



International Strategy for Disaster Reduction



**ISDR-BIBLIO**

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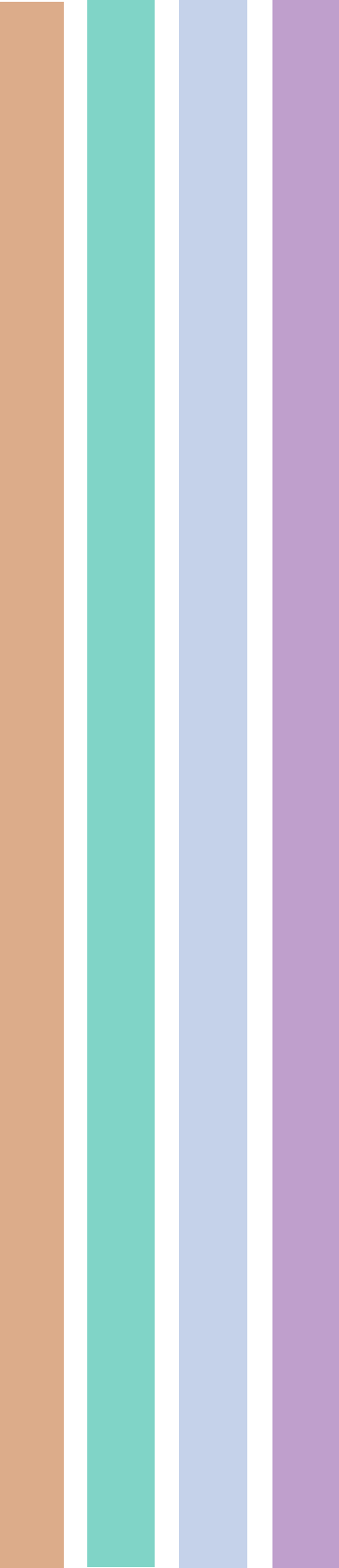
May 2007

# Drought, Desertification and Water Scarcity



United Nations





*The second edition of ISDR-Biblio is on Drought, Desertification and Water scarcity. Drought is one of the major threats among natural hazards to people's livelihood and socio-economic development. Drought tends to occur less frequently than other hazards. However, when it does occur, it generally affects a broad region for seasons or years at a time. This can result in a larger proportion of the population being affected than when other disasters occur. For example, drought disasters account for less than 20 per cent of all disaster occurrences in Africa, but they account for more than 80 per cent of all people affected by natural disasters. Disasters triggered by prolonged drought in Africa can affect millions of people and contribute to malnutrition, famine and loss of life, whereas droughts in the United States primarily result in economic losses.*

*In 1977, the United Nations Conference to Combat Desertification (UNCCD) adopted a Plan of Action to Combat Desertification. At least 179 countries have joined the convention. Drought risk reduction is also connected with another international convention, the United Nations Framework Convention on Climate Change (UNFCCC). Drought is one of the natural hazards to be considered in implementing the International Strategy for Disaster Reduction and the Hyogo Framework for Action 2005-2015 adopted at the World Conference on Disaster Reduction in January 2005, in Kobe, Japan.*

*The planet we live on is abundantly supplied with water. Oceans cover 70 per cent of the earth's surface and these contain 97 per cent of the total water supply on earth. However, this is all salt water. Only 2.5 per cent of the water supply on earth is fresh water. Water scarcity is an issue of major concern. It is causing mounting problems for human populations and ecosystems all over the globe (SI-EUR).*

*ISDR-Biblio 2 gives an overview of literature covering drought, desertification and water scarcity. This bibliography is of course not exhaustive. A CD-Rom containing key documents and publications in PDF version complements this bibliography.*



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## Water scarcity

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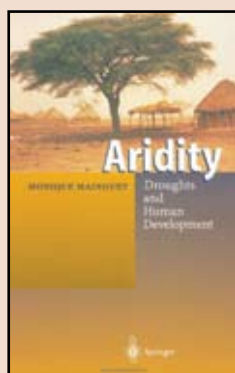
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## Multimedia

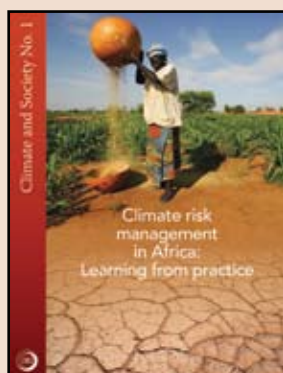
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**DRR10233****Aridity: Droughts and Human Development**

By Monique Mainguet  
Springer, 1999  
302 pages  
ISBN 3540633421

At the confluence of environmental science and the humanities, this book deals with dry ecosystems - aridity, droughts and other influences of climate that have an impact on land productivity and human survival - the societies affected by the characteristics of drylands, and the inventiveness of those living under these conditions. These environments are the root of nomad existence and irrigated agriculture, where the first civilizations depended on surface waters. Changes in the modern epoch and demographic development show that environmental degradation and socio-economic conditions cannot be explained by just one factor. This book tries to answer the question as to whether long-lasting development is possible in such dry environments.

**DRR10270****Climate risk management in Africa: Learning from practice, Climate and Society No. 1**

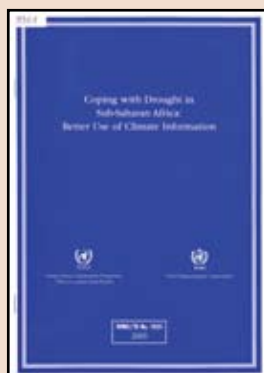
Edited by Molly E. Hellmuth,  
Anne Moorhead, Madeleine Thomson,  
and Jim Williams  
IRI, 2007  
104 pages, ISBN 9780972925235

The inaugural issue, called Climate Risk Management in Africa: Learning from practice, describes current efforts that are helping societies better adapt, and shows that when climate information successfully reaches vulnerable populations, it can be used to improve livelihoods and economies, and even save lives. The report was launched on January 30th during a special session of the 8th African Union Heads-of-State Summit held in Addis Ababa, Ethiopia. It details five examples on how climate risks are being effectively managed in Africa.

**DRR10085****Coping with Drought**

By the Swiss Agency for Development and Cooperation (SDC), 2006  
35 pages

With a view to joining forces with the world's nations and international institutions, the Swiss Agency for Development and Cooperation (SDC) decided to present some of the ways in which it supports rural communities, local organisations, national technical services, research institutions, and networks and platforms specialised in elaborating the kind of innovation that local populations in arid and semi-arid regions need in dealing with increasingly difficult living conditions. This experience - sometimes based on long-term partnerships - illustrates how numerous the possibilities are of improving living conditions in regions that are more or less severely affected by drought.

**DRR9961**

### **Coping with Drought in Sub-Saharan Africa: Better Use of Climate Information**

By the World Meteorological Organization (WMO) and the United Nations Development Programme (UNDP)  
WMO, 2000  
29 pages

Despite Sub-Saharan Africa's natural and human potential to support the livelihood of its people, recurrent droughts, coupled with poor governance, conflicts, and poverty have exposed certain communities to food insecurity. The effects of such disasters may often override past development gains. The drought crisis, as portrayed by the global media, has triggered mainly short-term emergency responses that target symptoms but hardly address root causes. This report captures the results of a workshop held at Kadoma Ranch, in Zimbabwe, from 4-6 October 1999. The workshop focused on the outcome of a survey on accessibility and use of climate information, as well as on recommendations for a programme to address farmers' needs for information on climate and drought.

**DRR10253**

### **Disaster and Development, Volume 1, Number 1, November 2006**

By the National Institute of Disaster Management (NIDM), Government of India, 2006  
204 pages  
ISSN 0973-6700

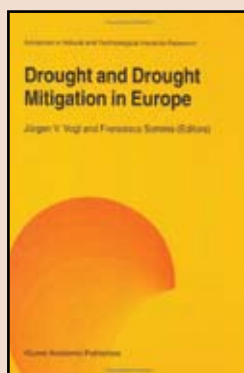
The Journal is purported to provide a forum for the publication of original and innovative works on various facets of disaster management carried out by scientists, researchers and practitioners in the country and abroad. Contents: near-real time agricultural drought assessment using remote sensing products available in public domain.

**DRR8858**

### **Disaster risk reduction: a development concern, a scoping study on links between disaster risk reduction, poverty and development**

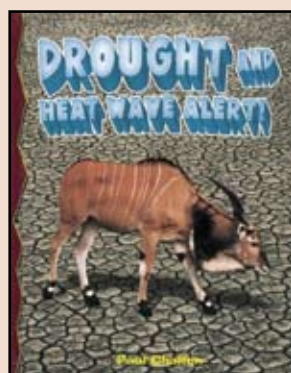
By the United Kingdom's Department for International Development (DFID) Overseas Development Group, 2004  
65 pages, ISBN 1-86192-676-6

This Scoping Study is part of DFID's strategic effort to assess the significance of disaster risk in its development work. It aims to explore evidence on linkages between poverty alleviation, development and disaster risk reduction, and to establish why disaster risk reduction is often not part of development policy and planning. It is aimed primarily at development professionals within DFID and other bilateral donor agencies, and is intended to contribute to the development of a disaster reduction strategy for DFID in the near future. There is convincing evidence that the number and seriousness of disasters is increasing, and that poor countries and poor communities are disproportionately affected. The recorded number of disasters, the number of people they affect and the property losses they cause have risen dramatically each decade since reliable records began in 1960. This conclusion remains valid even though reporting of disasters is incomplete, definitions are inconsistent and the data must be treated with caution.

**DRR10261****Drought and Drought Mitigation in Europe**

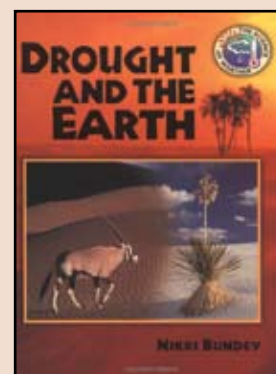
By Jürgen V. Vogt and  
Francesca Somma  
Kluwer Academic Publishers, 2000  
325 pages  
ISBN 0792365895

Drought is one of the major natural hazards, resulting in significant economic, social, and environmental costs. In Europe, water shortage is an important problem in many regions. However, despite the increasing awareness of this hazard, there is no European drought policy and institutional frameworks to cope with drought situations are only weakly developed. This book is dedicated to furthering our understanding of the drought problem in Europe and to discussing policy and management options to mitigate its impacts. It covers aspects from the detection of water stress to the planning of mitigation strategies. The contributions are written by recognised experts in their field and represent a unique collection of papers on the topic. Audience: The book will be of benefit to scientists, managers, and politicians involved in problems related to water management, risk assessment, and spatial planning. Students in Earth Sciences, especially in geography, climatology, hydrology, and agriculture, will find useful material in this collection of papers.

**DRR10235****Drought and Heat Wave Alert!**

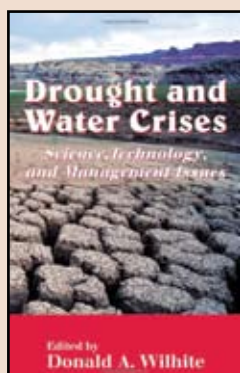
By Paul Challen  
Crabtree Publishing Company, 2005  
32 pages  
ISBN 0778716104

Drought causes the soil to become parched and cracked. This book for children very well illustrated various aspects of drought, dry and dust, forecasting, life of a heat wave. It contains also a glossary.

**DRR10245****Drought and the Earth**

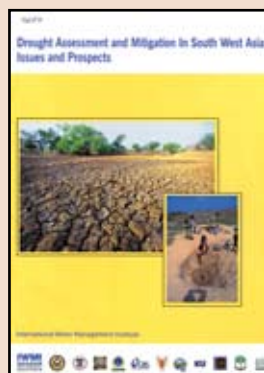
By Nikki Bunday  
Carolrhoda Books, 2001  
32 pages  
ISBN 1575054736

Through observation and easy scientific experiments, young readers can experience how the various kinds of weather impact the earth. Each of six types of weather is profiled in two volumes. The first volume focuses on how the weather affects people, and the second focuses on how it affects the earth. With vivid photographs, a helpful glossary, accurate charts, and informative text, this series will thrill nature lovers and burgeoning scientists! However, if Earth is dry and hot enough, a drought can occur and all life on Earth is then threatened.

**DRR10262****Drought and Water Crises: Science, Technology, and Management Issues**

By Donald A. Wilhite  
Taylor and Francis, 2005  
406 pages  
ISBN 0824727711

Today the world is facing a greater water crisis than ever. Droughts of lesser magnitude are resulting in greater impact. Even in years with normal precipitation, water shortages have become widespread in both developing and developed nations, in humid as well as arid climates. When faced with severe drought, governments become eager to act. Unfortunately, this eagerness usually wanes when precipitation returns to normal. "Drought and Water Crises: Science, Technology, and Management Issues" explains the complexities of drought and the role of science, technology, and management in resolving many of the issues associated with the world's expanding water crises. "Drought and Water Crises" collates considerable information from diverse disciplines with the goal of reducing societal vulnerability to drought. Featuring case studies and stressing new technologies, the book seeks to encourage nations to adopt a more risk-based, proactive policy for water and drought management.

