



## REGIONAL PARTNERSHIP ON CULTURE AND DEVELOPMENT



# Annotated Bibliography Series Natural Resources Management - Volume I

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The Regional Partnership for Culture and Development (RPCD) is a program of USAID's Office of Middle East Programs (OMEP). The goal of the RPCD is to gather and disseminate information that will improve development efforts in the Middle East and North Africa (MENA) region.

The Annotated Bibliography Series is a biannual publication that highlights the most recent publications and studies covering issues in the MENA region in three focus areas: natural resources management, youth development and engagement, and democracy and governance. It includes syntheses, brief evaluations of the work and context, and detailed information on the author, date, and source. We welcome your comments on this publication or suggestions for inclusion in future Annotated Bibliographies at [rpcdinfo@fhi360.org](mailto:rpcdinfo@fhi360.org).

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**Table of Contents**

Water in the Arab World: Management Perspectives and Innovations .....2

Developing a Practical Approach to 'Light IWRM' in the Middle East .....2

Climate Finance Fundamentals: Regional Briefing: Middle East and North Africa .....3

The Cost of Environmental Degradation: Case Studies from the Middle East and North Africa .....3

Private Sector Participation and Regulatory Reform in Water Supply: The Southern Mediterranean Experience.....4

Wastewater Production, Treatment, and Irrigation in Middle East and North Africa .....4

Desktop Study of the North African Subregional Climate Change Programmes .....5

Republic of Lebanon: Country Environmental Analysis .....5

Water Scarcity in Jordan: Economic Instruments, Issues and Options .....6

Troubled Waters - Palestinians Denied Fair Access to Water .....6

Water Desalination: An Imperative Measure for Water Security in Egypt .....7

The Political Economy of Water Demand Management in Yemen and Jordan: A Synthesis of Findings .....7

A Financial, Environmental and Social Evaluation of Domestic Water Management Options in the West Bank, Palestine .....8

Iraq's Constitutional Mandate to Justly Distribute Water: The Implications of Federalism, Islam, International Law and Human Rights .....8

Moroccan Natural Ecosystems and Climate Change: Ecological Resilience to the Test .....9

### Water in the Arab World: Management Perspectives and Innovations

The report is structured around five key elements of water management: supply, distribution, governance, responsibilities, and engineering. The sections draw on case studies from Iraq, Tunisia, Egypt, Yemen, Morocco, Djibouti, Japan, and Spain. The report's chapters offer an extensive set of ideas, reflections, and innovative solutions to managing the Middle East's water resources more efficiently and sustainably.

This World Bank study provides one of the most thorough and comprehensive evaluations of water management issues in the Middle East. It builds upon the findings of the 2007 MNA Development Report on Water and is filled with statistics, data, and textual analyses based on country case studies. According to the editors, the volume is intended to be a handbook for officials, practitioners, academics, and students interested in the complexities of managing water in the Middle East.

[http://siteresources.worldbank.org/INTMENA/Resources/Water\\_Arab\\_World\\_full.pdf](http://siteresources.worldbank.org/INTMENA/Resources/Water_Arab_World_full.pdf)

Jagannathan, N. Vijay., Ahmed Shawky. Mohamed, and Alexander Kremer. *Water in the Arab World: Management Perspectives and Innovations*. Washington, D.C.: World Bank, Middle East and North Africa Region, 2009. Web 19 March 2012.

### Developing a Practical Approach to 'Light IWRM' in the Middle East

This paper outlines the development of “light” integrated water resources management (IWRM), which is opportunistic, adaptive, incremental, and clearly focused on sustainable service delivery. The paper discusses the justifications for such an approach, initially developed for the EC-funded EMPOWERS project, and outlines its main components, as well as experiences gained in the implementation of light IWRM. The authors identify three steps as essential for improved decision-making: taking a structured IWRM approach to examining problems, collecting and sharing context-specific information, and helping to formulate a shared vision.

This paper is an important piece of action research in the area of water resource management, and will help implementers at the intermediate and local levels. In sharing the lessons and experience of the EMPOWERS project, the authors demonstrate how traditional IWRM approaches can be modified to yield more participatory, effective, and innovative water management. The authors are experts from the IRC International Water and Sanitation Centre, the International Union for the Conservation of Nature–ROWA, and CARE Egypt.

