



THE LIMITS TO SCARCITY

CONTESTING THE POLITICS OF ALLOCATION

EDITED BY LYLA MEHTA

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List of Contributors

Ajaya Dixit

Executive Director

Institute for Social and Environmental Transition – Nepal (ISET-N)

GPO Box 3971

Kathmandu

Nepal

adbaluwatar@ntc.net.np

Ajaya Dixit is an analyst of water resources and environment themes in Nepal and South Asia. He is the founder of Nepal Water Conservation Foundation (NWCF) and editor of *Water Nepal*, a journal addressing interdisciplinary water and development issues. He taught hydraulics and water resources engineering at Tribhuvan University's Institute of Engineering until 1989. He was educated at Regional Engineering College Rourkela, India (1977) and University of Strathclyde, Glasgow (1981).

He serves as chairman of the board of directors of Nepal Water for Health (NEWAH), a Nepali NGO that has helped develop drinking water supply, sanitation and hygiene services to about 1 million people. He has written extensively on water resources, trans-boundary cooperation, flood management, environment and developmental issues and is the author of *Basic Water Science*. He teaches interdisciplinary water resource management and climate change adaptation at Nepal Engineering College Kathmandu and is currently directing regional research looking at climate changes impacts on flood, drought and food system adaptation in South Asia. He also is the research director of the Institute of Social and Environmental Transition (ISET) which is engaged in climate adaptation research.

Ben Fine

School of Oriental and African Studies
University of London
Thornhaugh Street
Russell Square
London WC1H 0XG
UK

bf@soas.ac.uk

Ben Fine is a professor of economics at the School of Oriental and African Studies (SOAS), and the author of numerous books, including *Theories of Social Capital: Researchers Behaving Badly*, 2010; *From Economics Imperialism to Freakonomics: The Shifting Boundaries between Economics and Other Social Sciences*, 2009, co-authored with Dimitris Milonakis and awarded the Deutscher Memorial Prize; and *From Political Economy to Economics: Method, the Social and the Historical in the Evolution of Economic Theory*, also with Milonakis, 2009, awarded the Gunnar Myrdal Prize. He took his doctorate in economics at the London School of Economics, under the supervision of Amartya Sen. His interests lie in the minerals-energy complex in South Africa; the political economy of consumption, particularly food; privatization and industrial policy; political economy, history of economic thought and economic theory and economic imperialism especially social capital.

Dipak Gyawali

Nepal Water Conservation Foundation
PO Box 2221
Kathmandu
Nepal

dipakgyawali@ntc.net.np

Dipak Gyawali, *Pragya* (Academician) of the Nepal Academy of Science and Technology and Research Director of the Nepal Water Conservation Foundation, is a hydroelectric power engineer (Moskovsky Energeticheskyy Institute, USSR, 1979) and a political economist focusing on natural resources (University of California, Berkeley, 1986). His interdisciplinary research agenda focuses on society-technology-resource base interface, with water and energy as entry points. He has chaired the EU's review of its international water resource research from FP4 to FP6; been a member of the international advisory boards of Coca Cola as well as Oxford University's James Martin Institute for Science and Civilization; and served as Nepal's Minister of Water Resources (responsible for power, irrigation and flood control) in 2002/2003. He chairs the recently founded first liberal arts college of Nepal, the Nepā School of Social Sciences and Humanities. He is also the Vice-Chair of the Technical Advisory Committee of United Nations' World Water Assessment Program and advisor to the National Association of Community Electricity Users' Nepal as well as the Nepal Biogas Support Program.

Betsy Hartmann

Betsy Hartmann
 Director, Population and Development Program
 Professor of Development Studies
 CLPP
 Hampshire College
 Amherst, MA 01002
 USA

bhartmann@hampshire.edu

Betsy Hartmann is the Director of the Population and Development Program and Professor of development studies at Hampshire College in Amherst, MA, USA. A longstanding activist in the international women's health movement, she writes and speaks frequently on the intersections between reproductive rights, population, immigration, environment and security concerns in activist, policy and scholarly venues. Her non-fiction books include *Reproductive Rights and Wrongs: The Global Politics of Population Control*, *A Quiet Violence: View from a Bangladesh Village* (co-authored with James Boyce) and the co-edited anthology *Making Threats: Biofears and Environmental Anxieties*. She is also the author of two political thrillers, *The Truth about Fire* and *Deadly Election*.

