

TOWARD SUSTAINABLE DEVELOPMENT

Struggling Over India's Narmada River



William F. Fisher
editor

TOWARD SUSTAINABLE DEVELOPMENT

Struggling Over India's Narmada River

William F. Fisher
editor



M.E. Sharpe

Armonk, New York
London, England

Copyright © 1995 by M. E. Sharpe, Inc.

All rights reserved. No part of this book may be reproduced in any form without written permission from the publisher, M. E. Sharpe, Inc., 80 Business Park Drive, Armonk, New York 10504.

Library of Congress Cataloging-in-Publication Data

Toward sustainable development? : struggling over India's Narmada River / edited by William F. Fisher.

p. cm. — (Columbia University seminar series)

Includes index.

ISBN 1-56324-341-5. — ISBN 1-56324-525-6 (pbk.)

1. Sardar Sarovar (Narmada) Project.

2. Sustainable development—India—Gujarat.

3. Water resources development—India—Gujarat.

4. Irrigation—India—Gujarat.

5. Dams—Environmental aspects—India—Gujarat.

I. Fisher, William F.

II. Series.

HD1698.I42G858 1994

338.954'75—dc20 94-27016

CIP

Printed in the United States of America

The paper used in this publication meets the minimum requirements of American National Standard for Information Sciences—Permanence of Paper for Printed Library Materials, ANSI Z 39.48-1984.



BM (c)	10	9	8	7	6	5	4	3	2	1
BM (p)	10	9	8	7	6	5	4	3	2	1

On the Cover:

The Narmada in the Nimad region of Madhya Pradesh, where the river is at its widest.

The woman is taking a ritual bath carried out at the time of the new moon.

(*Photograph by Ulli Steltzer.*)

Preface

Toward Sustainable Development? emerges from an attempt to understand development and resistance to it in the contemporary world. Its subject is the development efforts in the Narmada River valley in central and western India, particularly the Sardar Sarovar Project (SSP). The complexity of the project and the unusually well-organized resistance to it make this a particularly instructive case for exploring the dialogues about philosophical, political, and economic assumptions that shape contemporary development efforts. The Sardar Sarovar Project is being undertaken by the state governments of Gujarat, Madhya Pradesh, and Maharashtra, supported by the central Government of India. It was at one time partially funded by the World Bank and the Japanese Overseas Economic Cooperation Fund and has been the subject of an unprecedented independent review commissioned by the World Bank.

A highly controversial undertaking, the project has engendered intense debate between supporters and opponents, hinging on differing perceptions of the Sardar Sarovar Project's economic, social, and environmental impacts. Project supporters see the project as a means of delivering critically needed water to drought-prone areas of northwestern Gujarat and Rajasthan, and electrical power and drinking water to thousands of other rural and urban communities in Gujarat. Critics of the project cite its potentially negative environmental and social impacts, particularly the relocation of tens of thousands of people, the majority of them members of lower socioeconomic communities.

This book was inspired by the conference entitled "Working Toward Sustainable Development" held at Columbia University in New York, March 1992, though the current roster of contributors extends beyond those who participated in that conference. The volume was originally conceived as a sourcebook and case study handbook that would address the broad issues of sustainable development. It is clear to those who attended the conference that the Narmada situation effectively highlights significant contemporary issues concerning development policy and implementation and

thus provides a rich and complex case study that merits further discussion among academics, students, and development practitioners concerned with economic development, the environment, cultural traditions, and human rights. An in-depth examination of the Narmada case encourages us to address the general question of what development means today, especially with respect to large-scale development projects in the Third World. As Lewis Preston, president of the World Bank, noted on the occasion of the fiftieth anniversary of Bretton Woods, "the lesson of Narmada is something that is interesting reading." Lessons drawn from the Narmada case are applicable to development efforts and problems around the world. Not least of these lessons is the need to question the assumptions underlying the divergent notions of sustainable development and to expand our analysis of development efforts in order to better understand how social and political change occurs. We have tried to create a volume that presents a wide range of views about Sardar Sarovar, and yet goes beyond the simplistic "big dams are bad" argument to highlight the really difficult problems of reconciling large infrastructural plans with participatory development, and equitably addressing the competing resource and cultural concerns and needs of disparate populations within a state.