<http://dlc.dlib.indiana.edu/dlc/bitstream/handle/10535/6431/Developing%20a%20Practical%20Approach.pdf?sequence=1>

Moriarty, P.B et al. “Developing a Practical Approach to 'Light IWRM' in the Middle East.” *Water Alternatives*. 3.1(2010): 122-136. Web 19 March 2012.

### Climate Finance Fundamentals: Regional Briefing: Middle East and North Africa

This four-page brief provides a snapshot of current climate-change-related financing in the Middle East and North Africa. It describes the state of investment in climate change mitigation and adaptation and identifies major donors in the region (primarily development banks and bilateral aid agencies). It is found that most financing is geared toward large-scale mitigation projects. The brief suggests that continued funding is needed and that future grants should be directed at building adaptive capacity, particularly in the water sector, with a need to focus on the poorest countries and most vulnerable communities.

Written by experts from the Overseas Development Institute and Heinrich Böll Stiftung North America, this brief gives recent and up-to-date figures for climate finance in the region. It offers an interesting overview of funding gaps that can inform future donor interventions in the area of climate change adaptation and mitigation. In trying to capture a regional view, country-specific data and analysis are left out; however, the research is a useful starting point for those interested in international assistance and climate change.

<http://www.odi.org.uk/resources/docs/7476.pdf>

Nakhooda, Smita et al. Climate Finance Fundamentals - Regional Briefing: Middle East and North Africa. Overseas Development Institute. Web. 19 March 2012.

### The Cost of Environmental Degradation: Case Studies from the Middle East and North Africa

This volume provides estimates of Monetary Cost of Environmental Degradation (MCED) in select MENA countries. Impact is quantified using a range of valuation techniques and using country-specific data based on a 25-year time horizon and a 4 percent discount rate. The focus is on environmental challenges specifically related to the quality of air, agricultural lands, water, forests, and coastal areas. Each environmental issue is discussed in a case study from one of the MENA countries, which includes appropriate policy responses.

Although results are not ideal for making country comparisons, the article offers a useful method for calculating environmental degradation and makes the case for using similar valuation techniques to guide project and policy priorities. The editors, Lelia Croitoru and Maria Sarraf, are environmental economists at the World Bank and have extensive expertise in the economics of natural resources.

[http://www-wds.worldbank.org/external/default/main?pagePK=64193027&piPK=64187937&theSitePK=523679&menuPK=64187510&searchMenuPK=64187283&theSitePK=523679&entityID=000333037\\_20100826001806&searchMenuPK=64187283&theSitePK=523679](http://www-wds.worldbank.org/external/default/main?pagePK=64193027&piPK=64187937&theSitePK=523679&menuPK=64187510&searchMenuPK=64187283&theSitePK=523679&entityID=000333037_20100826001806&searchMenuPK=64187283&theSitePK=523679)

Croitoru, Leila, and Sarraf, Maria. The Cost of Environmental Degradation: Case Studies from the Middle East and North Africa. Publication no. 56295. Washington D.C.: World Bank, 2010. Web. 19 March 2012.

### Private Sector Participation and Regulatory Reform in Water Supply: The Southern Mediterranean Experience

This study presents a review of 22 empirical tests and 48 case studies on the effect of private sector participation in water services and supply. It is shown that private sector participation in water supply does not systematically lead to gains in efficiency and that reforming the institutional framework is an essential prerequisite for delegating water services. The paper also focuses on the southern Mediterranean region. It compares institutional arrangements, recent regulatory reforms, and experiences with private sector participation in water infrastructure in Algeria, Egypt, Jordan, Morocco, and Tunisia. A Water Sector Analysis Scorecard (WSAS)—based on 49 indicators—is suggested as a monitoring tool.

This publication offers practitioners, and policymakers, with best practices and lessons learned from private sector participation in water supply. The study is also very timely in addressing the challenges and advantages of extending water governance to the private sector at a time when Arab governments are increasingly occupied with political and economic instability. Finally the proposed WSAS can be a useful metric to monitor the impact of private sector interventions. The research is published by the OECD's Development Center.

<http://www.oecd.org/dataoecd/16/38/39922177.pdf>

Pérard, Edouard. Private Sector Participation and Regulatory Reform in Water Supply: The Southern Mediterranean Experience. Working paper no. 265. OECD Development Centre, 2008. Print.