To find out more about Betsy, visit www.BetsyHartmann.com. To find out more about the Population and Development Program, visit <http://popdev.hampshire.edu>

Nicholas Hildyard

The Corner House
 Station Road
 Sturminster Newton
 Dorset DT10 1YJ
 UK

nick@fifehead.demon.co.uk

Nicholas Hildyard works with The Corner House, a research and solidarity group focusing on human rights, environment and development.

Jasveen Jairath

Society for Participatory Development (SPD)
 F-1, Eden Banjara
 Ave-8, St.7, Aurora Colony
 Banjara Hills
 Hyderabad 500034
 A.P., India

capnet_southasia@spdindia.org

Jasveen Jairath graduated in electrical engineering and later moved to economics with a Masters in political economy from New School for Social Research, New York and a PhD from the Centre for Economics Studies and Planning, JNU, Delhi. She has been engaged with research, advocacy, networking and capacity building in the water sector through her tenures at government and non-government organizations. Through her specific field studies in Punjab, Maharashtra and Andhra Pradesh she has highlighted the social context of water to question technocratic and reductionist interpretations of mainstream water discourse. Critical interventions in the policy debates on large dams, droughts and institutional reforms have been followed by design and implementation of hands-on experimental water projects on governance of urban water and sanitation systems in Madhya Pradesh. She is the current Regional Coordinator of Capnet South Asia and has been on the Board of Governor of World Water Council. At present she operates as an independent consultant and researcher-advocate with a focus on the *politics* of water practice and policy.

Bruce Alistair Lankford

Senior Lecturer
School of International Development
The University of East Anglia
Norwich NR4 7TJ
UK

b.lankford@uea.ac.uk

At the time of writing, Bruce Lankford was Head of School at the School of International Development at the University of East Anglia. Bruce has been working in water management since 1983, initially at the irrigation system level in sub-Saharan Africa but more recently on livelihood, institutional and basin approaches to the management and governance of river basins and water resources. His research interests cover: water allocation decision-making including the use of games and gaming; polycentric governance models for IWRM (Integrated Water Resources Management); water productivity theory; socio-technical reform of irrigation performance; and irrigation policy in Africa.

Fred Luks

Fred.Luks@gmx.de

Fred Luks has studied in Hamburg and Honolulu, with research stays in Kuala Lumpur, New York and Berkeley. He has held several jobs in sustainability research, among them as visiting professor for ecological economics at the University of Hamburg. Luks was chairman of the German Association for Ecological Economics. He lives in Vienna and works as a sustainability manager for UniCredit Bank Austria. His latest book *Endlich im Endlichen* (2010) is on the relevance of irony and generosity for sustainable development.

Lyla Mehta

Institute of Development Studies
University of Sussex
Brighton BN1 9RE
UK

L.Mehta@ids.ac.uk

Lyla Mehta is a sociologist and research fellow with the Institute of Development Studies at the University of Sussex and a professor II at the Department of International Environment and Development (Noragric) Norwegian University of Life Sciences. She is also a member of the scientific committee of the Global Environment Change and Human Security Project, International Human Dimensions Project. She has worked extensively on issues concerning scarcity, access and rights to resources addressed through the case of water. Other interests include rights and the gendered dimensions of forced displacement and resistance and the cultural politics of sanitation, environment and development. She is the author of *The Politics and Poetics of Water: Naturalising Scarcity in Western India*, editor of *Displaced by Development: Confronting Marginalisation and Gender Injustice* and the co-editor of *Forced Displacement: Why Rights Matter*.

Erik Millstone

SPRU (Science and Technology Policy Research)
University of Sussex
Freeman Centre
Falmer
Brighton
East Sussex BN1 9QE
UK

E.P.Millstone@sussex.ac.uk

Erik Millstone is a professor of science policy at the University of Sussex, in SPRU – Science and Technology Policy Research. His first degree was in physics, followed by three in philosophy. Since 1974 he has been researching into the causes, consequences and regulation of technological change in the food and chemical industries. Since 1988 he has been researching the role of scientific experts, evidence and advice in public policy-making. His recent books include *BSE: Risk Science and Governance* (Oxford University Press, 2005) and *The Atlas of Food: Who Eats What, Where and Why* (Earthscan and University of California Press, 2008). Much of his current research focuses on the conditions under which poor maize farmers in Africa can respond to the challenge of climate change, as part of the STEPS (or Social and Technological Pathways to Sustainability) programme – see www.steps-centre.org/.

