

between these two the same takes several forms in order to serve mankind. This publication highlights some of the natural resources and their systems in relation to man who plays a vital role in shaping and utilising different kinds of resources, as spatial linkages on economic, social and political grounds. This book also considers forest and agricultural resources in the Munger division. There are twelve chapters which elaborately discuss the basic concepts of sustainability and the evolutionary perspectives of sustainable human development in the 21st century. In the first chapter, the author discusses about the scope and necessary conditions for sustainability, resource and culture, industrial resources and its relations, principles of resource advocacy, resource and environmental accounting etc. pertaining to both rural and urban resource environments. The second chapter deals with the review of literature, approaches, principles and setting of hypotheses and the third chapter depicts the area of the study taken up and its topographic conditions. Human resources and sustainable development of the new millennium was dealt in the fourth chapter in which the author explained about the Sustainable Human Development (SHD) and human security, role of governance in environment management and impact of new technology in environment management and so on.

In the fifth chapter, the history of forest resources and approaches for ecosystem were analysed based on the problems and distribution of forest type and its products necessitating the conservation of forest for both national as well as global context. The chapter six explains the agricultural resources and its sustainable development in the new millennium. Seventh chapter stresses the need for prevention of water resources by elaborating the existing status and problems in the irrigation systems and reservoirs.

The eighth chapter analyses the impacts of urbanisation and industrialisation that cause damage to sustainable development of the region of the study. It also cautions the distribution of industry which not only pollutes the environment but also carnage the rural livelihoods. The author also discusses road and transport infrastructure that includes railways, waterways and surface transport systems and prescribed some policy initiatives for future endeavour. The role of panchayati raj was not ignored but extensively discussed in the tenth chapter with valuable suggestions.

Obviously, this book presents brilliant ideas for conservation and management of resources and presenting analysis of the various elements involved in integrated development of resources and resource systems that the subject specialist, researcher, planner and policy maker will find this book interesting and useful.

R. Murugesan

Sardar Sarovar Project on the River Narmada edited by R. Parthasarathy, Ravindra H. Dholakia, CEPT University Press, Ahmedabad, 2011.

The book 'Sardar Sarovar Project on the River Narmada', History of Design, Planning and Appraisal (volume-1) speaks about design, planning and historical perspective of sardar sarovar dam. The book is divided into three parts. First part discusses about historical perspective and design of the dam, the second part deals with the planning process of the dam and third part deals with the social – cost benefit analysis of the project.

Sardar Sarovar Project on Narmada River is a vortex of controversies, be it an environmental, resettlement & rehabilitation, seismic threat, cost–benefit analysis etc. The SSP is a much debated and extensively studied subject. The SSP has a taken a long duration

(five decades) to complete the project due to controversies. The Gujarat State has put every effort to complete the project. This book is written by the policy makers, engineers, administrators and academicians who are associated with the project either during the plan period or implementation stage. The authors have meticulously answered all the controversies by giving explanation to every argument put forward by the critics and environmentalists.

First chapter deals with prominence of SSP to the State of Gujarat. The SSP is a national project and benefits four states, namely Maharashtra, Madhya Pradesh, Rajasthan and Gujarat. The authors explain that benefits in terms of power generation the State of Madhya Pradesh gets 52 per cent and Maharashtra State benefits 32 per cent and Gujarat State only 16 per cent. In terms of water control Madhya Pradesh, Maharashtra and Rajasthan get two – thirds and Gujarat controls only one – third of the water resources. But the project is located in Gujarat and the State took it as a responsibility to complete the project, as every water drop is essential for Gujarat for drinking water, power generation and for irrigation. The authors have high expectation about SSP towards agriculture growth in the State and ultimately contribution towards national economic growth. In Chapter two the author explains that SSP is an “Engineering Marvel” and occupies a remarkable place on the world map of water resources development. He quotes the TIME magazine’s description that dam is an “Eight Modern Wonders Abuilding”. The Project is a human Endeavour to regulate and harness natural resources. The dam is having distinctive innovations in planning, design and implementation. The author opines that the dam is a Lifeline of Gujarat people and the benefits are multi-dimensional like water supply, energy generation and food security and ultimately promoting sustainable development of Gujarat State.