### Wastewater Production, Treatment, and Irrigation in Middle East and North Africa

This paper provides an overview of wastewater treatment, production, and use in the MENA region. It evaluates some of the major constraints facing wastewater reuse ranging from economic constraints to lack of information and policy support. Also highlighted are successful examples of effective wastewater management. These examples are drawn from case studies of Tunisia, Jordan, and Israel, all of which demonstrated strong political will and put in place the necessary policies to collect, treat, and promote the reuse of treated wastewater.

This article provides a regional overview with useful data and statistics from the last few years. It suggests regional benchmarks for wastewater management from which planners can learn. The publication is a part of a joint initiative of the International Center for Agricultural Research in the Dry Areas (ICARDA) and International Water Management Institute (IWMI) to address the assessment and management of marginal-quality water resources and salt-affected soils.

<http://www.springerlink.com/content/rhl48747g4m37p46/>

Qadir, Manzoor et al. "Wastewater Production, Treatment, and Irrigation in Middle East and North Africa." *Irrigation and Drainage Systems* 24 (2010): 37-51. Springer Link. Web 19 March 2012.

## Desktop Study of the North African Subregional Climate Change Programmes

This report reviews past, current, and planned climate actions (processes, programs, and projects) in North Africa. Included is an inventory of interventions by NGO's, the government, and the private sector, as well as a description of the process of cataloguing and interpreting the data. Finally, a conceptual framework—applicable to different contexts, systems and hazards—is proposed for future studies on climate change adaptation and mitigation. The authors give detailed policy recommendations based on the research findings.

This publication provides an interesting overview of what is being done to highlight gaps where climate interventions are still needed. It is also a first step in evaluating existing projects to improve the quality of future climate change programs in North Africa. Results are based on extensive primary research and a literature review of ministry annual reports in the sectors of water, construction, rural land-use, and transport. The research was conducted by the Sahara and Sahel Observatory (OSS) and the United Nations Environment Programme (UNEP) as a working document for the Consultative Meeting on the Draft Framework of North African Climate Change Programmes.

[http://www.unep.org/roa/amcen/docs/AMCEN\\_Events/climate-change/northafrica/DesktopStudy\\_NorthAfrica.pdf](http://www.unep.org/roa/amcen/docs/AMCEN_Events/climate-change/northafrica/DesktopStudy_NorthAfrica.pdf)  
Sahara and Sahel Observatory. Desktop Study of the North African Subregional Climate Change Programmes. UNEP. Regional Office for West Asia: 2010. Web 19 March. 2012.

## Republic of Lebanon: Country Environmental Analysis

This World Bank study examines sustainability and environmental degradation in Lebanon. It gives an overview of the nation's performance according to major indicators such as the Environment Performance Index and Adjusted Net Savings. The report goes on to evaluate public spending on environment-related activities, the solid waste and wastewater sectors, and the state of environmental policies and institutions more generally. It argues that Lebanon's economic growth has not benefitted environmental sustainability. Recommendations are grouped under three themes: strengthening environmental governance, managing environmental risks, and improving the programming and cost-efficiency.

The publication offers policymakers, donors, and practitioners guidance on the reforms and interventions needed to mitigate degradation and optimize resource use. Rather than address each of the nation's environmental issues, a small number of key issues are explored in depth, namely unproductive public expenditure, solid waste and wastewater management due to their high cost and effect on public health, and governance. The Country Environmental Analysis is best seen as a tool for the decision-making process in setting priorities and suggests possible approaches to collaboration with various development partners.

[www.moe.gov.lb/Documents/WB%20-%20Final%20CEA.pdf](http://www.moe.gov.lb/Documents/WB%20-%20Final%20CEA.pdf)  
World Bank. Sustainable Development Department. Republic of Lebanon Country Environmental Analysis. Report No. 62266-LB. 2011: 1-129. Web 19 March 2012.

### Water Scarcity in Jordan: Economic Instruments, Issues and Options

The aim of this study is to examine water scarcity, both physical and economic. Jordan—a nation suffering from both types of scarcity—is chosen as a case study to explore the complexities of limited water resources and the potential use of incentives, economic instruments, and regulation to balance demand growth and supply shortages. Current water availability and uses in Jordan are quantified and profiles of the existing challenges, incentives, instruments and policies in place are analyzed. Feasible options for Jordan are proposed, including using more efficient economic incentives and instruments and building conservation-compatible institutions to manage and optimize water use.