Jean Robert

jeanrobert37@gmail.com

Jean Robert is a freelance essayist who would like to think of himself as ‘intelligent’ rather than as ‘an intellectual’ or, if that’s too pretentious, at least as a ‘deprofessionalized intellectual’. He is presently preparing a ‘manifesto of the resisters to the war on subsistence’, a theme that he has treated in several books and articles, approaching it from the view of the material culture rather than from a formal economic perspective. He is a promoter of the untranslatable idea of ‘la Décroissance’ in Mexico and has been involved in co-organizing a seminar on ‘Ivan Illich and the archaeology of modern certainties’ which was held at the Paris XXI university in 2010.

Sajay Samuel

Clinical Professor of Accounting, and Science, Technology and Society
379, BB
Smeal: College of Business
Pennsylvania State University
University Park, PA 16802
USA

sajay@psu.edu

Sajay Samuel teaches at the Business School at Pennsylvania State University. His research is directed at uncovering thought-styles that bury or ignore vernacular forms-of-life. His current work focuses on exposing the blind spots of modern economic science and political theory because of which they serve as foot-soldiers in the war against subsistence. His reflections on the limits of scientific rationalism have appeared, most recently, in *Ideas on the Nature of Science* (ed) David Cayley (Goose Lane Press, 2009). Samuel is part of an itinerant group of thinkers, scholars, and activists deeply influenced by the thoughts and work of Ivan Illich.

Ian Scoones

Institute of Development Studies
University of Sussex
Brighton BN1 9RE
UK

I.Scoones@ids.ac.uk

Ian Scoones is a Fellow at the Institute of Development Studies (IDS), co-director of the ESRC STEPS Centre at Sussex and joint convenor of the IDS-hosted Future Agricultures Consortium. He is an agricultural ecologist by original training whose interdisciplinary research links the natural and social sciences and focuses on the relationships between science and technology, local

knowledge and livelihoods and the politics of policy processes in the context of international agricultural, environment and development issues. A social and institutional perspective is at the centre of his work, which explores the linkages between local knowledge and practices and the processes of scientific enquiry, development policy-making and field-level implementation. Over the past 25 years, he has worked on pastoralism and rangeland management, soil and water conservation, biodiversity and conservation, as well as dryland agricultural systems, largely in eastern and southern Africa.

Michael Thompson

82 Bloomfield Avenue
Bath BA2 3AD
UK

Michael.Thompson@uib.no

Michael Thompson is an Institute Scholar at the International Institute for Applied Systems Analysis, Laxenburg, Austria, also a Fellow at the Institute for Science, Innovation and Society, Said Business School, University of Oxford.

Nicholas Xenos

Department of Political Science
Thompson Hall
University of Massachusetts
200 Hicks Way
Amherst, MA 01003-9277
USA

xenos@polsci.umass.edu

Nicholas Xenos is a professor of political science at the University of Massachusetts, Amherst. He is the author of *Scarcity and Modernity* (Routledge, 1989) and *Cloaked in Virtue: Unveiling Leo Strauss and the Rhetoric of American Foreign Policy* (Routledge, 2008).

Foreword

This is a dangerous book.

'Scarcity' is a key term in contemporary human development discourse. It is deeply embedded in two competing narratives. In one of these, the 'limits-to-growth' narrative of a finite world in which a recklessly expanding human population is rapidly depleting the resources on which it depends, the idea of scarcity represents the explicit boundary conditions of discourse and policy. In the other narrative, scarcity serves a more technical role in defining neoclassical economics as the 'science of resource allocation', which places markets at the centre of ever-expanding economic growth. In both cases, the idea of scarcity is seldom interrogated. To do so is intellectually dangerous. It is to question the underlying world views upon which each of these narratives, and the policies that flow from them, depend.

Scarcity in neoclassical economics is the relative scarcity of one good in relation to another, which drives the allocation decisions of consumers. The idea of scarcity in the limits-to-growth narrative, and its technical extension in ecological economics, is not relative, but generalized. Under the neoclassical assumption of relative scarcity, there is an infinite potential to substitute *abundant materials for scarce ones*. So while the discourse of limits ultimately depends on the assertion that the earth is a closed system, the neoclassical vision permits humanity, as a species, to transcend the finitude of any particular resource through human creativity, leading to the cornucopian vision of infinite global economic growth.