While it is an excellent example of effective grassroots resistance to development, the Narmada case also underscores fundamental disagreements about appropriate and sustainable development strategies and illustrates the increasing importance of transnational alliances of nongovernmental organizations (NGOs) to local resistance movements and the ability of such alliances to promote public accountability and responsibility in international institutions like the World Bank. The international controversy over the Narmada development project reflects the struggles among and within many contemporary international, governmental, and nongovernmental institutions as individuals work to define and redefine these institutions, their goals, and values. The Narmada controversy serves as a forum within which individuals and institutions contest the nature of and the relationship between sustainable development and social justice. The airing of disparate voices and perspectives reveals development to be a complex and risky undertaking that engenders sincere disagreement among well-intentioned individuals. It is hoped that this volume will fuel the intellectual task of confronting the difficult questions and choices that underlie both the promotion of and the resistance to the development enterprise. The Narmada case challenges our assumptions about the criteria by which a state balances the needs and interests of various populations within it, the means by which social and environmental costs are weighed against the projected economic advantages of large-scale development projects, the degree to which the

interests of so-called “tribal” or indigenous people, women, and other marginalized groups should receive special consideration in development projects, and ultimately the definition or paradigm of development itself.

A full examination of the Narmada struggle reveals it to be not that of a monolithic development regime pitched against an equally monolithic local populace but, like other development confrontations, a contradictory, internally conflicted process with significant and far-reaching unintended consequences. Here, as elsewhere, players in the struggle espouse similar rhetoric but support fundamentally different visions of “development.” The complexity of the dialectic between human agency and unintended consequence is captured by William Morris in “The Dream of John Ball:”

I pondered all these things, and how men fight and lose the battle, and the thing they fought for comes about in spite of their defeat, and when it comes turns out not to be what they meant, and other men have to fight for what they meant under another name.

For fifty years development practitioners have striven to bring about development and often failed. And yet change has occurred in spite of their failures albeit not the development originally envisioned. Others now take up the attempt and refine the strategies and the goals. In this light, the struggle for sustainable development is a revision of the initial struggle, as developers and developed realize that what has been done so far is not what either intended.

Toward Sustainable Development? is not one person’s comprehensive view of the Narmada case. Instead, the seventeen chapters present the views of many of those most deeply involved in the ongoing struggle to achieve what each believes to be sustainable development in the Narmada valley. Only a multi-sided study of the Narmada case can reveal the complexity of the issues and the range of emotions felt by those individuals most involved in the project. The authors represent various points of views and conflicting values and they differ with each other about facts and the significance of those facts. The primary foci of disagreements are the ability or inability to predict with sufficient authority the precise economic, social, environmental, and human costs and benefits that would result from specific development initiatives and, in the light of uncertainty, how and by whom decisions should be made. It is not the purpose of this book to reach conclusions about or make policy recommendations for the future of the Sardar Sarovar Project. That can only be accomplished by the people of the Narmada valley, the people of Gujarat, Maharashtra, Madhya Pradesh, and more generally, the people of India.

William F. Fisher
September 1994

Acknowledgments

A project as complex as this one owes a great deal to many people. While the inspiration for the present form of this book emerged most directly from the March 1992 conference on Narmada held at Columbia University in New York, it has earlier roots in my own research on the resistance to development in the Narmada valley, in the University Seminars on Tradition and Change in South and Southeast Asia and on Human Rights at Columbia University, and in the academic interest of my graduate students in the Economic and Political Development Specialization at the School of International and Public Affairs at Columbia University. The interrelatedness of these endeavors makes it difficult to separate gratitude for assistance provided to the conference, contributions to my own research, and the enthusiastic participation of my graduate students, from gratitude to those whose work specifically aided in the completion of this book. I very gratefully acknowledge the contributions of all individuals and institutions who assisted with these projects.