**DRR9684****Drought Assessment and Mitigation in South West Asia: Issues and Prospects**

By the International Water Management Institute (IWMI), 2005  
29 pages, includes a CD-Rom

This report is a summary of the research project "Drought Assessment and Mitigation Potential in South West Asia," implemented by the International Water Management Institute (IWMI) and partner organizations in three countries – India, Pakistan, and Afghanistan. The project aimed to carry out a rapid assessment of the state-of-the-art in drought research in these three countries, to exchange country experiences in drought management, to identify gaps in drought management and suggest preliminary solutions to fill them, and to give recommendations for improved drought mitigation in the region for the future. The project was, therefore, an effort to prepare the groundwork for coordinated longer-term drought management initiatives, which would link local and regional efforts to global networks and improve disaster management planning and operations.

**DRR10277****Drought impact mitigation and prevention in the Limpopo River Basin, A situation analysis: Land and Water Discussion Paper 4**

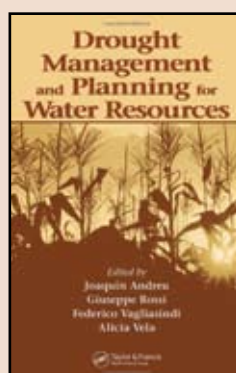
By the Food and Agriculture Organization of the United Nations (FAO), 2004  
160 pages

In southern Africa, more frequent exposure to drought events causes agricultural production to be out of equilibrium with the seasonal conditions, representing an inability on the part of most smallholders to adjust land use to climate variability. Thus, managing for drought is about managing for the risks associated with agriculture, and managing for climate variability must become the norm rather than the exception. Farmers must either increase agricultural productivity or develop alternative sources of income if their livelihoods are to be sustained. The situation analysis presented in this report aims to provide readers with an understanding of the people and their environment in the Limpopo River Basin in southern Africa, covering parts of the four countries of Botswana, Mozambique, South Africa and Zimbabwe. It examines the biophysical, socio-economic and institutional characteristics of the basin and captures details of past programmes and practices. It concludes with a section on lessons learned and proposes options and strategies for sustainable development, with a focus on drought impact mitigation.

**DRR7435****Drought in El Salvador: response and mitigation**

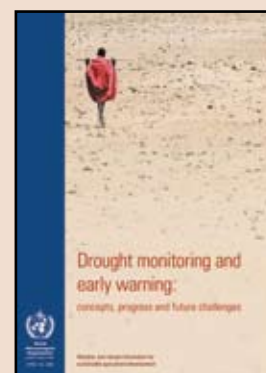
By the International Federation of Red Cross and Red Crescent Society (IFRC), 2003  
2 pages

Irregular rains from 1998 until winter 2001 – particularly in the east of El Salvador – seriously damaged the crops of families on subsistence incomes. Other natural disasters and an economic crisis further aggravated the situation. To reverse the effects of the drought, the Spanish Red Cross, the Salvadorean Red Cross Society and the Regional Delegation created the Drought Response and Mitigation Project with an overall objective: “To increase the capacity of subsistence farmers in the east of the country to better respond to and recuperate from future unfavourable climatic conditions”. This case study looks at the impacts of this programme and the lessons learned from it.

**DRR10232****Drought Management and Planning for Water Resources**

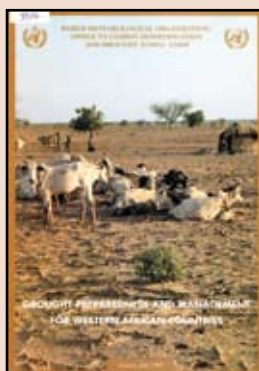
By Joaquin Andreu, Giuseppe Rossi, Federico Vagliasindi, et al.  
CRS Press, Taylor and Francis Group, 2006  
252 pages  
ISBN 1566706726

Droughts and their management are a serious challenge to water resource professionals. While droughts predominate in warm, arid regions, their frequency and severity in more temperate regions with more abundant rainfall have been on the rise. This book provides an essential collection of planning and management tools for minimizing the negative impacts of droughts. Comprehensive and up-to-date, it covers water conservation and reuse, conjunctive use and use of marginal resources, desalination, deep groundwater extraction, optimisation modelling, and decision support systems. The book presents best management practices that maximize efficiency, reliability, and economy while minimizing the potential for adverse effects to the environment and human health. Providing practical methodologies, the chapters discuss how conjunctive water use can increase water availability in the developing world and what types of conjunctive use schemes are the most promising. The book examines the feasibility of a drought watch alert system and the legal and administrative framework required. It also explores the application of the Optimization Models and the Decision Support Systems to the study of different water management alternatives under drought conditions.

**DRR10269****Drought Monitoring and Early Warning: Concepts, Progress and Future Challenges**

By the World Meteorological Organization (WMO), 2006  
24 pages  
ISBN 9263110069

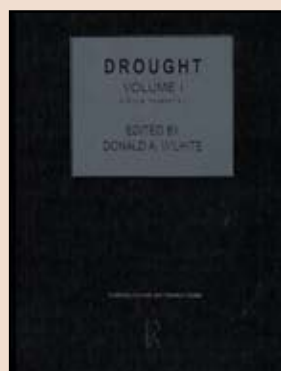
As part of its implementation activities for the International Year of Deserts and Desertification, WMO has prepared this brochure to explain the various concepts and challenges of drought monitoring and early warning systems. This brochure also details the considerable progress that has been made on these issues in some drought-prone countries by highlighting several case studies from around the world.

**DRR9974**

### **Drought Preparedness and Management for Western African Countries**

By the World Meteorological Organization (WMO) and the United Nations Development Programme (UNDP), 1997  
214 pages

The first part of the workshop was organized in four scientific sessions on the following: Drought monitoring; Prediction and early warning; Mitigation of the effects of drought, drought contingency, responses and planning; and Research. The outcome of these sessions is given in chapters 1 to 4. The second part includes discussions of the experience in individual member countries on drought preparedness and management, followed by group discussions to develop conclusions and recommendations. These are summarized in the last three chapters of the proceedings.

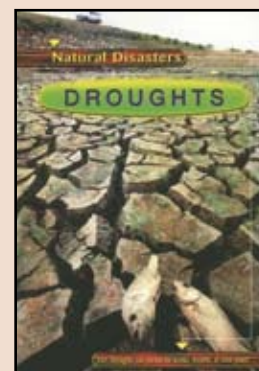
**DRR7259-7260**

### **Drought, a Global Assessment Volume I and Volume II**

Edited by Donald A. Wilhite  
Routledge, 2000  
xxvi-396 pages (Vol. I),  
xii-304 pages (Vol. II)  
ISBN 0-415-16833-3

Drought is the most complex of all natural hazards. Resulting in serious economic, social and environmental costs and losses in both developed and developing countries, drought has severely affected most countries in recent years, and on multiple occasions in many cases. Drought risks are escalating in response to many factors, including the increasing and shifting population that leads to expanding pressure on water and other natural resources.

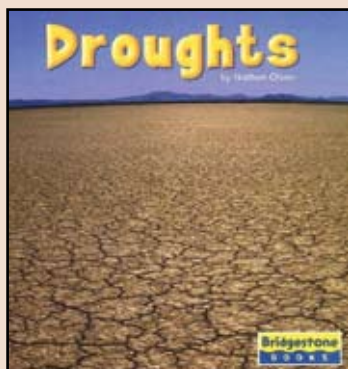
The overview chapters and case studies included in this book provide information to scientists, policy makers, and planners that, if implemented, can reduce the devastation of drought through improved prediction and monitoring techniques, mitigation programs and policies, and contingency planning. The completion of the International Decade for Natural Disaster Reduction provided a unique opportunity to implement this new paradigm for drought management in the 21st Century. The goal of this book is to provide the scientific and policy community with information in the form of new technologies and methodologies, as well as lessons learned, that will help nations define a new paradigm for drought planning and management in the 21st Century.

**DRR10246**

### **Drought: Natural Disasters**

By Anne Ylvisaker  
Capstone Press, 2003  
48 pages  
ISBN 0736849114

The book is an introduction to the phenomenon of drought. The topics covered include why droughts happen, the effects they have, descriptions of some famous droughts, and advice on how to plan for drought. The book is well illustrated with pictures and diagrams. A list of resources is included at the end, with further reading, useful addresses, and internet sites.

**DRR10244****Droughts**

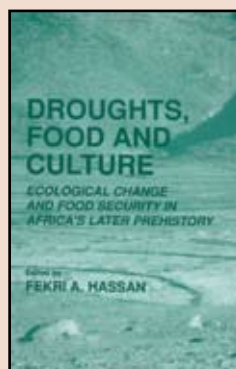
By Nathan Olson

Capstone Press, 2006

24 pages

ISBN 0736861513

A brief introduction to droughts, including what they are, what they impact, and types of droughts.

**DRR10251****Droughts, Food and Culture:  
Ecological Change and Food  
Security in Africa's Later Prehistory**

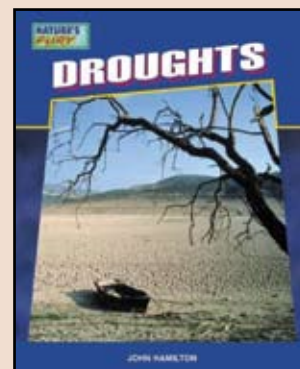
By Fekri A. Hassan

Kluwer Academic/Plenum Publishers,  
2002

347 pages

ISBN 0306467550

Recent droughts in Africa and elsewhere in the world, from China to Peru, have serious implications for food security and grave consequences for local and international politics. The issues do not just concern the plight of African peoples, but also our global ecological future. Global climatic changes become manifest initially in regions that are marginal or unstable. Africa's Sahel zone is one of the most sensitive climatic regions in the world and the events that have gripped that region beginning in the 1970's were the first indicator of a significant shift in global climatic conditions. This work aims to bring archaeology with the domain on contemporary human affairs and to forge a new methodology for coping with environmental problems from an archaeological perspective. Using the later prehistory of Africa as a comparison, the utility of this methodological strategy in interpreting culture change and assessing long-term response to current, global climatic fluctuations is examined and understood.

**DRR9899****Droughts: Nature's Fury**

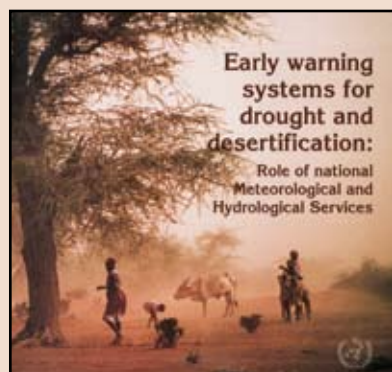
By John Hamilton

ABDO Publishing Company, 2005

32 pages

ISBN 1596793295

Have you ever been inside a tornado? Heard a blizzard roar by your window, or an avalanche thunder down a mountainside? Experienced a flood? Seen rivers of fire from a volcano, or a brilliant flash of a lightning strike? Have you ever felt an earthquake shake, or taken cover from a hurricane's wrath? The Nature's Fury series is an inside look at some of nature's most violent disasters. Where do these events happen? How can they be predicted? What happens after a disaster? Famous storms of the past, up-to-date forecasting technologies, and how to stay safe are included in each exciting book. Full-color photos illustrate the effects of these awesome events.

**DRR4110**

**Early warning systems for drought and desertification: Role of national meteorological and hydrological services**

By the World Meteorological Organization (WMO), 1999  
12 pages  
ISBN 92-63-10906-0

This brochure describes the growing menace of drought and desertification. It highlights the importance of early warning systems, giving guiding principles for effective early warning. Some systems in use by national meteorological and hydrological services are described.

**DRR4110**

**Early Warning Systems for Drought Preparedness and Drought Management**

By Donald A. Wilhite, M.V.K. Sivakumar and Deborah A. Wood  
World Meteorological Organization (WMO), 2000, 185 pages

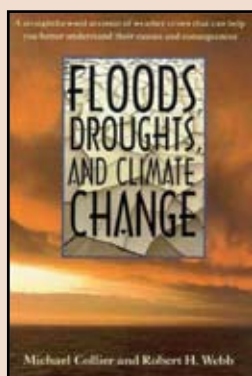
Proceedings of an Expert Group Meeting, September 5-7, 2000, Lisbon, Portugal.  
Effective drought early warning systems are an integral part of efforts worldwide to improve drought preparedness. Timely and reliable data and information must be the cornerstone of effective drought policies and plans. In pursuit of the goal of improving the effectiveness of drought early warning systems, experts met in Lisbon, Portugal from 5-7 September 2000. The proceedings from this Expert Group Meeting are contained in this publication.