However, infinite plenitude is not a state that can ever be attained in the neoclassical world due to the theory's non-satiety requirement, which assumes that people will always prefer a large basket of goods to a small one. When we get pig-sick of smoked salmon, we add caviar to the shopping list. We can find counter-examples where societies, from hunter-gatherers in Africa to the Pennsylvania Amish, constrain their wants and in so doing achieve affluence based on the principle that 'a wealthy person is one who is content with what he has'. However, such constraint seems to rely on very intensive levels of face-to-face monitoring of behaviour and the ability to sanction or, at least, to shame transgressors. These conditions seem politically both impractical and at odds with the contemporary ideas of universal individual rights, which sit uneasily alongside the coercive mechanisms required to sustain 'voluntary' collective frugality.

Ironically, both the discourse of limits and the idea of infinite growth end up being anti-poor. The discourse of limits is straightforwardly neo-Malthusian. If there are too many people making demands on finite resources, the solution is to reduce either the level of demand or the number of demanders. If, as I have already suggested, asking the wealthy and powerful to embrace frugality or the poor to voluntarily remain poor is a political recipe that is unlikely to succeed on a significant scale (for different reasons) in say China, India and the USA, then the alternative is to limit population. The candidate populations, to which such limits are to be applied, are not, of course, those of affluent societies which are already reproducing below replacement levels, but those of the poor.

The infinite-growth narrative is a bit more subtle but no less damaging to the poor. Its neoclassical economic paradigm is underpinned by the utilitarian principle of achieving the greatest happiness of the greatest number. This, at least in part, accounts for the depth of moral outrage on the part of economists encountering inefficiency; a smaller pie means less to go around. However, the imperative to provide for societal good at the highest level of aggregation provides no guidance for securing the happiness of the various communities or individuals that make up a society. 'The guiding criterion for policy is the greatest good for society, quantitatively defined. But contemporary utilitarians, primarily economists and theorists of public choice, like Bentham, still have no principle for distributing this social good according to manifest principles of equity' (Heineman et al, 1990). A rising tide, alas, does not lift all boats and certainly does not address the issues of those that may be holed, ill equipped or poorly provisioned for the voyage.

So scarcity takes on another dimension, independently of its role as a technical device of neoclassical economics, it becomes a rationale for inequitable allocation. As the contributors to the volume repeatedly demonstrate, there is plenty of food, water and energy on this planet to meet the requirements of a population that demographers project will peak at just below 9 billion. Famines, fuel shortages, and water stress are not the result of generalized shortages, but failures of allocation to the poor who simply cannot afford to buy what they need from elsewhere. Markets respond to the buying power of the wealthy. Goods flow to those who can afford them. But by framing scarcity as an inherent characteristic of resources, both scarcity narratives naturalize the failure of societies to provide for the needs of the poor, and elide issues of equity and social justice that are uncomfortable to the beneficiaries of current distributions of wealth and power. The failure to provide for the poor and powerless becomes nature's fault not humanity's. As Amartya Sen has consistently argued, addressing the needs of the poor requires a fundamental shift from the language of scarcity to the issues of resource allocation, access and entitlement.

Such a shift will also require an explicit focus on judgements about the appropriateness of needs and wants. Both the narratives of limits and of growth not only naturalize scarcity but also 'needs and wants'.

The usual model of the representative consumer in both ecological and neoclassical economic theory has been the hedonist whose choices are made to

address private wants and provide individual satisfaction. The origin of these wants is seldom addressed explicitly, but is usually assumed to lie within the individual arising from physical urges like hunger, thirst or survival. There have been numerous attempts, such as Maslow's to derive hierarchies of basic physiological needs, which must be satisfied before the individual moves on to higher psychological needs such as 'esteem' and 'self-actualization'. However, prepotency is not clear-cut, there are no sharp demarcations at which one urge disappears and the next suddenly emerges. Many have argued that self-actualization is actually the most fundamental, and the implication that needs can be divided into lower material needs for 'survival' and higher, more abstract needs for 'self-actualization' legitimizes a distribution of power in favour of educated elites. A further observation that arises from viewing such hierarchies through the lens of scarcity narratives is that the so-called lower needs are those that are consumed in use, while the higher needs, such as love and esteem actually increase with their exercise, and thus the distinction reiterates the elite Malthusian divide between the enlightened and productive elite and the self-destructive and rapacious poor.