Coordinating an international conference on the Narmada controversy was no mean feat: persuading individuals from diverse backgrounds and perspectives to participate formed only part of the overall enterprise. My deep gratitude goes to the conference participants for their parts in what was an extremely serious and productive conference which stimulated a rich exchange of intellectual substance and focused discussions. I would especially like to note here the contribution of those participants in the conference who have not written a chapter for this volume but whose ideas were part of the debates and discussion and are indirectly reflected in this book: Yusuf Aboki of Ahmadu Bello University in Nigeria, Michael Baxter of the World Bank, Birinder F. Gill of Chandigarh, Professor Frank Grad of Columbia University, Kr. Fatesingh Jasol of the Government of Gujarat, Paul Martin of the Center for the Study of Human Rights at Columbia University, Girish Patel of Lok Adhikar Sangh, P. A. Raj of the Sardar Sarovar Narmada Nigam, former Ambassador Sunil K. Roy, Dr. Pravin Visaria of

the Gujarat Institute of Area Planning, and Phil Williams of the International Rivers Network. Their contributions were invaluable to me as editor and to the participants who rewrote their presentations for this volume. We all learned a great deal from each other.

Though the involvement of the Economic and Political Development specialization students at Columbia University ended with the conference, it was their search for a sufficiently complex case study that would help them to wrestle with a range of difficult questions about sustainable development that led to the conference. I thank them collectively for hours of stimulating discussions and debates about sustainable development that occurred at the conference, in the classroom, in their field sites in Jamaica, and in my office.

I thank the twenty-two authors for their contributions to the present volume. I also gratefully acknowledge the assistance of those institutions and individuals who facilitated my work in India related to the compilation of these chapters, including the Government of Gujarat; the World Bank; Shripad Dharmadhikary, Medha Patkar, Himanshu Thakkar, Arundhati Dhuru, and Nandini Oza of the Narmada Bachao Andolan; Anil Patel of Arch-Vahini; S. Dayal, Mr. Tolia, M. B. Mehta, Sobha Asthana, S. K. Sinha, Mahendra Bhatt, and Amar Gargesh of the Sardar Sarovar Narmada Nigam, Ltd.; two ex-chairmen of the Nigam, Sanat Mehta and S. Sundar; Nilni Jayal of INTACH; Ashish Kothari of Kalvparish; and Radha Singh of the Government of India.

Yoginder Alagh and Sunil K. Roy deserve special mention. Without the support of these two individuals perhaps neither the conference nor the book would have come to pass. Dr. Alagh's early and unequivocal support for the Columbia conference was essential and allowed us to organize a complex international conference in a short period of time. Since then he has never failed to offer welcome advice and valuable support. Ambassador Roy's enthusiasm for a conference that gave a full and fair hearing to the Narmada case was apparent from the first day we met, and his insights into the issues and individuals involved in the Narmada case proved to be invaluable. With the passing of Sunil K. Roy, the environmental cause and I have lost a true friend.

I acknowledge those agencies who recognized the wisdom of a conference that drew together Gujarat government officials, World Bank staff, antidam activists, scholars, and representatives of nongovernmental organizations from India, the United States, Japan, and elsewhere: the Ford Foundation, the Rockefeller Foundation, the Indo-U.S. Subcommission on Education and Culture, and the U.S. Department of Education. Financial support specifically for the completion of this book was provided by the University Seminars

at Columbia University: I particularly thank the Director of the University Seminars, Aaron Warner.

The enthusiasm of John S. Hawley, Director of the Southern Asian Institute at Columbia University, who served with me as co-convener of the 1992 conference, helped propel both the conference and this book toward successful completion. Barbara Gombach, Assistant Director of the Southern Asian Institute, was an endless source of logistical and moral support for my trips to India, for the conference, and for the completion of the book. Additional support was provided by the irrepressible and resourceful Bob Cessna. Elana Fremerman, Sharon Lang, and Bikas Joshi deserve credit for endless hours reading and editing numerous drafts of the chapters. Janet Fisher worked on the maps and figures with her usual professionalism and painstaking care. Rebecca Grow, my assistant at Harvard University, also contributed invaluable patience and attention to detail.

And finally my gratitude and admiration to the lovely and witty Tad Kenney and to the remarkable Jarvis Fisher, without whom not.

Without the assistance and advice of all of these people the volume would never have been completed.