**DRR7437**

**Ethiopian droughts: reducing the risk to livelihoods through cash transfers**

By the International Federation of Red Cross and Red Crescent Society (IFRC), 2003  
2 pages

In October 2000, the Ethiopian Red Cross Society (ERCS) initiated a programme to reduce vulnerability to drought. It distributed cash totalling US\$760,000 to 62,000 people in South Wollo, Ethiopia. In return, recipients had to work on 'Employment Generation Schemes' (EGS), which focused on road construction and environmental protection. This case study looks at the impacts of this programme and the lessons learned from it. It was found that distributing cash instead of food allowed the ERCS to help those affected by drought to protect their livelihoods.



**DRR10243**

**Floods, Droughts, and Climate Change**

By Michael Collier and Robert H. Webb  
University of Arizona Press, 2002  
153 pages  
ISBN 0816522502

The authors discuss the broadest influences on climate, such as incoming solar radiation and changes in the earth's orbit and axial tilt. Another fundamental of climate, the position of continents, which, along with prevailing winds, establishes the pattern of ocean currents, receives its synopsis, as does the centrality of ocean currents to the global distribution of heat--when they change, so does climate. The authors also address the most spectacular example of climate change, the El Nino-Southern Oscillation, while noting comparable rhythms named the Pacific Decadal Oscillation and the North Atlantic Oscillation. Packed with illustrations and balanced between general and specific information.



**DRR10278**

**Hydrological Drought, a Study across Europe: Dissertation zur Vergabe des Doktorgrades der Geowissenschaftlichen Fakultät der Albert-Ludwigs-Universität Freiburg i. Br.**

By Kerstin Stahl  
Institut für Hydrologie der Universität Freiburg, 2001, 122 pages

Aiming at a better understanding of drought causes and processes, the present study investigated hydrological drought characteristics in space and time and their large-scale atmospheric driving forces in Europe. On the basis of daily streamflow data of more than 600 European rivers for 1962-1990, two types of events were defined: streamflow drought, defined by a seasonally constant threshold and streamflow deficiency, defined by a new varying threshold level method. By the means of cluster analysis, the 602 streamflow deficiency series across Europe were classified into 19 regions. A regional streamflow deficiency index (RDI) provided a parameter describing how strong a region is affected by streamflow deficiency. This index allowed a first assessment of the space-time characteristics of the major dry spells in Europe in 1962-90. Regions such as Spain, SE-UK, S-Scandinavia and N-Germany show a tendency to persistent dry spells while the index fluctuates more strongly in other regions. Anomalies of atmospheric circulation patterns (Europäische Großwetterlagen) during severe regional streamflow deficit were analysed. The grouped circulation patterns (CP) provide an adequate input for a new model to predict the regional streamflow deficiency index.

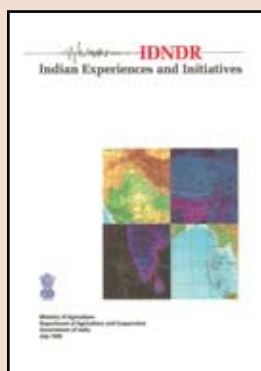


**DRR9387**

**Hydrological Drought: Processes and Estimation Methods for Streamflow and Groundwater, Developments in Water Science, 48**

By Lena M. Tallaksen and Henny A.J. Van Lanen  
Elsevier, 2004  
579 pages, ISBN 0444517685

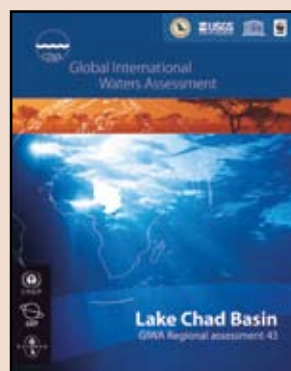
Hydrological drought - processes and estimation methods for streamflow and groundwater is a textbook for university students, practising hydrologists, lecturers and researchers who are engaged in the analysis of hydrological drought. The aim is to provide knowledge and understanding of the drought phenomenon and give the reader a comprehensive overview of methods and tools to estimate and manage hydrological drought. It includes a qualitative conceptual understanding of drought features and processes, a detailed presentation of estimation methods and tools, practical examples and key aspects of operational practice. Basic requirements are introductory courses in hydrology and statistics.

**DRR505****Indian Experiences and Initiatives**

By the Ministry of Agriculture and Cooperation, Government of India, 1999

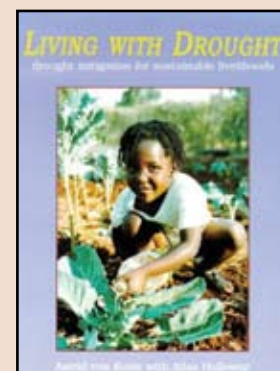
23 pages

India is a large country and has had more than its share of major natural hazards like drought, floods, earthquakes and cyclones throughout its history of civilization. The ten years period of the International Decade for Natural Disaster Reduction (IDNDR), therefore, came as a good opportunity for the country to look back at what had been done in the past, take new initiatives during the Decade, and plan ahead for reducing the impact of the natural hazards on its people, settlements and economic development. Various initiatives are being taken by the Government of India with active and ongoing collaboration of leading research institutions, autonomous bodies, universities, policy analysis agencies, non-governmental organisations, bilateral aid agencies, multilateral financial institution, and most importantly the community based organisations.

**DRR7736****Lake Chad Basin**

By the Global International Waters Assessment (GIWA)  
United Nations Environment Programme (UNEP), 2004  
xxiii-129 pages

This report presents the assessment of the Lake Chad Basin, which is located in one of the poorest and most drought prone regions in the World. Climatic variability and poor water governance has threatened the ecological and socio-economic integrity of the region. The past and present status and future prospects are discussed, and the trans-boundary issues traced back to their root causes. Policy options have been recommended that aim to address these driving issues and reverse the environmental degradation trends witnessed in the region over the past 30 years.

**DRR1410****Living with Drought: drought mitigation for sustainable livelihoods**

By Astrid Von Kotze and Ailsa Holloway  
D. Philip/Intermediate Technology Publications, 1999  
206 pages  
ISBN 1853394815

Living with Drought reminds us that we must relearn how to live with the reality of drought. It is about redefining drought risk as an integral part of our lives and livelihoods rather than seeing it as a rare or even disastrous event. It is also an urgent call to acknowledge the collective wisdom of our rural communities in defining drought policy and practice. These materials constitute an innovative effort to move the practice of drought mitigation beyond 'classic disaster management' towards sustainable development and practice. Moreover, the approach itself is one which is not only educational but is accessible and deliberately participatory.

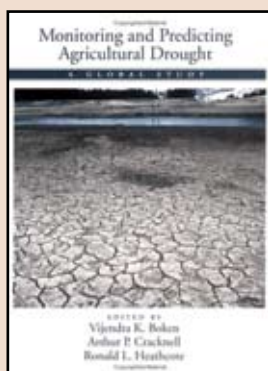


**DRR10276**

**Making Progress on Environmental Sustainability: Lessons and Recommendations from a review of over 150 MDG Country Reports**

By the United Nations Development Programme (UNDP), 2006  
86 pages

Environmental sustainability shows weak progress towards the targets and insufficient monitoring capacity and systems. While the Millennium Development Goals (MDGs) framework offers advantages in being managed as a group of interrelated targets, Millennium Development Goal 7 on environmental sustainability warrants particular attention given the weaknesses both in monitoring and in overall progress.

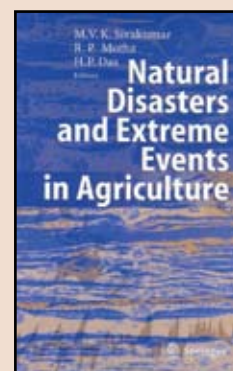


**DRR9930**

**Monitoring and Predicting Agricultural Drought: A global study**

By Vijendra K. Boken,  
Arthur P. Cracknell,  
Ronald H. Heathcote, and the World Meteorological Organization (WMO)  
Oxford University Press, 2005  
472 pages, ISBN 019516234X

Accurate monitoring and prediction of agricultural droughts helps manage them, minimize losses attributed to them, and mitigate their extreme forms, which some countries face even today. This book presents the basic concepts of agricultural drought, various remote sensing techniques used to monitor them, and efforts by international organizations to check them.

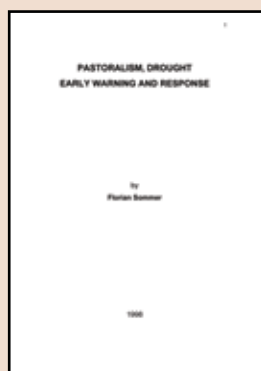


**DRR9950**

**Natural Disasters and Extreme Events in Agriculture: Impacts and Mitigation**

By M.V.K. Sivakumar,  
Raymond P. Motha, and  
Haripada P. Das  
Springer, 2005  
367 pages, ISBN 3540224904

Agricultural production is highly dependent on weather, climate and water availability and is adversely affected by the weather and climate-related disasters. Droughts and natural disasters such as floods can result in crop failures, food insecurity, famine, loss of property and life, mass migration and negative national economic growth. It may not be possible to prevent the occurrence of these natural disasters, but the resultant disastrous effects can be reduced considerably through proper planning and effective preparation. Vulnerability associated with the hazards of natural disasters can be controlled to some extent by accurate and timely prediction and by taking counter-measures to reduce their impacts on agriculture. This book based on an expert meeting held in Beijing, China, should be of interest to all organizations involved in disasters reduction and mitigation of extreme events.

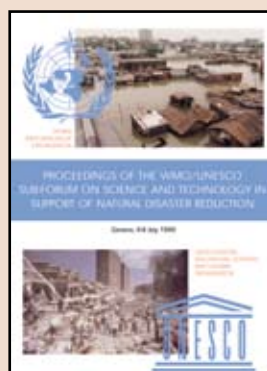
**DRR4205****Pastoralism, Drought, Early Warning and Response**

By Florian Sommer

Overseas Development Institute (ODI), 1998

43 pages

The majority of current Early Warning Systems (EWS) are not capable of detecting drought stress on pastoralists nor capable of providing adequate information for intervention to support pastoralists during a drought. This paper will identify the reasons for this failure and outline implications to make the early warning and response process more appropriate for the pastoral sector. A theoretical framework on 'entitlements' will be used for this purpose. EWS need to put more emphasis on monitoring 'determinants of entitlements', such as markets, assets, rights and opportunities to change livelihoods, instead of monitoring only rainfall, vegetation and crop production. Decentralised early warning and response capacities have many more advantages for this purpose than centralised ones.

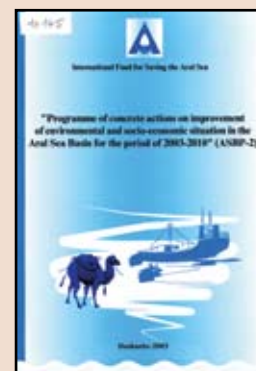
**DRR724****Proceedings of the WMO/UNESCO Sub-Forum on Science and Technology in Support of Natural Disaster Reduction, Geneva, 6-8 July 1999**

By WMO and UNESCO

WMO, 1999

174 pages

The Sub-Forum on Science and Technology in Support of Natural Disaster Reduction was jointly organized by WMO and UNESCO. It formed a major component of the 1999 IDNDR Programme Forum "Partnerships for a Safer World in the 21st Century", a keynote event of the concluding phase of the International Decade for Natural Disaster Reduction. The Sub-Forum's objectives were to review the current state of science and technology in support of natural disaster reduction, to identify needs for additional research and capacity building efforts, and to consider ways to further enhance science and technology support for global natural disaster reduction efforts during the 21st century. The lectures included the following topics: tropical cyclones, extratropical storms, severe convective storms and tornadoes, drought, extreme temperatures, dust and sand storms, forest and bush fires, floods, avalanches, landslides, seismic risk and earthquakes, tsunami and coastal storm surges, and volcanoes.

**DRR10145****Programme of concrete actions on improvement of environmental and socio-economic situation in the Aral Sea Basin for the period of 2003-2010 (ASBP-2)**

By the International Fund for Saving the Aral Sea (IFAS), 2003

149 pages

The basic data of the Aral Sea crisis, the review and the analysis of the realized projects and programs on the countries of region for the period 1994-2003 are reflected in this book. There is given the analysis of a present situation of environmental and social and economic conditions in the region of the Aral Sea Basin and priority directions on their improvement in the ASBP-2 for the period 2003-2010. There are all 58 projects on 14 priority directions on improvement of environmental and social and economic situations of the Aral Sea Basin for the period of 2003-2010 with definition of term of their execution, an estimated cost of their realization and the basic executors of projects are resulted in detail in the Appendix.

