

## Book Reviews

### **The Future of Large Dams. Dealing with Social, Environmental, Institutional and Political Costs**

Thayer Scudder

*London, Earthscan, 2005, ISBN 1 84407 155 3*

This book by Thayer Scudder, a renowned scholar and practitioner in the field of resettlement for almost five decades, presents a very informative analysis on the complex issue of the impacts of large dams, mainly in terms of resettlement.

The book has nine chapters. The first one presents the overall opinion of the author on the disputes generated around large dams and on the World Commission on Dams (WCD). The author was one of the 12 commissioners of the WCD, and considers this book to be an extension, updating and, to a certain extent, following up the report of the Commission. This should not prevent water- and development-related practitioners who disagreed with the process and/or the report of the WCD from reading this book, since the analyses and the discussions are authoritative, go beyond the report, and will make an important contribution to the current debate on the needs and impacts of large dams.

Analyses of theories on resettlement processes are presented in chapter 2, where a ‘four-stage framework model’ (planning and recruitment; adjustment and coping; community formation and economic development; and handing over and incorporation), developed by the author, is discussed. It also reviews the ‘impoverishment risks and reconstruction model’ that was developed by Michael M. Cernea, a former World Bank staff member.

With the objective of presenting in the book more than “broader generalizations about resettlement outcomes” as informed opinions, Professor Scudder carried out a survey of 50 dams where adequate information was available to analyse over 150 variables. This survey is presented in chapter 3, which includes important lessons that could be learnt from past resettlement practices.

Chapter 4 includes an extensive analysis on how communities who are affected by the construction of large dams can benefit from resettlement. The detailed description, analyses and personal experiences of the author of the Mahaweli Development Project in Sri Lanka are presented in chapter 5.

Chapter 6 analyses the case studies of the Kariba Dam in Zambia, the Sardar Sarovar Project in India, the Okavango Integrated Water Development Project in Botswana and the Hydro-Quebec Grande Baleine Project in Canada.

Environmental aspects (chapter 7) and institutional arrangements (chapter 8) are also part of the book. Finally, chapter 9 discusses the future of large dams, which concludes

that large dams are necessary and should be built, but only when policies take into consideration overall social, economic and environmental risks and benefits.

The author is forthright with his opinions on large dams. In the very first page of the book, he declares large dams to be a “flawed yet still necessary development”: flawed because benefits are overstated and costs are underestimated, and because “implementation continues to impoverish the majority of those who must be resettled from reservoir basins and project works, and to adversely affect millions of people who live below dams and whose living standards are dependent on natural flood regimes”.

The importance of large dams in providing people with services as essential as water, and improving the quality of life of the increasing populations of the developing world, is acknowledged. In other words, the main thrust of the arguments are not against large dams *per se*, but against the poor implementation of policies, plans and processes related to the construction of this infrastructure, primarily in terms of undesirable and adverse impacts on the people affected.

In earlier writings, the author has consistently argued that resettlement should be made a development opportunity for local populations, who must be made one of the beneficiaries of any infrastructural development. Indeed, planned and implemented properly, any infrastructure, be it a water project, highway or new town, could provide an opportunity to enhance the status of the socio-economic development of the local people. In several evaluations of the impacts of water development projects that the Third World Centre for Water Management has undertaken, we have found that for local populations who often live in conditions of extreme poverty during the pre-project phase, properly planned resettlement could present them with an opportunity for better conditions in terms of housing, services and overall quality of life.

One of the strongest arguments throughout the book is that dam-induced involuntary resettlement should be avoided as much as possible. Whenever necessary, it should minimize the number of people involved, and should be planned and implemented in such a way that living conditions are improved compared to the pre-dam period. This is a requirement with which this reviewer agrees completely and endorses most strongly.

The author argues that it is the responsibility of the governments and planners to ensure that opportunities are available for the resettled population to benefit from the projects. This is an impeccable argument with which all development professionals must agree. However, one aspect that should also be noted is that resettlement processes, with all their complexities, have improved with time. Practices that were not adequately considered in the planning of projects during the period 1940–80 are often taken into consideration at present. Additionally, in many countries, the construction of large infrastructure promotes the participation of the affected populations, and hence the subsequent changes in their lifestyles have been the result of better planning and implementation.