Abbreviations

ARCH	Action Research in Community Health and Development
CA	Compensatory afforestation
CAD	Catchment area development
CAF	Canal-affected family
CAT	Catchment area treatment
CSS	Centre for Social Studies, Surat, Gujarat
cumecs	Cubic meter per second
cusecs	Cubic foot per second
CWC	Central Water Commission
EDF	Environmental Defense Fund
EIA	Environmental impact assessments
ESG	Environmental Subgroup
FPS	Fair price store
FRL	Full reservoir level
GOG	Government of Gujarat
GOI	Government of India
GOM	Government of Maharashtra
GOMP	Government of Madhya Pradesh
GWSSB	Gujarat Water Supply and Sewerage Board
ha.	Hectare (2.47 acres)
IDA	International Development Association
IMF	International Monetary Fund
INGO	International Nongovernmental Organization
IR	The Independent Review of the Sardar Sarovar Project
LPC	Land Purchase Committee
M & E	Monitoring and evaluation
MAF	Million acre-feet
MARG	Multiple Action Research Group
MDB	Multilateral development bank
MOEF	Ministry of Environment and Forestry

MOF	Ministry of Finance
MOWR	Ministry of Water Resources
MP	Madhya Pradesh
MW	Megawatts
NBA	Narmada Bachao Andolan (Save the Narmada Campaign)
NCA	Narmada Control Authority
NDS	Narmada Dharangrast Samiti (Committee of Narmada Dam-Affected People)
NGNS	Narmada Ghati Navnirman Samiti (Committee for a New Life on the Narmada)
NGO	Nongovernmental organization
NSP	Narmada Sardar Project
NVDA	Narmada Valley Development Authority
NWDT	Narmada Water Disputes Tribunal
OECD	Overseas Economic Cooperation Fund, Japan
ORG	Operations Research Group
PAP	Project-affected person
R & R	Resettlement and rehabilitation
RIR	<i>Sardar Sarovar: The Report of the Independent Review</i>
Rs	Indian rupees
RSG	Rehabilitation Subgroup, Narmada Control Board
SC	Scheduled caste
SSNNL	Sardar Sarovar Narmada Nigam, Ltd.
SSP	Sardar Sarovar Project
ST	Scheduled tribe
TISS	Tata Institute of Social Science, Bombay
TRI	Tribal Research Institute

Contents

List of Tables and Illustrations	vii
Preface	ix
Acknowledgments	xiii
Abbreviations	xvii
Photo Section (appears after page 288)	

Part I: Introduction

1. Development and Resistance in the Narmada Valley <i>William F. Fisher</i>	3
2. The Narmada in Myth and History <i>Chris Deegan</i>	47

Part II: Overviews of the Sardar Sarovar Project

3. The Sardar Sarovar Project: A Victim of Time <i>C. C. Patel</i>	71
4. India's Narmada: River of Hope <i>Thomas A. Blinkhorn and William T. Smith</i>	89
5. Benefits of the Sardar Sarovar Project: Are the Claims Reliable? <i>Rahul N. Ram</i>	113
6. Hydropower at Sardar Sarovar: Is It Necessary, Justified, and Affordable? <i>Shripad Dharmadhikary</i>	135

Part III: Histories of Resistance to the Sardar Sarovar Project

7. The Struggle for Participation and Justice: A Historical Narrative <i>Medha Patkar</i> (in conversation with Smitu Kothari)	157
---	-----

8.	What Do the Narmada Valley Tribals Want? <i>Anil Patel</i>	179
9.	The International Narmada Campaign: A Case of Sustained Advocacy <i>Lori Udall</i>	201

Part IV: Resettlement and Rehabilitation

10.	Resettlement and Rehabilitation in Maharashtra for the Sardar Sarovar Narmada Project <i>M. S. Gill</i>	231
11.	The Sardar Sarovar Project: A Study in Sustainable Development? <i>Vasudha Dhagamwar, Enakshi Ganguly Thukral, and Mridula Singh</i>	265

Part V: Technical and Environmental Concerns and Alternatives

12.	The Sardar Sarovar Project and Sustainable Development <i>Y. K. Alagh and D. T. Buch</i>	291
13.	A Technical Overview of the Flawed Sardar Sarovar Project and a Proposal for a Sustainable Alternative <i>Ashvin A. Shah</i>	319

Part VI: The Independent Review

14.	Findings and Recommendations of the Independent Review <i>Bradford Morse and Thomas Berger</i>	371
15.	The Independent Review: Was It a Search for Truth? <i>Anil Patel and Ambrish Mehta</i>	381