A radical critique of the idea of needs and wants is to be found in the claim of Mary Douglas (1986), that consumption is not the expression of well-ordered preferences driven by the need to satisfy physical urges or vaguer internal demands, but to negotiate social relations:

A person wants goods for fulfilling personal commitments. Commodities do not satisfy desire; they are only tools or instruments for satisfying it. Goods are not ends. Goods are for distributing, sharing consuming or destroying publicly in one way or another. To focus on how persons relate to objects can never illuminate desire. Instead research should focus on the patterns of alliance and authority that are made and marked in all human societies by the circulation of goods. Demand for objects is a chart of social commitments graded and timetabled for the year, the decade, or the lifetime ... [R]estricting consumption of goods restricts participation in the extended social conversation for which they are used. (Douglas et al, 1998)

Recasting needs and wants alongside scarcity in an authentically social, rather than naturalized, framework transforms the policy challenge. It reinforces Sen's focus on the structure and processes of entitlements and social commitments and challenges us to reassess those arrangements. This book's comprehensive critique of the totalizing discourses of scarcity that block such alternative modes of inquiry makes an excellent start.

Steve Rayner
Oxford 2010

References

- Douglas, M., Gasper, D., Ney, S. and Thompson, M. (1998) 'Human needs and wants' in S. Rayner and E. L. Malone (eds) *Human Choice and Climate Change: Volume 1 The Societal Framework*, Battelle Press, Columbus OH, pp195–264
- Heineman, R. A., Bluhm, W. T., Peterson, S. A. and Kearney, E. N. (1990) *The World of the Policy Analyst: Rationality and Values in Politics*, Chatham House Publishers, Chatham NJ

Preface and Acknowledgements

The chapters in this book were originally presented at a conference on ‘Scarcity and the politics of allocation’, held at the Institute of Development Studies at the University of Sussex in June 2005. Funded by the ‘Science and Society Programme’ of the Economic and Social Research Council (ESRC), this interdisciplinary conference brought together about 50 participants from all five continents and from a range of disciplinary backgrounds (sociology, anthropology, economics, political science, theatre, soil science, engineering, philosophy, history, etc.). Despite the heterogeneity in the group, there was much epistemic consensus. Most of the participants would see themselves as politically motivated scholars and/or ‘scholar activists’ with a strong commitment to enhancing scholarship and promoting social justice. Consequently, the conference was rich in intellectual substance and creativity, energy and passion. It was rooted in the conviction that ‘scarcity’ may be acting as a totalizing discourse in the south in the same way that ‘risk’ does in the north. In both cases, science and technology are often expected to provide solutions, but such expectations embody a multitude of unexamined assumptions about the nature of the ‘problem’, about the technologies and about the so-called institutional fixes that are put forward as the ‘solutions’. There were 16 paper presentations, while the concluding session included commentaries on alternative ways to look at scarcity and key lessons for future research and action. This book is the result of this conference and my own research on scarcity, in particular water scarcity.

The volume would not have been possible without the support and hard work of many individuals who contributed with their ideas, time and enthusiasm. It has been a pleasure to work with such a committed and interesting group of people and I thank all the authors for their hard work and patience, and for tolerating my editorial interventions and some delays. Unfortunately, not everybody who presented a paper at the conference could write one for this volume, but hopefully the following pages will capture some of the rich and stimulating discussions we had there.

It was a pleasure to be a part of the ESRC ‘Science and Society Programme’ as a researcher for the project ‘Science, Technology and Water Scarcity: Investigating the “Solutions”, RES – 151-25-0021’. The conference was a culmination of this project. The programme funded both the conference and my research and I thank the ESRC for this. In particular, I am very grateful to

Steve Rayner, Director of the programme, who played a key role in making both the conference and this book happen. We have shared similar interests in unpacking scarcity debates and it has been great to work with him in the context of the Science and Society Programme to develop my ideas on scarcity, where he was generous with his support and ideas. I also thank Anne Marie McBrien of the Science and Society Programme for her constant help and support. Oliver Burch was fantastic in organizing the logistical arrangements of the workshop and I thank Nurit Bodemann-Ostow and Catherine Setchell for their meticulous note-taking.