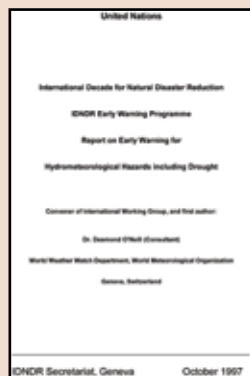


**DRR1287**

**Reducing the social and economic impact of floods and drought in Nigeria**

By the National Emergency Relief Agency (NERA), Government of Nigeria, 1997  
15 pages

Public lecture delivered by Professor K.O.Ologe, University of Abuja, Nigeria, on the occasion of the World Disaster Reduction Day, 8th October 1997, under the auspices of the National Emergency Relief Agency (NERA).



**DRR4750**

**Report on Early Warning for Hydrometeorological Hazards including Drought**

By Desmond O'Neill  
IDNDR, 1997  
31 pages

This report of the Working Group on Early Warning Capabilities for Geological Hazards summarizes global experience and reviews the current state of knowledge and practice on the subject.



**DRR8553**

**The Basics of Drought Planning: A 10-Step Process**

By Donald A. Wilhite, M. Hayne, Cody Knutson, et al.  
National Drought Mitigation Center (NDMC), University of Nebraska, Lincoln, Nebraska, 1999  
15 pages

The National Drought Mitigation Center (NDMC) has developed a guide to drought planning titled The Basics of Drought Planning: A 10-Step Process. This NDMC white paper is a good starting point for those new to drought planning. One of the biggest challenges in successful drought planning is getting all the right groups of people to communicate effectively with one another.

**DRR4030**

### **The Drought and Humanitarian Crisis in Central and Southwest Asia: A Climate Perspective**

By the International Research Institute for Climate Prediction (IRI), 2001  
20 pages

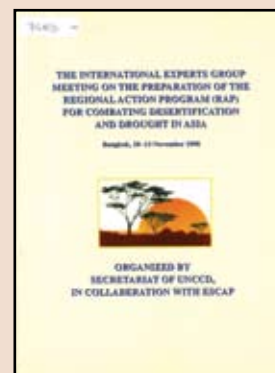
A persistent multi-year drought in Central and Southwest Asia has affected close to 60 million people as of November 2001. Chronic political instability in many parts of this region and the recent military action in Afghanistan have further complicated the situation. This report provides a climatic perspective on the severity and spatial extent of the ongoing drought and its social and economic impacts. The target audience for this report includes national, regional and international policymakers, humanitarian relief agencies, members of the research community as well as others with a general interest in Central and Southwest Asia and the causes and consequences of the persistent drought in the region. The report discusses underlying climatic mechanisms that might explain the causes for the persistent drought, and presents seasonal climate forecasts and their implications for the region.

**DRR7564**

### **The Drought of 1987, Response and Management: Volume 1, National Efforts**

By D. C. Misra and the Department of Agriculture and Co-operation, Ministry of Agriculture, Government of India  
Government of India Press, 1990  
195 pages

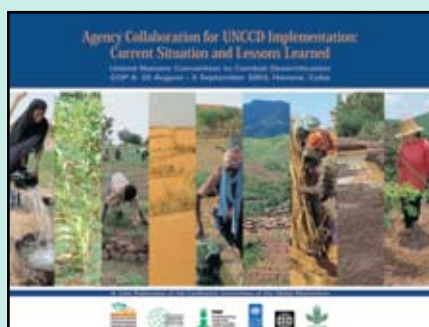
The Indian experience in managing the drought of 1987, regarded as one of the worst the country faced in the century, evoked appreciation both in India and abroad. A systematic attempt was made by the Department of Agriculture and Cooperation to capture the salient features of the various relief measures undertaken and the several administrative and policy initiatives evolved during 1987-88. This document is the result of such an effort.

**DRR7583**

### **The International Experts Group Meeting on the preparation of the Regional Action Program (RAP) for Combating Desertification and Drought in Asia, Bangkok, 10-13 November 1998**

By UNCCD, 1999  
124 pages

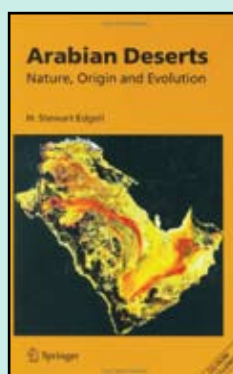
This booklet recorded the proceedings of the Bangkok Meeting, remarks by representatives of major international organizations and donor governments, as well as the main documents presented. It is produced in the hope that it can serve the region as a reference document for the planned activities related to the implementation of the CCD.

**DRR10264**

### Agency Collaboration for UNCCD Implementation, Current Situation and Lessons Learned

By UNDP/IFAD/CGIAR/UNCCD/the Global Mechanism and the World Bank  
24 pages

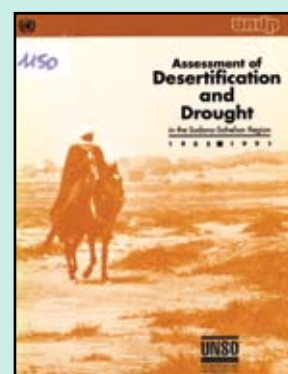
This joint publication of the Facilitation Committee of the Global Mechanism for the UNCCD CoP-6, (25 Aug - 5 Sept 2003, Havana, Cuba), presents short briefs by Committee members highlighting their commitment to CCD process and its implementation. It concludes by providing some lessons learnt from collaboration between members through a matrix of successful collaborative efforts to date.

**DRR10227**

### Arabian Deserts: Nature, Origin and Evolution

By H. Stewart Edgell  
Springer, 2006  
592 pages, includes a CD-ROM  
ISBN 1402039697

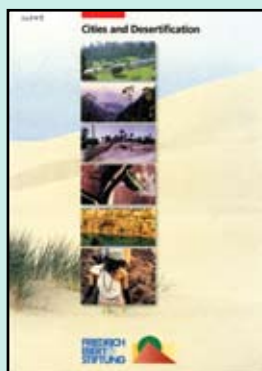
Arabian Deserts provides a comprehensive coverage of all the deserts of Arabia largely based on the author's experience in Arabia over the last fifty years. It deals with every type of desert found there, including those formed by great sand seas, dune fields, evaporites, clay pans, stony plains, volcanic flows, desert plateaux and mountains, deltas, and desert islands. Distinctive landforms of Arabia deserts are described, together with their geological setting and the influence of climates both past and present. The six great sand seas of Arabia are emphasized since Ar Rub' al Khali Desert forms the world's largest continuous sand desert. Sources, sedimentology, and the mechanisms of formation of these great sand deserts are examined. Distinctive sand dunes and interdunes types found in Arabia are described, classified and explained. Fluvial processes are discussed, as well as the many oases, and lake deposits formed in milder, more humid intervals. Extensive areas of black, basaltic, volcanic desert are described covering three times the area of Belgium. Ecology of Arabia and human influence on desertification are outlined.

**DRR1150**

### Assessment of Desertification and Drought in the Sudano-Sahelian Region, 1985-1991

By the United Nations Sudano-Sahelian Office (UNSO) and the United Nations Development Programme (UNDP)  
UNDP, 1992  
102 pages

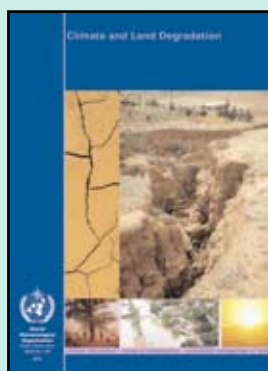
The dryland environments of the Sudano-Sahelian region present formidable problems to those who seek sustainable development. Rainfall is limited and irregular, and water is a severe constraint on production. These drylands face three main environmental predicaments: unpredictable and at times severe drought; desiccation, or aridification due to chronic drought, sometimes extending over decades; and dryland degradation, or persistent land degradation brought about mainly by inappropriate land use.

**DRR10249**

**Cities and Desertification: World Forum of Mayors, Bonn, 11 - 12 June 1999, Six Case Studies from Asia, Africa and Latin America**

By Friedrich-Ebert-Stiftung, 2000  
143 pages

On the invitation of the Mayor of Bonn, the Second World Forum of Mayors on Cities and Desertification took place in Bonn on June 11th and 12th, 1999. Desertification is assuming ever more threatening proportions worldwide; with a view to controlling and resolving the resulting problems, cities and municipal authorities are desperately looking for support on the basis of an exchange of experience and cooperation. The United Nations have taken an interest in the subject and the UNCCD-Secretariat with its head office in Bonn was one of the driving forces behind this special-subject conference. The Friedrich Ebert Stiftung supported this Forum in various ways, including six case studies in English, French and Spanish which represented 2 countries of Asia, Africa and Latin America respectively. The six studies still describe the prevailing situation and have therefore been collected in this brochure in English in order to make them available to a larger public.

**DRR9943**

**Climate and Land Degradation**

By the World Meteorological Organization (WMO), 2005  
32 pages  
ISBN 92-63-10989-3

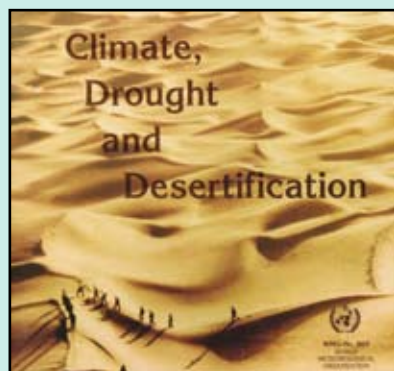
Over 250 million people are directly affected by desertification. In addition, some one billion people in over 100 countries are at risk. These people include many of the world's poorest, most marginalized, and politically weak citizens. Hence combating desertification is an urgent priority in global efforts to ensure food security and the livelihoods of millions of people who inhabit the drylands of the world.

**DRR9386**

**Climate Change and Africa**

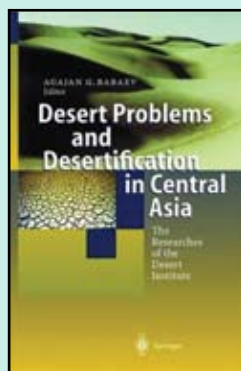
By Pak Sum Low, the International Strategy for Disaster Reduction (ISDR), the World Meteorological Organization (WMO), the Food and Agriculture Organization, United Nations (FAO), et al. Cambridge University Press, 2005  
369 pages

At the beginning of the twenty-first century, no environmental issue is of such truly global magnitude as the issue of climate change. The poorer, developing countries are the least equipped to adapt to the potential effects of climate change, although most of them have played an insignificant role in causing it; African countries are amongst the poorest of the developing countries. This book presents the issues of most relevance to Africa, such as past and present climate, desertification, biomass burning and its implications for atmospheric chemistry and climate, energy generation, sea-level rise, ENSO-induced drought and flood, adaptation, disaster risk reduction, the UNFCCC and Kyoto Protocol (especially the Clean Development Mechanism), capacity building, and sustainable development. It provides a comprehensive and up-to-date review of these and many other issues, with chapters by the leading experts from a range of disciplines. Climate Change and Africa will prove an invaluable reference for all researchers and policy makers with an interest in climate change and Africa.

**DRR4094****Climate, Drought and Desertification**

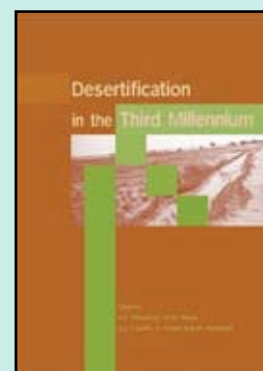
World Meteorological Organization (WMO), 1997  
12 pages

The United Nations Convention to Combat Desertification (UNCCD) is a major outcome of the Earth Summit held in Rio de Janeiro in June 1992. Following the signing of the Convention in Paris in October 1994, this innovative document came into force on 26 December 1996. The ratification of the Convention by 112 countries, some of which are not directly affected by desertification, signifies the importance accorded by the international community to this global problem.