Produced by the Economic Research Forum, this goes beyond standard analysis of physical water scarcity to address economic dynamics at play in Jordan. Although the specific experience and lessons learned from Jordan’s water sector may not be directly applicable elsewhere, the research does an excellent job of highlighting important elements of an efficient and equitable water system. It is particularly useful for policymakers or advocates interested in economic approaches to water governance.

<http://www.erf.org.eg/CMS/uploads/pdf/599.pdf>

Kubursi, Atif et al. “Water Scarcity in Jordan: Economic Instruments, Issues and Options.” Economic Research Forum. Working Paper No. 599. 2011: 1-24. Web 19 March 2012.

### Troubled Waters - Palestinians Denied Fair Access to Water

This Amnesty International report examines the main patterns and trends affecting access to water in the West Bank and Gaza. It examines available water resources, and shows that water scarcity is severely impacting quality of life. The conclusion provides recommendations to the Palestinian Water Authority and to international donors on improving water access.

The paper includes a rigorous and extensive analysis of the water situation and is an essential read for donors or international organizations working on water issues in the West Bank and Gaza. It includes an analysis of international law governing water resources. Amnesty International is considered to be an objective watchdog of human rights around the globe and a source of reliable information.

<http://www.amnesty.org/en/library/asset/MDE15/027/2009/en/e9892ce4-7fba-469b-96b9-c1e1084c620c/mde150272009en.pdf>

Amnesty International. Troubled Waters-Palestinians Denied Fair Access to Water: Israel-occupied Palestinian Territories. London: Amnesty International Publications, 2009. Web. 19 March 2012

### Water Desalination: An Imperative Measure for Water Security in Egypt

The objective of this paper is to investigate water desalination as a solution for water scarcity in Egypt. The research demonstrates that new achievements in desalination technology have made the costs for desalting more competitive; however, high energy requirements and lack of know-how are still limiting factors. The author argues that water desalination as a conventional water resource should be considered as an imperative measure for water security in Egypt. It is also suggested that Egypt's future in the field of desalination is based on a real breakthrough in the use of renewable energy: namely, solar energy to be harnessed for operating high-compression pumps needed for reverse osmosis modular systems.

This research can be useful for donors and policymakers interested in solutions to water scarcity in Egypt and the MENA region. It provides a snapshot of the current state of the technology and discusses the potential for desalination without overlooking obstacles to its implementation, providing information that can inform future projects or policy initiatives. This article is published in *Desalination*, the leading international journal covering desalination and advanced water purification.

<http://www.sciencedirect.com/science/article/pii/S0011916409011825>

El-Sadek, Alaa. "Water Desalination: An Imperative Measure for Water Security in Egypt." *Desalination* 250.3 (2010): 876-84. Science Direct. Web. 19 March 2012.

### The Political Economy of Water Demand Management in Yemen and Jordan: A Synthesis of Findings

This report examines power-related obstacles to implementation of water demand management (WDM) measures in Yemen and in Jordan. A power analysis is applied to identify and assess the relative influence of each stakeholder in terms of its support for or opposition to the implementation of WDM measures. The analysis in the Yemen case reveals a marked pattern of powerful stakeholders being opposed to WDM, while relatively weaker stakeholders support it. The stakeholder analysis of the Jordan water sector reveals a much greater variety of positions. The report concludes that opportunities for improvement in water policies are not as bleak as is often thought.

This research presents a useful analytical framework for exploring power asymmetries, an extremely important yet under-investigated issue in water governance. The comparative analysis provides insightful and actionable recommendations for Yemeni and Jordanian governments as well as those promoting WDM in the Middle East in general. Authored by Mark Zeitoun, a consultant affiliated to the School of International Development, University of East Anglia, this report is part of the *Water Demand Management Research Series* published by the Water Demand Initiative in the Middle East and North Africa (WaDImena).

[http://www.idrc.org/uploads/user-S/1258374194/RS\\_5\\_PE\\_of\\_WDM\\_in\\_Yemen\\_and\\_Jordan\\_ENG.pdf](http://www.idrc.org/uploads/user-S/1258374194/RS_5_PE_of_WDM_in_Yemen_and_Jordan_ENG.pdf)

Zeitoun, Mark. *The Political Economy of Water Demand Management in Yemen and Jordan: A Synthesis of Findings*. Regional Water Demand Management Initiative, 2011. Web. 12 March 2012. Water Demand Management Research Series.