I am grateful to those who contributed actively at the conference (as chairs, discussants and speakers) and others who also contributed with ideas, guidance and their generous intellectual support. I thank Franck Amalric, Vinita Damodaran, James Fairhead, Tim Forsyth, Richard Grove, Lawrence Haddad, Sheila Jasanoff, Melissa Leach, Synne Movik, Peter Newborne, Alan Nicol, Paul Nightingale, Steve Oga Abah, Jenks Okwori, Ian Scoones, Jan Selby, John Toye, Barbara van Koppen, Shiv Visvanathan, Brian Wynne and Farhana Yamin.

I began research on water scarcity in 1994 and I have been interested in scarcity issues ever since. While researching water issues, it emerged that, as well as understanding the various contestations of water scarcity, it was even more important to subject the concept of 'scarcity' itself to scrutiny. This has been a long journey and I am particularly grateful to those whose ideas and work have inspired me over the years. I owe very special thanks to Nick Hildyard, Jean Robert and Nick Xenos, whose work helped me use my empirical research on water to engage conceptually and critically with the notion of scarcity. Paul Wright dug out the most amazing references and writings on scarcity. Many thanks! I am very grateful to the countless families in Kutch, western India, who have taken me into their homes and lives and taught me what it means to live with scarcity and uncertainty. I have written about this elsewhere and this book does not capture my own empirical work on scarcity. However, my life-changing experiences in Kutch continue to shape my work and the way I view the world. I will always be indebted to my friends in the village of Merka for their generosity and inspiration.

Much of this book was finalized when I was at the Department of International Environment and Development Studies (Noragric) at the Norwegian University of Life Sciences. I thank my Noragric colleagues for providing me with such a supportive and collegial environment. In particular, I am deeply grateful to Espen Sjaastad who provided critical comments on several draft chapters. I wish he had made it to the conference and contributed a chapter himself. Many, many thanks and hopefully we will also work together one day!

I am also grateful for the support and patience of Earthscan, in particular Nick Ascroft, Alison Kuznets, Claire Lamont and Rob West. I thank Judy Hartley for copy-editing this manuscript with both humour and patience. Naomi Vernon's help was key towards the end. Finally, I must thank my family. My parents and brother have always believed in me. Espen's help was immense in strengthening the argument of the volume. Morten pushed me to finish this volume, gave valuable comments and is always there for me.

Tara's arrival delayed the finalization of this volume but I must thank her and Morten for ensuring that I don't experience a scarcity of love or happiness. I hope that Tara and her generation grow up in a fairer world.

Finally, I thank Wolfgang Sachs. Unfortunately he could not attend the conference, and illness prevented him from contributing to the book. He has, however, followed this project closely from the beginning and has contributed generously with his ideas and intellectual support. His stimulating and critical work has inspired me and many others and it is with appreciation and gratitude that this book is dedicated to him.

List of Acronyms and Abbreviations

AGRA	Alliance for a Green Revolution in Africa
BIWMP	Bagmati Integrated Watershed Management Project
BMBF	German Federal Ministry of Education and Research
BWP	Bagmati Watershed Project
CAADP	Comprehensive African Agricultural Development Programme
CAP	Common Agricultural Policy
CGIAR	Consultative Group for International Agricultural Research
CPR	Common Property Resource
DDP	The Desert Development Program
DFID	Department for International Development (UK)
DPAP	Drought-Prone Areas Program
EA	entitlement approach
EPS	Environment, Population and Security Project
ESRC	Economic and Social Research Council
EU	European Union
FAD	food availability decline
FAO	UN Food and Agriculture Organization
GDP	Gross Domestic Product
GOI	Government of India
GWP	Global Water Partnership
ICPD	International Conference on Population and Development
ICRAF	International Centre for Research on Agroforestry
IDS	Institute for Development Studies
IFDC	International Fertilizer Development Centre
IFPRI	International Food Policy Research Institute
ISCT	Institute of Social and Environmental Transition
ISRO	Indian Space Research Organisation
IWMI	International Water Management Institute
IWRM	Integrated Water Resources Management
KISS	keep it simple, stupid
MDGs	Millennium Development Goals
MNCs	<i>multinational corporations</i>
NIE	New Institutional Economics