**DRR10259****Desert Problems and Desertification in Central Asia: The Researches of the Desert Institute**

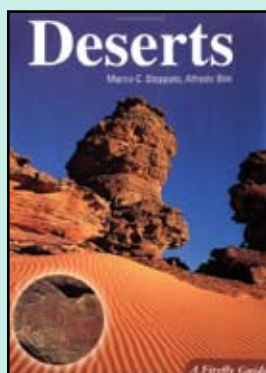
By Agadzhan G. Babaev  
Springer, 1999  
293 pages  
ISBN 3540656472

Since 1962 the Desert Institute of the former Academy of Science of the USSR has been conducting research work in the arid and semi-arid zones of central Asia. This outstanding experience in desert and desertification problems, and the possibilities of sustainable land use under difficult environmental conditions is summarized here. The book also gives an overview of the Institute's consulting work within the framework of international projects. This is the first publication allowing readers outside the Russian-speaking world to obtain concise information about the specific constraints and development possibilities of central Asian drylands. Designed to accord the international donor community and a wide expert audience access to the experience gathered in Central Asia under the auspices of the Ashgabat Desert Institute in researching and tackling the problems of arid areas. Collates for the first time the stored of experience amassed by the Desert Institute and makes it available to an international audience.

**DRR10250****Desertification in the Third Millennium: Proceedings of an International Conference, Dubai, 12-15 February 2000**

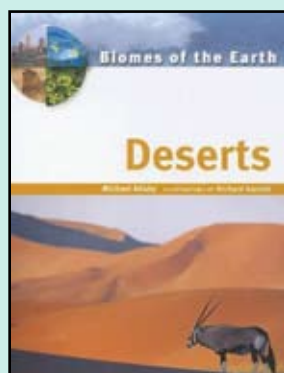
By A. S. Alsharhan, W. W. Wood, A. S. Goudie, et al.  
A.A. Balkema, 2003  
489 pages, ISBN 9058095711

The Desertification Conference entitled "Toward Better Management of Arid and Semi-Arid Lands in the Twenty-First Century" was convened in Dubai, UAE, from 12-16 February 2000, under the auspices of the Zayed International Prize for the Environment. This volume contains a representative selection of 53 of the original 125 presentations given at the conference. The papers cover the following themes: desertification and global climatic change; biodiversity in mangrove and halophyte ecosystems; the effect of wind and water on soil erosion and sand creep; land degradation and management in arid, semi-arid, and dry sub-arid areas; policies and cost/ benefits for combating land degradation and desertification; application of remote sensing and Geographic Information System (GIS) to desertification studies; groundwater resources in desert areas.

**DRR10257****Deserts: A Firefly Guide**

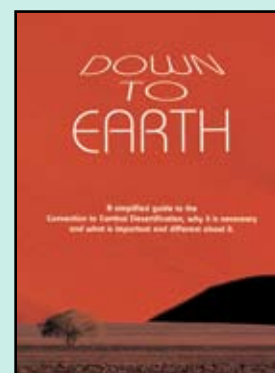
By Marco C. Stoppato and Alfredo Bini  
Firefly Books, 2003  
256 pages  
ISBN 1552976696

Deserts is an abundantly illustrated handbook that examines the fascinating eco-systems of 49 major deserts. Studying the history of deserts improves our understanding of the climatic conditions that create hostile environments. Deserts are located on every continent -- including Antarctica. The book covers each with concise descriptions and quick-reference symbols and charts that display vital statistics such as average rainfall and temperatures, and expanse.

**DRR10255****Deserts: Biomes of the Earth**

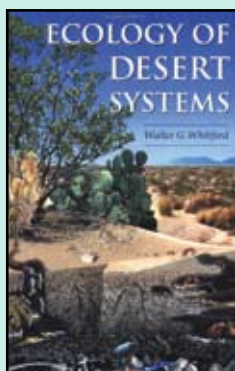
By Michael Allaby and Richard Garratt  
Chelsea House, 2006  
254 pages  
ISBN 0816053200

Life in the desert holds a range of biological adaptations. "Deserts" presents the intricacies of this seemingly barren and harsh ecosystem, explaining how and why deserts form, where they are found on Earth, and their basic characteristics. Chapter-by-chapter coverage describes the fauna of the desert, the history of these habitats, the relationship of humanity to the deserts, the climate of desert areas, subtropical and polar deserts, and more. "Deserts" concludes with chapters on desert industries and threats to this ecosystem, including climate change, the spreading of deserts, overgrazing, and water depletion. New developments for managing the deserts are also discussed.

**DRR7581****Down to Earth: a simplified guide to the Convention to Combat Desertification, why it is necessary and what is important and different about it**

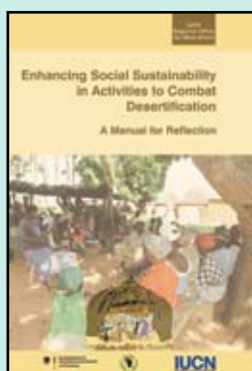
By the United Nations Convention to Combat Desertification (UNCCD), 1995  
36 pages

The international community pressed for a treaty to tackle the growing physical and human crisis of desertification at the 1992 Earth Summit in Rio de Janeiro. The Convention to Combat Desertification, the first legally binding international agreement on the problem, was agreed on in 1994. It promotes a bottom-up approach that starts with the people actually affected by the crisis and replaces the concept of aid with one of partnership. This publication provides a simplified and accessible guide to this important agreement.

**DRR10258****Ecology of Desert Systems**

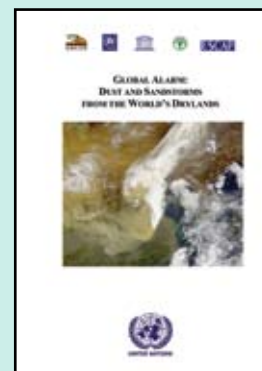
By Walter G. Whitford  
Academic Press, 2002  
343 pages  
ISBN 0127472614

Conventional wisdom considers deserts stark, harsh regions that support few living things. Most people also believe that water alone makes the desert bloom. *Ecology of Desert Systems* challenges these conventional views. This volume explores a broad range of topics of interest to ecosystem, population, community, and physiological ecologists. Climate, weather patterns, geomorphology, and wind and water processes are examined as variables that affect the distribution of biota through fundamental ecosystem processes. Descriptions of morphological, behavioral, and physiological adaptations of desert biota illuminate, through the lens of patch dynamics, principles for understanding observed patterns of primary production, nutrient cycling, and the effects of consumers. Desertification, and the techniques for monitoring and quantifying it, is examined within the framework of desert ecosystem patterns and processes.

**DRR10247****Enhancing Social Sustainability in Activities to Combat Desertification: A Manual for Reflection**

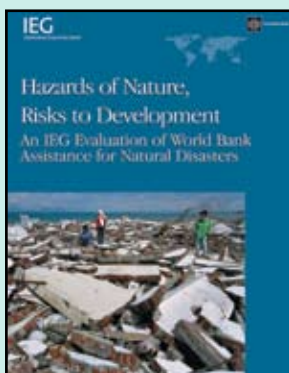
By the World Conservation Union (IUCN), 2004  
136 pages  
ISBN 2-8317-0769-2

In West Africa, desertification threatens the living conditions of over 250 million people. The results of projects to combat desertification undertaken over the last 40 years or so have been mixed. One reason for this is probably that technical or technological approaches have taken precedence over the sociological approach. This manual is intended to bring the reader back to the social dimensions of the fight against desertification, focusing on sustainable management of natural resources in arid, semi-arid and sub-humid environments.

**DRR9859****Global Alarm: Dust and Sandstorms from the World's Drylands**

By the United Nations Convention to Combat Desertification (UNCCD)  
United Nations, 2002  
346 pages  
ISBN 92-1-120114-4

After a devastating dust storm that swept across Northern China in 2000, there was much interest in examining and analyzing experiences with dust storm mitigation, prevention, forecasting and control. What has emerged from the writings collected in this publication is that sand and dust storms are both a symptom and cause of desertification. They are often an early warning that things are going wrong. Combating these storms demands political, social, biological, economic, educational and engineering approaches as well as the physical effort that has dominated efforts in the past. This publication provides an analysis of the factors contributing to dust and sandstorms and also provides examples of how the menace can be brought under control through a series of measures, ranging from mechanical interventions and bio-remediation to policy change and legislative back up.

**DRR10279**

**Hazards of nature, risks to development: An IEG Evaluation of World Bank Assistance for Natural Disasters**

By the World Bank, 2006  
181 pages  
ISBN 0821366505

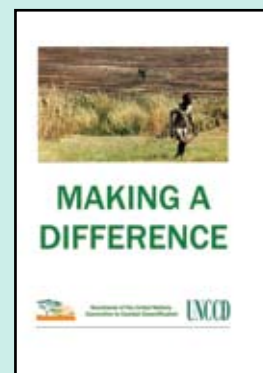
This evaluation of the World Bank's experience with natural disasters was done by the Independent Evaluation Group-World Bank at the request of the Bank's Board of Executive Directors. Natural disasters are affecting development in many countries, setting back hard-won development gains. This report is a comprehensive review of disaster preparedness and response. The report calls for new thinking that integrates predictable disaster risks into development programs. It concludes that it is possible to anticipate where many natural disasters will strike, yet expresses concerns that the World Bank's disaster assistance efforts are underutilizing these vital lifesaving forecasts.

**DRR9922**

**Increasing Climate Variability and Change: Reducing the vulnerability of agriculture and forestry**

By James Salinger, M.V.K. Sivakumar, and Raymond P. Motha  
Springer, 2005  
362 pages  
ISBN 1402033540

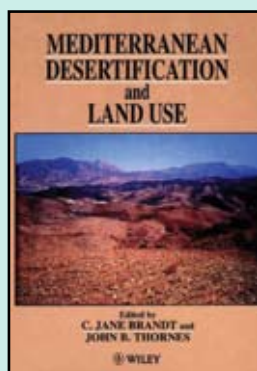
One of the major challenges facing humankind is to provide an equitable standard of living for this and future generations: adequate food, water and energy, safe shelter and a healthy environment. Human-induced climate change, and increasing climate variability, as well as other global environmental issues such as land degradation and loss of biological diversity, threaten our ability to meet these basic human needs. This requires the global community to give urgent attention to addressing key issues. The range of adaptation options for agriculture and forestry is generally increasing because of technological advances, thus reducing the vulnerability of these systems to climate change. However, some regions of the world, particularly developing countries, have limited access to these technologies. Decreasing the vulnerability of agriculture and forestry to increasing climatic variability will go a long way towards reducing the long-term vulnerability to climate change. This book represents a major step in assessing the science of climate variability and change, and their likely impacts on agriculture and forestry, with clear adaptation strategies required to reduce their vulnerability.

**DRR10280**

**Making a difference**

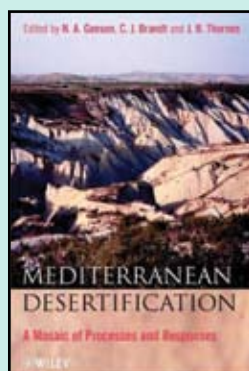
By the United Nations Convention to Combat Desertification (UNCCD), 2002  
54 pages

The Convention has been particularly successful in securing the participation of local communities in the decision-making and implementation processes, without which enduring and effective changes needed to fight land degradation and desertification would not be possible. This publication is a collection of stories that good examples of how local communities in different parts of the world have each sought to tackle the problem of land degradation and desertification in partnership with non-governmental organizations, international organizations and other institutions. While some have just started to fight the problem, others are collecting and enjoying the fruits of their successful projects, ready and eager to replicate their experiences in other communities.

**DRR10237****Mediterranean Desertification and Land Use**

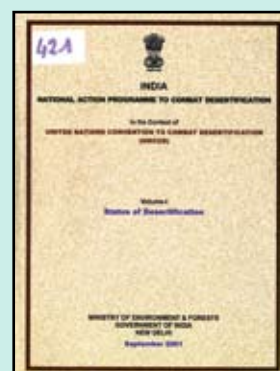
By Jane Brandt and John B. Thornes  
John Wiley and Sons, 1996  
554 pages  
ISBN 0471942502

Desertification is land degradation due to climatic and anthropogenic causes where land includes soil, water and the biological productive capacity. This has become a major environmental, economic and political issue in Mediterranean countries. In order to address the problem in the European countries of the Mediterranean, the European Commission established a number of major research projects under its DGXII Environment and Climate Programme MEDALUS (Mediterranean Desertification and Land Use). This book describes the results from the first phase of the project, dealing with local physical, socio-economic and political controls on desertification. In particular the book concentrates on the models developed, calibrated and validated, the field investigations into biological, hydrological and erosional processes at the seven main sites, and provides an introduction to the problems associated with global warming in the Mediterranean context. GIS and remote sensing are an integral part of the investigation and the results are described and discussed in detail.