In chapter three the author describes technicality of the dam during the planning period and implementation stage. The author focuses on salient features and technical details of the main dam, power house and main canal and layout of the dam. Advise of the International experts and national experts views were taken in construction of dam. The main focus was on geological fault zone of the river bed which presented a challenge for construction of dam. The engineers have taken care of seismic zone and care was taken, an earthquake of 6.5 on the Richter scale would make no effect on the structure of the dam. The studies also focus that there was no evidence of seismic active fault at the dam site. But every measure was taken that zone was seismically active and the project structures were designed accordingly. In chapter four the author discusses Seismicity and Safety of the Sardar Sarovar Project. This chapter is an answer to all pertinent questions about seismicity of the dam. The author says that SSD and reservoir is located in a crucial area in the Deccan trap province.

Part – 2 of the book discusses about the design aspects of the dam. In chapter seven the author remembers the design of this mega project. The project had the distinction of being the most controversial project in India. This is also most investigated / studied irrigation project in India. It has encountered numerous road blocks on its journey over the past five decades. The State of Gujarat has assigned a very high priority to the Dam, Power House and Major Canal constructions to establish as a model project.

In chapter eight the author recounts the various challenges faced by the Government of Gujarat in financing SSP. In 1993 owing to the pressure of anti-dam campaigners and NGOs the World Bank has withdrawn the funding of the project. The SSP has faced several challenges financially but finally it was able to find out its own solutions to complete

the project. The dam was completed with alternative sources like Fixed Deposit Scheme, Market Borrowing, Cooperative Sector, State Public Sector Undertakings, Religious and Charitable Institutions, etc. Ultimately, it is the people of Gujarat who have a stake in the project. In chapter nine the author discusses about the environmental safeguards of the project. He argues that most development measures affect natural wealth – air, soil, water, forests, minerals and our wild ecosystem. It was recognised that all development activities impinge on the natural environment and create stress. But for the SSP Environmental Impact Assessment (EIA) was made according to the guidelines of MoEF – Gol. But the challenge lies in maintaining the environmental balance as development activities tend to disturb the natural resources.

The part – 3 discusses about the cost – benefit analysis of the project. The Sardar Sarovar Project (SSP) on the River Narmada is one of the most debated, most researched and most meticulously planned water projects in the world. The project has got caught in long drawn out legal disputes, political controversies, demonstrations and agitations. The proponents and the opponents of the project have used the cost-benefit analysis to derive support and comfort for their respective strong positions. It was ultimately found that the project turns out to be socially and economically highly viable. But it is extremely difficult to find developmental projects where everybody in society gains and nobody loses. In most cases, projects result in many people gaining, some people not affected directly or indirectly, but a few people definitely losing. In this situation the author suggests solution, based on the Kaldor – Hicks Compensation Principle i.e., the gainers should compensate (win over) the losers through mutually acceptable voluntary bargain before the project starts.

This book is informative and highly educative to the students, academicians, administrators, engineers, development professionals, sociologists, politicians, policy makers, environmentalists, NGOs and Research Scholars etc.

S. N. Rao

Sardar Sarovar Project on the River Narmada-Impacts so far and Ways Forward; Volume 3 is edited book by R. Parthasarathy and Ravindra H. Dholakia, 2011, published for CEPT University Press, Ahmedabad by Concept Publishing Company, A/15-16, Commercial Block, Mohan Garden, New Delhi-110059, pp960.

The Sardar Sarovar Project (SSP) on river Narmada has a long, interesting and also controversial history. Few issues were sharing of water, rehabilitation of the project affected persons, planning of use of water etc. Keeping this as background, this three volume series has been taken up by the authors as the documentation of the process of evolution and the contribution of Sardar Sarovar Project on the river Narmada in Gujarat. All the contributors of these volumes were directly involved in the project one time or the other.

The first volume provides historical perspective on design, planning and appraisal of the project. The second volume draws attention to the implementation challenges like the process of resettlement and rehabilitation. The third volume discusses the impacts of SSP so far and the ways forward including aspects of water distribution, management options and policy issues. All three volumes put together it was the compilation of 31 articles of which 10 constituted in the first volume and another 9 in volume 2 and other 12 in volume 3.

Volume three is divided into two parts and part VI focuses on Impacts so far and part