Nevertheless, mistakes and omissions that may have been made in the past in terms of resettlement planning and implementation, unintended as they may have been, have often impacted negatively on the populations affected. As the author emphasizes throughout the book, the resettlement processes have improved with time but not to the extent of helping a majority of resettlers to become beneficiaries or even to restore their living standards. Accordingly, for large infrastructural projects, people to be resettled must be considered to be an important group of beneficiaries.

In terms of institutions, the book considers the roles of government, the private sector, donors, non-governmental organizations (NGOs), etc. in water development activities

(including resettlement). In terms of NGOs, any objective person will agree with the author that it is unrealistic for the anti-dam movement to be against the construction of more dams “until past injustices have been addressed”, because of the need for more dams in the future. However, and based on the studies carried out by the Third World Centre for Water Management, we have a somewhat different perspective with regard to the comment that anti-dam NGOs are closely attuned to the problems of indigenous people. Going by our own investigations, we have found that there are excellent NGOs which have worked, and continue to work, with the poor to improve their quality of life, trying to ensure that the interests of the indigenous people are protected. NGOs such as Arch-Vahini in Gujarat, India, have made a real difference to the lives of the people for whom they have worked for decades. In contrast, there are also many NGOs which are more interested in satisfying their own needs, interests and agendas, rather than helping the poor for whom they profess to work. It is important to note that the achievement of any institution depends on the performance of its individual members, and that just as there are good governments and bad governments, there are excellent and dedicated NGOs as well as bad and self-serving NGOs. NGOs, like any other component of civil society, do not all perform identically, and hence cannot be painted in a broad brush as being exclusively good, mediocre or bad, since they are a mixture of all three.

Involuntary resettlement is a difficult and complex issue. At present, even though the actual practices are generally an improvement over what was the norm in the past, much more needs to be done. By providing analyses of past experiences, the author has done an important service to the water and development professions. We must learn from the errors of the past to improve our planning practices and processes of the future to ensure that people who are forced to resettle involuntarily due to any development project also become its true beneficiaries. The book provides much thought for reflection, and the development professionals who are involved in projects that could result in involuntary resettlement will certainly benefit very significantly from reading it.

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**Water Institutions: Policies, Performance, and Prospects**

Chennat Gopalakrishnan, Cecilia Tortajada & Asit K. Biswas (Eds)  
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When most of our existing water institutions were created, the water management challenge was generally seen as a supply issue—the question was how large volumes of water could be captured in arid regions and securely delivered to geographically dispersed users. Although the performance of these institutions has been mixed, they have arguably achieved their objective of capturing the available water in many regions. The somewhat

ironic result is that we now have a new set of challenges on the demand side, challenges that the original institutions were not designed to handle. In particular, the prevailing water management question in most parts of the world is how to reallocate the limited water supplies across different uses in the face of changing demands. Often there are also concerns about uses that excessively degrade water quality.

That substantive institutional change will be needed to cope with our current water needs is well understood. What is not well understood are the exact changes required and how these changes can be successfully implemented. Systematic analysis of institutional performance is essential in order to identify the reforms that are desirable and effective. Similarly, only through studying the process of institutional change can we understand how these reforms can be put in place. These topics have been addressed by various authors in specific regions. Yet, little effort has been devoted to comprehensive analysis of water institutions, leaving us with few comprehensive answers.

This edited volume is a refreshing attempt to begin filling this critical gap in knowledge. It compiles a diverse yet cohesive set of case studies on water institutions in all corners of the world, written by well-known experts on the featured countries. Chapter 1, by Chennat Gopalakrishnan, evaluates the water management institutions in Hawaii. Chapter 2, by Asit Biswas, analyses the public and private institutions delivering municipal water in Sri Lanka. Chapter 3, by Maria Saleth, and chapter 4, by James Nickum, discuss the water institutions in the two giants of world population, India and China. In chapter 5, Cecilia Tortajada and Nancy Contreras-Moreno evaluate the river basin management institutions in Mexico. Chapter 6, by Peter Beaumont, describes the evolution of institutions in the Middle East from ancient to modern times. Chapter 7, by Anthony Turton and Anton Earle, discusses the international water institutions in southern Africa and their integral role in the politics of that region. The final contributions of the book are on the institutions in the western USA: chapter 8, by Charles Howe, provides an overview of these institutions and their legal basis, while chapter 9, by Ray Huffaker, focuses on the legal doctrine controlling water rights and its consequences.