**DRR10240****Mediterranean Desertification: A Mosaic of Processes and Responses**

By N.A. Geeson, C.J. Brandt, and J.B. Thornes  
John Wiley and Sons, 2002  
440 pages  
ISBN 0470844485

Desertification is land degradation in arid and semi-arid regions from both climatic and anthropogenic causes. The Northern Mediterranean with its irregular rainfall, poor soils, abandonment of traditional agriculture and unsustainable water exploitation has been recognised as a region with increasing desertification problems. The MEDALUS project was set up to improve the scientific basis for understanding and managing semi-arid environments that are undergoing great change. The material presented included the results of interdisciplinary in-depth investigations undertaken over the last 10 years. It will provide a unique collection of research results that will assist rural planners and regional and national authorities in preparing plans for mitigation. Includes: field based research carried out in the MEDALUS project, Authors with first hand research experience of their material, Results of direct applicability to land use management in Mediterranean environments, Detailed thematic and spatially-based analyses, Original material based on specific case studies. Audience: of particular interest to geographers, ecologists, agronomists, rural planners, and all authorities on desertification problems in Mediterranean environments, from both scientific and land use management perspectives.

**DRR421****National Action Programme to Combat Desertification, in the Context of United Nations Convention to Combat Desertification (UNCCD): Volume-I Status of desertification**

By the Government of India, 2001  
294 pages

Contents:

- Introduction
- Status of drylands and desertification in the world
- India-General profile, land use classification and land use pattern
- Desertification monitoring and assessment and drought early warning
- Factors, processes and impacts of desertification
- Measures to combat desertification and mitigate the effects of drought
- Policy, strategy and legislative framework
- Planning, programmes and institutional framework
- Monitoring mechanisms
- Technologies for combating desertification

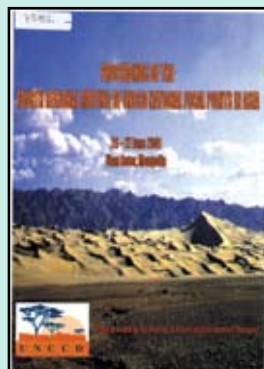
**DRR7539**

**Preserving our common ground:  
UNCCD Ten years on**

By the United Nations Convention to Combat Desertification (UNCCD), 2004  
20 pages  
ISBN 92-95043-00-6

June 17, 2004 marks the tenth anniversary of the adoption of the United Nations Convention to Combat Desertification. To commemorate this special anniversary, the secretariat has produced a publication highlighting the unique aspects and work of the Convention since its inception.

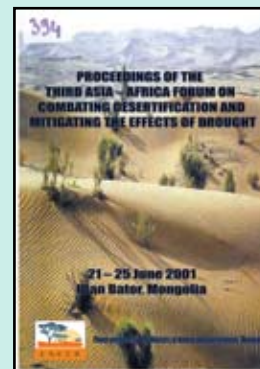
Titled "Preserving our common ground: UNCCD Ten years on", this publication encompasses a range of articles representing themes strategic to the UNCCD process. The main article, "Securing a global common good", exemplifies the Convention as a potential tool yet to be fully utilized to address acute social, economic and political issues intrinsically linked to the effects of desertification and drought. Insight is also provided on the many organs vital to the Convention's efficacy such as the UNCCD Secretariat, the Global Environment Facility and the Global Mechanism.

**DRR7582**

**Proceedings of the Fourth Regional  
Meeting of UNCCD National Focal  
Points in Asia, 26-27 June 2001,  
Ulan Bator, Mongolia**

By the United Nations Convention to Combat Desertification (UNCCD), 2001  
137 pages

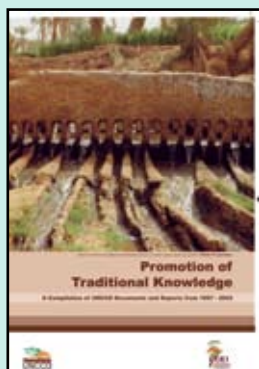
Desertification remains a significant threat to Asia in terms of affected land, space and population. It is encouraging that many of the Asian countries pursue the formulation and the implementation of the national action programmes for combating desertification, redressing land degradation and mitigating the effects of drought. Substantive progress has been made at both the sub-regional and regional levels. The focal point meeting has proven to be an effective forum where the focal points of the Asian country Parties exchange views, experiences and information on the UNCCD implementation and foster agreements on critical issues of the UNCCD implementation.

**DRR394**

**Proceedings of the Third Asia-Africa  
Forum on Combating Desertification  
and Mitigating the Effects of Drought  
(21 - 25 June 2001)**

By the United Nations Convention to Combat Desertification (UNCCD), 2001  
157 pages

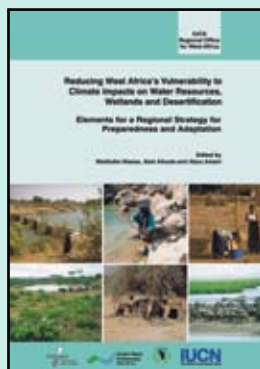
This set of proceedings compiles all of the documents discussed at the Third Asia-Africa Forum. Table of Contents: Introduction, Summary assessment of the Asia-Africa Framework for Action, Proceedings, Proposals for start up initiatives, Annex: Summary of presentations and exchanges during the working sessions of the meeting.

**DRR10268**

**Promotion of Traditional Knowledge:  
A Compilation of UNCCD Documents  
and Reports from 1997-2003**

By the United Nations Convention to  
Combat Desertification (UNCCD), 2005  
156 pages  
ISBN 9295043030

This publication aims to contribute to an understanding of traditional knowledge and how its application can minimize land degradation and desertification in arid and semi-arid zones and dry sub-humid zones. It is primarily intended to help those following the UNCCD process to take into account the development of traditional knowledge issues in the context of the work of the Committee on Science and Technology of the UNCCD. The document offers the fundamental information that may be useful to government officials, non-governmental organizations and academic institutions. The publication is organized in three sections and presents the relevant COP decisions, the official CST reports from the Ad hoc panels, followed by consultants' reports.

**DRR10248**

**Reducing West Africa's vulnerability  
to climate impacts on water  
resources, wetlands and desertifica-  
tion: elements for regional strategy  
for preparedness and adaptation**

By Madiodio Niasse, Abel Afouda,  
Abou Amani, and IUCN, 2004  
66 pages, ISBN 283170782X

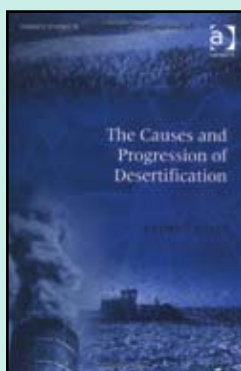
West African is among the most vulnerable regions to climate change worldwide. The often disastrous impact variability and extreme events over the past thirty years is a striking illustration and a harbinger of this vulnerability. It is therefore urgent that decision-makers and the general public in West Africa be fully sensitized on the climatic challenges facing the region and actions to be taken, to enhance the region's level of preparedness in order to cope with predictable impacts of climate variability and change and the associated extreme events.

**DRR9939**

**Ten African Experiences:  
Implementing the United Nations  
Convention to Combat  
Desertification in Africa**

By the United Nations Convention to  
Combat Desertification (UNCCD), 2006  
38 pages  
ISBN 929504312X

This publication showcases experiences from various African sub-regions to illustrate the complexity of the problems that African countries face and the multi-faceted approaches that can be adopted to ensure sustainable development.

**DRR10239****The Causes and Progression of Desertification**

By Helmut Geist

Ashgate, 2005

258 pages

ISBN 0754643239

The book presents what desertification is, why it is important, what studies have been carried out already. It provides an overview on the research design used, explaining the general methodology, data selection procedure, and data analysis, giving data statistics, and discussing data bias. It also provides an overview on the frequency of occurrence of major land use categories per broad geographic regions. Finally it is concluded with a short outlook on the future design of case studies, namely case study comparisons to explore the dynamical causal patterns of desertification.

**DRR10231****The Impact of Climate Change on Drylands: With focus on West Africa**

By A.J. Dietz, R. Ruben,

and A. Verhagen

Kluwer Academic Publishers, 2004

465 pages

ISBN 1402019521

Sahelian West Africa has recovered from the disastrous droughts of the 1970s and 1980s. People have learned to adapt to risk and uncertainty in fragile dryland environments. They, as well as global change scientists, are worried about the impact of climate change on these West African drylands. What do the experiences of the last thirty years say about the preparedness for higher temperatures, lower rainfall, and even more variability? Detailed studies on Dryland West Africa as a whole, and on Burkina Faso, Mali and Northern Ghana in particular show an advanced coping behaviour and increased adaptation, but also major differences in vulnerability and coping potential. Climate change preparedness programmes have only just started and require more robust support, and more specific social targeting, for a population which is rapidly growing, even more rapidly urbanising, and further integrating in a globalised economy. This book is the first of its kind with a comprehensive analysis of climate change experiences in West African drylands, with attention for pathways of change and the diversity of adaptation options available.

**DRR10266****Thematic Programme Network on Renewable Energies in the context of the fight against Desertification in Africa (TPN5)**

By the United Nations Convention to Combat Desertification (UNCCD)

6 pages

TPN5 is a platform on renewable energies and their interrelationship with the fight against desertification and poverty. It is a framework for dialogue and action, aiming at greater harmonisation of policies for promoting these energies.



**DRR7581**

**There is no rug big enough to sweep the desert under (Lupo Alberto)**

By the United Nations Convention to Combat Desertification (UNCCD), 1995  
26 pages

This comic book tells of drought on an animal farm. Albert the fox and his chicken girlfriend Martha present various ways of mitigating the effects of drought and combating desertification to the other animals. These include careful water management, sustainable agricultural practices, and conservation of forest cover.

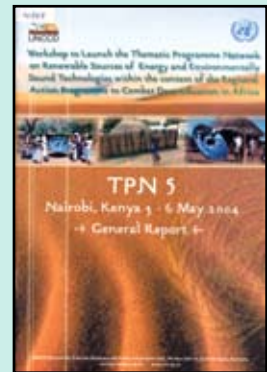


**DRR10273**

**Women of the Earth: Nurturing the future**

By the United Nations Convention to Combat Desertification (UNCCD), 2005  
32 pages  
ISBN 92-95043-09-X

Case studies from all over the world about the inputs of women management of natural resources and their impact in the combat against desertification.



**DRR10267**

**Workshop to Launch the TPN5, Nairobi, Kenya, 5-6 May 2004: General Report**

By the United Nations Convention to Combat Desertification (UNCCD), 2005  
26-26 pages

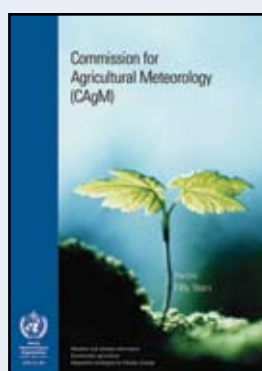
Energy issues are at the centre of natural resources degradation in the rural sector of the African continent making the development and promotion of new and renewable energy resources a critical environmental issue that cannot be separated from combating desertification and poverty eradication. The over-dependence of rural communities on fuel wood to meet their energy requirements has contributed to massive deforestation and biodiversity loss, leading to soil erosion, land degradation and water shortages through the situation of water sources, rivers and dams. This environmental degradation process has caused significant negative effects on the economies and living standards of local communities and exacerbated poverty and environmental degradation.

**DRR9732**

### **Challenges of Water Scarcity: A Business Case for Financial Institutions**

By the Stockholm International Water Institute (SIWI) and the United Nations Environment Programme (UNEP)  
SIWI, 2005  
32 pages

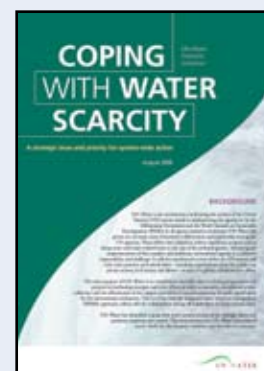
Water scarcity currently affects many regions of the world. Without a significant reversal of economic and social trends, it will become more acute over time. Although water is considered a renewable resource, in many parts of the world, water resources have become so depleted or contaminated that they are unable to meet ever-increasing demands. The challenges are more acutely felt in developing countries where 95% of the world's new population is born each year. This has become a major factor impeding economic development, and also business operations. This report, based on a review of close to 20 cases of projects and investments mainly in Africa and Latin America, and supplemented with interviews with practitioners from both development and commercial financial institutions, concludes that there is a business case for improving risk management tools, which can specifically be related to the risks borne by water scarcity. While each organization must relate to water in its own capacity, the business case for the financial sector comes from acknowledging the potential risks associated with water scarcity and seeking possible opportunities for mitigating these risks.

**DRR10066**

### **Commission for Agricultural Meteorology (CAGM): The First Fifty Years**

By the World Meteorological Organization (WMO), 2006  
44 pages

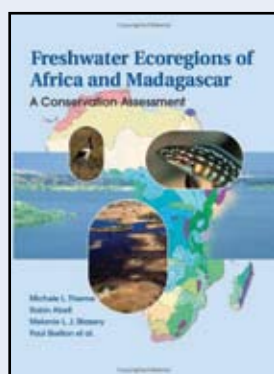
Agricultural meteorology as an accepted term first came into use in the 1920s. In its first 40 years, the science developed in the western world, Japan, India and China. However, since the 1980s, the field of agricultural meteorology has seen significant developments and modifications. Since the 1960s, the regions where it has been applied have increased, but water balances and evaporation in temperate climates became, and have remained, the most treated subjects. However, with increasing application in the developing world with its more abundant weather and climate disasters, the definition needed to be widened to include tropical agrometeorology.