Part VII: Politics and Development

16.	Damming the Narmada and the Politics of Development <i>Smitu Kothari</i>	421
17.	Full of Sound and Fury? Struggling Toward Sustainable Development in India's Narmada Valley <i>William F. Fisher</i>	445

	Index	463
	Contributors	477

List of Tables and Illustrations

Tables

3.1	Resettlement and Rehabilitation	74
5.1	Area Planned to Be Irrigated by Sardar Sarovar Project	114
5.2	Seventy-five Percent Dependable Yield of the Narmada	114
5.3	Drinking Water Targets for SSP	116
5.4	Water Losses: SSP Assumptions and Realistic Values	122
5.5	Comparison of Water Losses and Efficiencies	123
5.6	Land Irrigability of Narmada Command	125
5.7	Zonewise Land Irrigability	125
5.8	Detailed Study of Zones 1–4 Percentage Area in Land Irrigability Classes	126
5.9	Firm Power Generation from the SSP	130
12.1	Area and Physical Characteristics of Agro-Climatic Zones in SSP	296
12.2	Net Inflow into Gujarat—Arranged in Ascending Order	300
12.3	Chosen Crop Set for Region 1	306
12.4	Water Allocation by Region for Lower Canal Water Availability	308
13.1	Summary of SSP Benefits for Gujarat State	325
13.2	Distribution of Landownership and Benefit per Farmer in Gujarat	329
13.3	SSP Canal Command Area Rainfall	331
13.4	Reservoir Capacity in Gujarat	332
13.5	Distribution of Reservoir Capacity by Region	332
13.6	Average Estimate of Potential Water Use without the Narmada Water Benefit	333
13.7	India's Irrigation Planning	343
13.8	Siltation of Selected Indian Reservoirs	344
13.9	Estimated SSP Irrigation Water Demand of Crops	351

13.10 The Unaffordable Cost of the SSP	355
13.11 Distribution of the SSP Cost	355
13.12 Energy Planning to Achieve Self-Reliance in Water Resources	363

Figures

3.1 Number of Villages Affected by Drought	83
3.2 Profile of Lowering Groundwater Table	84
12.1 Schematic of 3-Reservoir Model	299
12.2 Groundwater Subsystem: Single Region Model	303
12.3 Single Region and Interregional Water Allocation Model	304
12.4 Groundwater Systems Study: Sabarmati-Banas Doab Scheme of Scenarios	310
12.5 Typical Output of Drainage Study	312

Maps

1. Sardar Sarovar Project Area	14
2. Sardar Sarovar Command Area	16
3. Maharashtra Submergence Area	232
4. Gujarat Rainfall Map	328

Plates

1. Women bringing drinking water from the Narmada near the village of Sikkha in the submergence area in Maharashtra.	2
2. The Sardar Sarovar Dam under construction in February 1992.	70
3. The thanksgiving festival of Ondal at Antras in the submergence area in Gujarat.	156
4. Houses in the submergence area are constructed of teak and bamboo. The oustees were allowed to bring their houses with them so that they could reconstruct them on the new sites.	230
5. Fishermen from Bhadbhut village in Bharuch District, downstream from the dam site.	290
6. A ferryman crossing the Narmada River from Gujarat to Maharashtra.	370
7. The tin shacks of one of the many relocation sites in Gujarat.	420

Part I

Introduction

1. Development and Resistance in the Narmada Valley
 William F. Fisher 3
2. The Narmada in Myth and History
 Chris Deegan 47



Plate 1. Women bringing drinking water from the Narmada near the village of Sikkha in the submergence area in Maharashtra. Dam proponents argue that the waters of the Narmada are needed in the northern parts of Gujarat which suffer from drought. They also insist that the displacement of 100,000 villagers from the submergence area of the Sardar Sarovar reservoir provides an opportunity to provide health, education, and other facilities to the people resettled from this area. Dam opponents question whether the Narmada water will ever reach the northern areas of Gujarat. They also ask why no one ever bothered to provide modern facilities to the people of the Narmada valley until their lands were needed for the reservoir. (Photograph by Ulli Steltzer.)