Each chapter traces the unique history of the water institutions in the region of interest. Such careful and well-documented descriptions are nearly impossible to find in one place, and this aspect of the book will be useful to a wide audience including scholars, students, water policy professionals, and interested lay persons. The book will also have a broad appeal because it takes an appropriately broad view of the meaning of the term 'institutions'. They are taken to include: (1) the organizations and agencies that manage water resources; (2) the laws and rules governing water rights and water use; and (3) the cultural context and informal arrangements that influence individual decisions.

However, what I find to be the greatest strength of the book is its analytical bent. This book advances knowledge on the causes of institutional success and failure and on the process of institutional change. It does so by appealing to analytical frameworks already known to institutional scholars and vividly illustrating these concepts with a wide range of evidence from the featured cases. Regarding institutional performance, for example, Gopalakrishnan in chapter 1 sets the stage for the whole book by appealing to the concept of institutional entropy (e.g. Guiasu & Guiasu, 2003). The basic idea is that just as natural elements decay with each successive use by the entropy law of thermodynamics, so too may an institution degrade over time and become less useful as it is repeatedly applied. Gopalakrishnan then goes on to suggest some possible causes of institutional entropy.

Although the causes he identifies are not intended to be mutually exclusive or exhaustive, they are illustrated clearly by the evidence in subsequent chapters.

The first suggested cause of entropy is a lack of flexibility, which leaves institutions unable to cope with changing needs and challenges. A good example of an inflexible institution is the legal doctrine of prior appropriation in the western USA, analysed by Huffaker in chapter 9. The essence of this doctrine is that it creates a hierarchy of water rights based on the date of initial use; the oldest or 'senior' rights are the first to be fulfilled in a water-short year, while holders of 'junior' rights that were obtained more recently may not receive any water. Additionally, all water rights specify an authorized quantity so that no user has unlimited access. The prior appropriation doctrine was a legal innovation at the time it was created, with its rigid rules thought to be its core institutional strength. By design, it seemed to guarantee that (legal) water use by any individual would not impair the rights of anyone else. Huffaker demonstrates, however, that the rigidity of prior appropriation actually turned out to be its greatest weakness in the face of changing technology and water demands. The non-impairment guarantee of the doctrine, in fact, is largely a 'fiction' in the modern era. As more stakeholders and commentators realize this fact, the institution is beginning to crumble under its own weight.

Another cause of entropy on Gopalakrishnan's list is a lack of autonomy, i.e. institutions with limited authority due to external or internal pressures are likely to become ineffective. For example, the most important obstacle to reforming China's irrigation districts can be understood as a lack of autonomy over water pricing. As James Nickum explains in chapter 4, Chinese state water agencies set the price of water leaving the tributary, but local governments control the water beyond the tributary outlet and can add surcharges for the water delivered to farmers. Because the prices to end users are essentially controlled at the local level, they are insensitive to market-driven reforms from the central government. Other examples in the book highlight a lack of institutional autonomy due to external political pressures. For instance, the National Water Supply and Drainage Board of Sri Lanka, which delivers municipal water throughout the country, suffers from a lack of autonomy because water prices are set through the political process (Biswas, chapter 2). Biswas also mentions what is now this reviewer's favourite example of non-autonomy: in Morocco, any change in prices by a public water institution must be approved by the national parliament, and then either accepted or rejected by the king himself.

Despite ample evidence of institutional entropy, the discussions in the book about institutional change reveal that the news about reform is not all bad. In chapter 3, Saleth advances the theory of political transactions costs (North, 1990) to explain the institutional change in India's water sector. This theory posits that institutional change will occur if and when the political transactions costs of reform are smaller than the perceived benefits (or equivalently, the opportunity costs of maintaining the *status quo*). Saleth argues convincingly that the transactions costs of reforming water institutions in India have been declining for some time. Factors at work include: (1) fiscal constraints, which encouraged all public institutions to set charges adequate to recover costs; and (2) trade liberalization, which prompted a set of market reforms throughout the economy. The second factor reduced transactions costs of water sector reform through economies of scale—reforming water institutions requires little extra cost if the rest of the economy is going to be reformed anyway.

Neither of the factors driving reform is unique to India, and many countries have made at least symbolic changes to their water institutions in recent years. Such symbolic changes

are certainly inadequate, but they are probably a necessary step along the path to more substantive reforms (Saleth & Dinar, 2003). If this is true, then the contributions of this book are all the more important and urgently needed. One can only hope that this volume will stimulate additional thought, discussion, and writing on the vital issues confronting water institutions world-wide.

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