**DRR10275**

### **Coping with Water Scarcity: A strategic issue and priority for system-wide action**

By UN-Water, 2006  
12 pages

UN-Water is the mechanism coordinating the actions of the United Nations (UN) system aimed at implementing the agenda set by the Millennium Declaration and the World Summit on Sustainable Development (WSSD) in all aspects related to freshwater. UN-Water has grown out of many years of extensive collaboration and partnership among the UN agencies. These efforts have helped to achieve significant progress and to bring water and water-related issues to the top of the political agenda. UN-Water has identified coping with water scarcity as part of the strategic issues and priorities requiring joint action. This note presents the UN-Water joint plan of action (PoA) for this thematic initiative and describes its elements.

**DRR10254****Freshwater Ecoregions of Africa and Madagascar: A Conservation Assessment**

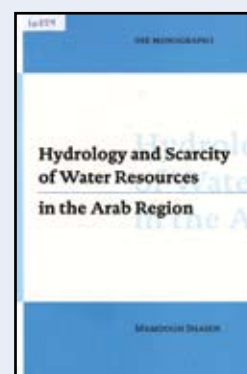
By Michele L. Thieme, Robin Abell, Melanie L. J. S. Stiassny, et al., and the World Wildlife Fund (WWF)  
Island Press, 2005  
431 pages, ISBN 1559633654

As part of a global effort to identify those areas where conservation measures are needed most urgently, World Wildlife Fund has assembled teams of scientists to conduct ecological assessments of all seven continents. Freshwater Ecoregions of Africa and Madagascar is the latest contribution, presenting in a single volume the first in-depth analysis of the state of freshwater biodiversity across Africa, Madagascar, and the islands of the region. Looking at biodiversity and threats in terms of biological units rather than political units, the book offers a comprehensive examination of the entire range of aquatic systems. In addition to its six main chapters, the book includes nineteen essays by regional experts that provide more depth on key issues, as well as six detailed appendixes that present summary data used in the analyses, specific analytical methodologies, and a thorough text description for each of Africa's ninety-three freshwater ecoregions. Freshwater Ecoregions of Africa and Madagascar provides a blueprint for conservation action and represents an unparalleled guide for investments and activities of conservation agencies and donor organizations.

**DRR10263****Human Development Report 2006: Beyond scarcity, power, poverty and the global water crisis**

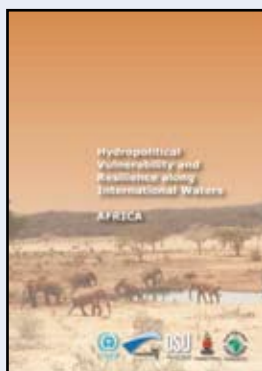
By the United Nations Development Programme (UNDP), 2006  
422 pages  
ISBN 0230500587

The 2006 Human Development Report focuses on water and human development. Water is central to the realization of human potential. It is a source of life for people and for the planet. Clean water and sanitation have a profound bearing on health and human dignity. Inequalities in access to clean water for drinking and to water as a productive input, reinforce wider inequalities in opportunity. With competition for water intensifying, there is a danger that poor and vulnerable communities will become increasingly marginalized. The twin challenge facing governments and donors is to accelerate progress towards universal access to water and sanitation; and to ensure that water management policies strengthen the rights of poor households to access water resources.

**DRR10229****Hydrology and Scarcity of Water Resources in the Arab Region**

By Mamdouh Shahin  
A.A. Balkema, 1996  
138 pages  
ISBN 905410645X

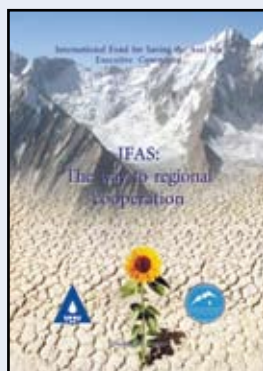
The monograph gives a summary of the hydrologic characteristics of the Arab States comprising the Arab Region. It begins with an introduction, Chapter I, wherein a general description of the region is given and the growth of population problem is highlighted. Since emphasis is laid on the arid parts of the region, the monograph proceeds with a brief description of the climate and aridity in Chapter 2. The major components of the hydrologic cycle such as rainfall, evaporation and evapotranspiration, surface runoff and streamflow, and geology and groundwater are described in Chapters 3, 4, 5 and 6, respectively. Chapter 7 is dedicated to large-scale groundwater exploitation projects and their repercussions. Chapter 8 discusses the supply and demand on water at present and in the near future. In addition to water conservation schemes, it also presents the possibility of using the unconventional resources, such as desalination of sea water, and reclamation of urban and agricultural drainage water, as additional resources.

**DRR10271**

### **Hydropolitical Vulnerability and Resilience along International Waters: Africa**

By the United Nations Environment Programme (UNEP), 2006  
164 pages  
ISBN 9280725750

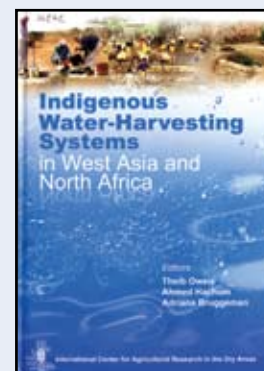
This is the first report in a series of assessment reports in different geographic regions on hydropolitical vulnerability and resilience along international waters. It presents a comprehensive assessment of the hydropolitical vulnerability of Africa's international waters. It also presents concrete and comprehensive data on the cooperative agreements, in-place and those being developed, in the major water-basins on the continent. These will deal with the hydropolitical vulnerabilities and develop sustainable resilience and provide informed policies at the regional, sub-regional and national levels.

**DRR10142**

### **IFAS, The way to regional cooperation: the collection of articles devoted to Aral Sea Basin problems**

By the International Fund for Saving the Aral Sea (IFAS), 2003  
184 pages

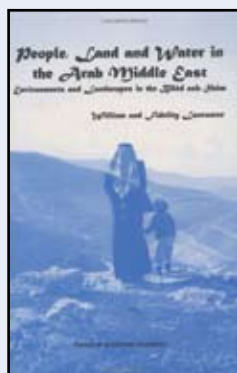
The given book contents the statement of the President of the Republic of Tajikistan and articles of members of IFAS Board, members of Executive Committee of IFAS, the Chairman of the Executive Committee of IFAS and heads of its branches in the Aral Sea Basin countries and experts who stood at sources of IFAS formation. There are Aral Sea crisis, its global influence on environment and an economic situation of the Aral Sea Basin and, especially, in zone of Pryaralye, the ways and methods of mitigation of influence of this crisis on region and its population are reflected in these articles and statements. The book is issued for wide layers of the population and experts of branches of a national economy.

**DRR10242**

### **Indigenous Water Harvesting Systems in West Asia and North Africa**

By Theib Oweis, Ahmed Hachum, and Adriana Bruggeman  
International Center for Agricultural Research in the Dry Areas (ICARDA), 2004, 173 pages, ISBN 9291271470

This book is the outcome of a project on "On-farm Water Husbandry in West Asia and North Africa," implemented by ICARDA in Egypt, Iraq, Jordan, Libya, Morocco, Pakistan, Syria, Tunisia, and Yemen. Studies on indigenous water-harvesting systems reported in the book from these countries, with illustrations of indigenous water-harvesting systems, point to the fact that traditional techniques are the most sustainable and environmentally friendly, and should be the basis for planning modern water-harvesting systems.

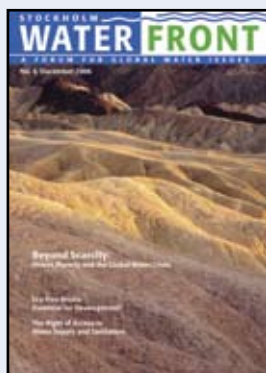
**DRR10228**

**People, Land and Water in the Arab Middle East: Environments and landscapes in the Bilad ash-Sham**

By William Lancaster and Fidelity Lancaster

Harwood academic publishers, 1999  
458 pages  
ISBN 9057023229

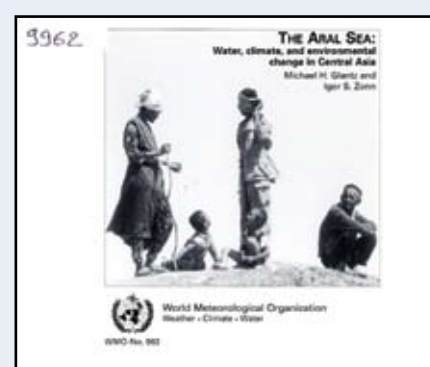
This book comprises the results of twenty five years of research with different tribal groups in the Arabian peninsula. Having become aware of the depth in time of Arab tribal structures, the authors have developed a view of Arabic tribal discourse where “tribe” is seen as essentially an identity that confers access to a social structure and its processes. These insights enable the authors to clarify tribal processes of land use and resource management which are normally “invisible”, as they leave few written records and the archaeological remains are notoriously difficult to date. The contextual nature of description by local users leads to a reevaluation of social categories, and to an awareness of relationships between Bedouin and peasant, tribesman and townsman. The authors present a detailed appreciation of the different agricultural, pastoral and fishing practices of the region, together with the underpinning of indigenous theories of land use and resource management. The book will be of interest to students of Arab tribal systems, land use and resource management, geopolitics, economics and technology as well as ethnographers of the Middle East.

**DRR10265**

**Stockholm Water Front, a Forum for Global Water Issues, No. 4, December 2006**

By the Stockholm International Water Institute (SIWI), 2006  
16 pages  
ISSN 1102-7053

Stockholm Water Front is a quarterly, English-language magazine that spreads knowledge on important water and water-related issues. Stockholm Water Front presents a mix of popular scientific information and news reporting about the activities of the Stockholm International Water Institute.  
Contents: Progress, Prospects and the Pursuit of Sustainability - Feature Article: Beyond Scarcity: Power, Poverty and the Global Water Crisis - Conference Report: Is a Free Media Essential for Development? - 2006 Best Poster Award: Rainwater Redux - Opinion: The Right to Water Supply and Sanitation.

**DRR9962**

**The Aral Sea: Water, climate, and environmental change in Central Asia**

By Michael H. Glantz and Igor S. Zonn  
World Meteorological Organization (WMO), 2001  
196 pages

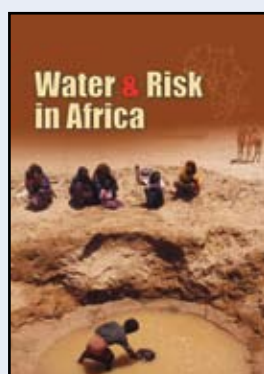
The situation in and around the Aral Sea is one of the worst human-made environmental crises of the 20th century. This flip book reveals the history behind this slow-onset, creeping environmental problem and hopes to help prevent similar situations in future.

**DRR10252****The Scarcity of Water: Emerging Legal and Policy Responses**

By Edward H. P. Brans,  
Esther J. de Haan, André Nollkaemper,  
et al.

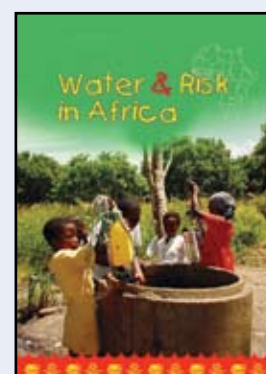
Kluwer Law International, 1997  
299 pages  
ISBN 904110657X

Providing an overview of the various legal responses to conflicts involving the use of water resources, this text analyzes the continuous development of water law in the face of new threats of water shortages. The book is a result of the conference "Scarcity of Water, International, European and National Legal Aspects" held at the faculty of Law of the Erasmus University, Rotterdam in October 1995. It contains a selection papers presented at the conference and several additional contributions on the issues of water law and policy.

**DRR7577****Water and risk in Africa: a community leader's guide**

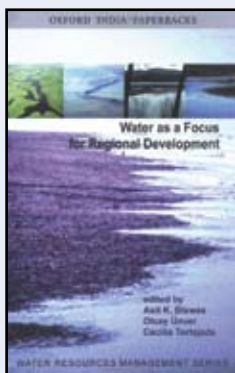
Published by the UN Inter-Agency  
Secretariat of the International Strategy  
for Disaster Reduction Africa  
(UN/ISDR Africa), 2004  
37 pages

This booklet is written to help you, as a leader in your community, to have a better understanding of the complex nature of water and its influence on our lives. Empowered with this knowledge, you can become pro-active in initiating steps within your community which can reduce the risk from water-related disasters.

