value attached to ecology and environment. In India however the persons in authority are still far away from giving attention to ecology and environment over economic growth.

India may learn a number of lessons from the American experience even though there are differences of approaches between the two countries about the costs and benefits from water, electricity and non-use values of rivers. Thus there is a need to establish one combined authority like US that looks at all aspects (economic and environmental) of a dam. It is also better to construct off-stream reservoir to protect the river flow as done to establish free flow of Rappahannock River by constructing the Motts Run reservoir, Virginia.

Essence of rivers is recognized in New Zealand. Rivers are considered as living deity like mother not only in Indian tradition but also in many other cases (e.g. the city Moscow has derived its name from river Moscovia, literally meaning mother's milk). India can enact an Act in the lines of Wild and Scenic Act of the USA to preserve free flowing rivers or parts thereof. The non-use and non-quantifiable values of free flowing rivers needs to be taken into consideration while constructing dams in India like done in America. This can be related to the cultural rights of the tribes as enshrined in the constitution. The EIA must incorporate all these factors in the decision making process. Importance should be given to many other neglected aspects like protection of endangered species, assessment of alternatives, cost of removal of sediments, coastal erosion, economic value of river banks, etc. while deciding to construct dams.

Main aim of the editor is to emphasize that the objective of the economy is welfare and not economic growth only. If this approach is adopted, then the assessment of hydropower projects is likely to be very different than presently. This book is quite useful not only for the policymakers suffering from growth fetishism in India and in many other poor and developing countries but also for the common people at large to change their outlook by learning of many hitherto unknown facts. The presentation is quite lucid and reader-friendly barring a few minor printing errors. While the volume has highlighted the distinction between growth and development, at least once they have been used interchangeably (p9 and 21). □□□

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\*Economics of River Flows : Lessons from Dam Removals in America.

Editor : Bharat Junjhunwala, Kalpaz Publications, Delhi pp311, Rs. 750