### A Financial, Environmental and Social Evaluation of Domestic Water Management Options in the West Bank, Palestine

The aim of this study is to evaluate domestic water management options that can help to achieve water use sufficiency in the West Bank, Palestine. A number of options are evaluated economically, environmentally, and socially using the concept of life cycle impact assessment (LCIA). Results of the study show that by introducing a combination of domestic water management options, a substantial decrease in the water consumption of more than 50 percent can be achieved.

This research proposes a method of evaluating water management strategies to improve the quality of policies and project priorities. It shows how the LCIA can be used to guide planners, donors, and governments. The paper also includes recent statistics, data and graphs to supplement analysis. This paper is published in the international peer-reviewed journal *Water Resources Management*.

<http://www.springerlink.com/content/928052601q118t76/>

Nazer, Dima W., Maarten A. Siebel, Pieter Van Der Zaag, Ziad Mimi, and Huub J. Gijzen. "A Financial, Environmental and Social Evaluation of Domestic Water Management Options in the West Bank, Palestine." *Water Resources Management* 24.15 (2010): 4445-467. Print.

### Iraq's Constitutional Mandate to Justly Distribute Water: The Implications of Federalism, Islam, International Law and Human Rights

This article examines the implications of Iraq's constitutional mandate to ensure the "just distribution" of water in a context where jurisdictional disputes over water may exacerbate fragile ethnic-sectarian tensions. It is argued that such conflicts could be mitigated by Iraq's constitution, which references both Islamic law and international law on how just distribution should be interpreted. The author suggests that Iraq should develop a domestic policy that embraces the principles of "equitable and reasonable utilization" from international trans-boundary water law. Drawing on Islamic and human rights law, it is also suggested that Iraq interpret its just distribution requirement as incorporating a human right to water.

This study examines water distribution in Iraq from a legal perspective. Though not considered action research, the value of this article lies in its rigorous and up-to-date analysis of the water sector in Iraq along with the complex political circumstances that surround it. The paper is published in the *George Washington International Law Review* and is authored by Sharmila Murthy, fellow at the Carr Center for Human Rights, Harvard Kennedy School of Government.

[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1761556](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1761556)

Murthy, Sharmila. "Iraq's Constitutional Mandate to Justly Distribute Water: The Implications of Federalism, Islam, International Law and Human Rights." *George Washington International Law Review* 42 (2011): 1-30. Social Science Research Center. Print.



**Moroccan Natural Ecosystems and Climate Change: Ecological Resilience to the Test**  
*“Les Écosystèmes Naturels Marocains et Les Changements Climatiques : La Résilience Écologique à L'épreuve”*

This publication examines the impact of climate change on a variety of ecosystems, especially arid environments and oases, forest and mountain areas, and coastal and littoral regions found in Morocco. It discusses projections for the impacts of climate change in Africa, the Mediterranean Basin, and in Morocco, which mainly include increased water scarcity, desertification, and natural disasters. In the last section, the authors give recommendations on possible adaptation approaches for Morocco to counter the detrimental effect of climate change on the nation's development.

This book focuses its analysis on the specific case of Moroccan ecosystems. It allows for a thorough and detailed perspective on current and future developments in climate change impacts on the diverse ecosystems in the country. Because of Morocco's diversity and particularity in terms of environment and geographic location, the book can help in drawing parallels with other similar ecosystems in the region. The combined qualitative and quantitative analysis of the climate change issue in Morocco provides critical data for future projections and innovative adaptation strategies. This book is only available in French.

[http://books.google.com/books/about/Les\\_%C3%A9cosyst%C3%A8mes\\_naturels\\_marocains\\_et.html?id=7TLPjwEA\\_CAAJ](http://books.google.com/books/about/Les_%C3%A9cosyst%C3%A8mes_naturels_marocains_et.html?id=7TLPjwEA_CAAJ)

Benzyane, Mohamed. Les écosystèmes naturels marocains et les changements climatiques: la résilience écologique à l'épreuve. Morocco: Centre de Recherche Forestière, 2010. Print.