**DRR10272****Water and Risk in Africa: A school's Guide**

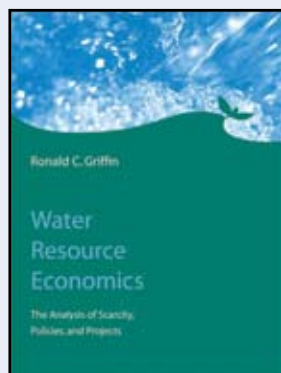
Published by the UN Inter-Agency  
Secretariat of the International Strategy  
for Disaster Reduction Africa  
(UN/ISDR Africa), 2004  
28 pages

Water and Risk... These two words may look strange one next to the other. Indeed, water is generally helpful. But it is also true that water can be harmful: too little water is risk of drought, too much water is risk of flood, water - too scarce - is risk of conflict, water - impure - is risk of disease. Worse, these risks can lead to disasters. They can destroy property and ... life. Yet, this should not always be the case. There is much we can do. Each of us, teachers and students, we can take action. In fact, we should take action because when it is a matter of life and death, we should not expect others to do it for us. It is in the light of the above concern that the present booklet entitled Water and Risk in Africa - A School's Guide has been produced. This booklet seeks to help you to know more about risks and disasters related to water, and also about what to do to protect lives and property. It seeks to help you, as a teacher, to help your students to be risk aware and learn to protect their own lives and property. Still better, it also seeks to help you, as a school student, to help your family, your relatives and your friends to protect their own lives and property.

**DRR10234****Water as a Focus for Regional Development**

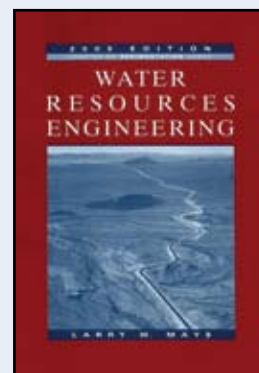
By Asit K. Biswas, Olcay Unver, and Cecilia Tortajada  
Oxford University Press, 2004  
378 pages  
ISBN 0195657942

This book studies potential and actual contributions of water resources development as an engine for regional growth and poverty alleviation. The book analyses specific water development projects from different parts of the world in terms of their influences on broader regional development by synthesizing experiences and assessing objectively, the lessons learnt. The facts, figures, and analyses presented will make it possible to plan, design, implement, and operate future water projects more efficiently and equitably. They will also encourage objective discussions on how best water development can be used in developing countries as a tool to accelerate regional development by facilitating equitable income distribution between regions, poverty alleviation, environmental protection, and improvements in quality of life. Audience: water, development, and environmental professionals, especially those associated with water resources management, environmental conservation, and poverty alleviation. Also of interest to universities, national water agencies, international organizations, private sector and NGOs who are interested in water and regional development issues.

**DRR10238****Water Resource Economics: The Analysis of Scarcity, Policies, and Projects**

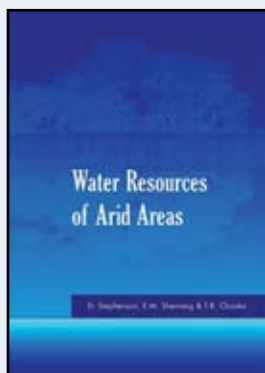
By Ronald C. Griffin  
The Massachusetts Institute of Technology Press, 2006  
402 pages  
ISBN 026207267X

Economics brings powerful insights to water management, but most water professionals receive limited training in it. This text offers a comprehensive development of water resource economics that is accessible to engineers and natural scientists as well as economists. The goal is to build a practical platform for understanding and performing economic analysis using both theoretical and empirical tools. The mathematics needed to understand the subjects covered in this text include basic optimization methods and integral calculus. Familiarity with microeconomics or natural resource economics is helpful, but all the economics needed is presented and developed progressively in the text. Many water-based example calculations are included. Thus the book can be used for independent study as well as course work. The book focuses on the scarcity of water quantity (rather than water quality). The author presents the economic theory of resource allocation, recognizing the peculiarities imposed by water, and expands the theory to encompass time-defined matters such as ground water depletion.

**DRR10241****Water resources engineering**

By Larry W. Mays  
John Wiley and Sons, 2005  
842 pages  
ISBN 0471705241

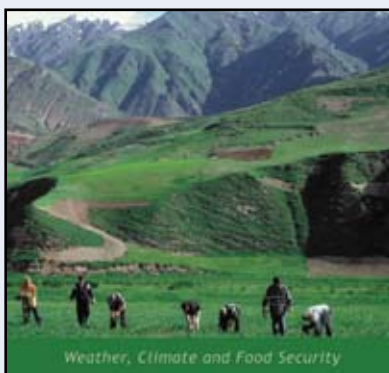
This new 2005 Edition gives a presentation of hydraulic and hydrologic processes using the control volume approach. It extends these processes into practical applications for water use and water excess, including water distribution systems, stormwater control, and flood control. It strongly emphasises on analysis and design. A new chapter covers sedimentation; Coverage spans an extraordinary range of topics; Practice problems at the end of each chapter offer the opportunity to apply what has been learned. It includes a review of basic fluid concepts and the control volume approach to fluid mechanics.

**DRR10236****Water Resources of Arid Areas**

By D. Stephenson, E.M. Shemang, and T.R. Chaoka  
A.A. Balkema Publishers, 2004  
576 pages  
ISBN 0415359139

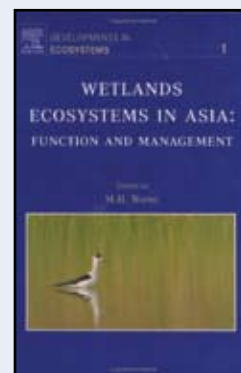
This book comprises the proceedings of the International Conference on Water Resources of Arid and Semi-Arid regions of Africa held August 3-6, 2004 in Gaborone, Botswana. After an introduction about the difficulties in obtaining data, the main subject of groundwater recharge is extensively discussed in various aspects: natural and artificial; socio-economic aspects of water demand management; geophysical, GIS and remote sensing techniques for groundwater exploration; climate change and its impact on water resources; vulnerability and risk assessment, and water management.

Audience: This book is intended for researchers and practitioners in the field of surface water hydrology, groundwater hydrology, environmental engineering, agricultural engineering and earth sciences, as well as those engaged in water resources planning, development and management in arid and semi arid areas.

**DRR9979****Weather, Climate and Food Security**

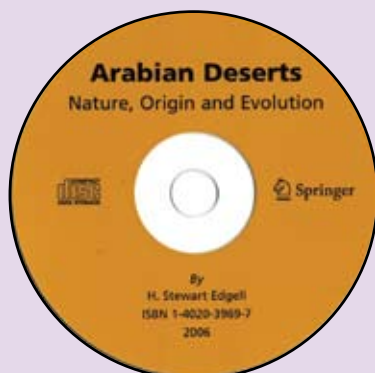
By the World Meteorological Organization (WMO), 2001  
24 pages

In the area of food security, the scientific programmes and activities of WMO, including its Agricultural Meteorology Programme, Climate Information and Prediction Services (CLIPS) project and Hydrology and Water Resources Programme, are addressing a number of important issues related to weather, climate and water in collaboration with other United Nations organizations, such as the Food and Agriculture Organization of the United Nations (FAO) and the United Nations Educational, Scientific and Cultural Organization (UNESCO), and other relevant regional and international organizations. This booklet, which is dedicated to the "World Food Summit - 5 years later", illustrates WMO's role in contributing to the achievement of food security for all nations.

**DRR10256****Wetlands Ecosystems in Asia: Function and Management, Volume 1**

By M. H. Wong  
Elsevier, 2004  
251 pages  
ISBN 0444516913

Wetlands are among the most important and productive ecosystems on earth. Wetlands are valuable as sources, sinks and transformers of a multitude of chemical, biological and genetic materials. They stabilize water supplies, clean polluted waters, protect shorelines, and recharge groundwater aquifers. In recent years, the importance of wetland conservation has been recognized by different sectors of the community. Wetland management requires an understanding of the scientific aspects of wetland balanced with legal institutional and economic realities. It is important for many scientists, engineers, decision makers and lawyers to become more familiar with wetland ecology and wetland management in order to understand, preserve and even reconstruct these fragile ecosystems. In this volume there is comprehensive information of wetland's importance, functions, conservation and management strategies beneficial to environmental professionals for formulating wetland conservation policy and conducting environmental research.

**DRRCD092****Arabian Deserts: Nature, Origin and Evolution**

By H. Stewart Edgell  
Springer, 2006

This CD-ROM contains high quality color versions of the photos and figures that appear in the book of the same name. The book provides an overview of the different types of deserts found in the Arabian region. The approach is mostly geological, though subjects such as climate change, ecology, and the human influence on desertification are also discussed.

**DRRCD064****Desertification and Migrations: II International Symposium on Desertification and Migrations**

By the International Year of Deserts and Desertification (IYDD)

This CD-ROM contains documentation pertaining to the II International Symposium on Desertification and Migrations. This includes background on the symposium, a presentation of the main themes, the program, communications and presentations, conclusions, and photos.

**DRRCD091****Drought Assessment and Mitigation in South West Asia: Issues and Prospects**

By the International Water Management Institute (IWMI)

This CD-ROM contains publications from the project "Drought Assessment and Mitigation Potential in South West Asia", implemented by the International Water Management Institute (IWMI) and partner organizations in three countries – India, Pakistan and Afghanistan. Droughts represent a common concern in the region, which needs to be addressed through regional cooperation. Realizing the above needs, the US State Department Regional Environment Office for South Asia and IWMI initiated this project in May of 2003. The documents contained here include a summary report and various working papers and reports. In addition, this CD-ROM also contains the proceedings from the International Workshop on Drought Assessment and Mitigation in South West Asia 2004.

**DRRCD056****Global Alarm: Dust and Sandstorms from the World's Drylands**

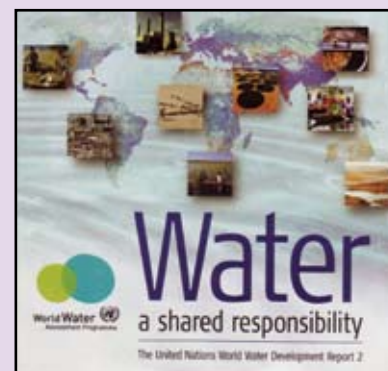
By the United Nations Convention to Combat Desertification (UNCCD), Asia Regional Coordinating Unit

This publication, available in both PDF and Microsoft Word formats on this CD-ROM, aims at providing the reader with analysis of the factors contributing to dust and sandstorms and provides, via the various detailed case studies, examples of how the menace can be brought under control through a series of measures, ranging from mechanical interventions and bio-remediation to policy change and legislative back up. The essays and case studies presented in this collection have been selected to meet the following objectives: (1) to identify more precisely the physics and mechanics of dust storms and the entrainment and transport of sediments; (2) to present reviews of success stories from various countries and regions to demonstrate that measures can be effective in mitigating the effects of dust-related events and to counter the threat of severe and disastrous sand and dust storms; and (3) to draw lessons from the experiences gained in designing strategies and programmes for sustainable land use in the worst affected regions, where climatic and human-induced factors combine to promote frequent and severe dust storm events.

**DRRCD040****Technical Workshop on Drought Preparedness**

By the United Nations Convention to Combat Desertification (UNCCD)

This CD-ROM contains the output of the technical workshop on drought preparedness in the Balkans, organized by the Secretariat of the Convention to Combat Desertification (UNCCD) held October 25-26 2004 in Poiana Brasov, Romania. It is divided into four parts. The first contains background information on the workshop, the second shows the development of the workshop and its outcomes, the third reveals the activities of relevant organizations and programs and neighboring countries on drought preparedness, and the fourth is a compilation of texts prepared by the participants.

**DRRCD093****Water, a shared responsibility: The United Nations World Water Development Report 2**

By the World Water Assessment Programme (WWAP)  
UN-Water, 2006

For some, the water crisis means having to walk long distances every day to fetch enough drinking water – clean or unclear – just to get by. For others, it means suffering from avoidable malnutrition or disease caused by drought, flood or inadequate sanitation. Still others experience it as a lack of funds, institutions or knowledge to solve local problems of water use and allocation. Bearing in mind users needs, the 2006 Report aims to be practical in orientation, offers best practices as well as in-depth theoretical and analytic analyses to help stimulate ideas and actions for better stewardship in the water sector. The use of hundreds of maps, tables, figures, boxed examples, indicators and case studies illustrate that only our global cooperation will help to ensure an integrated, equitable and sustainable management of the world's most precious resource – water.



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