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Republic of Yemen Country Water Resources Assistance Strategy

Introduction and context

This note contains a summary, for practitioners, of the World Bank Report *Republic of Yemen Country Water Resources Assistance Strategy* (March 2005). The preparation of a Country Water Resources Assistance Strategy (CWRAS) is timely, given the rising pressure placed on water resources by the rapidly growing population, and the emergence of lessons learned from a recent review of World Bank water projects in Yemen.

Yemen's water sector: Problems, goals, and strategies

This section looks at the water situation in Yemen and the recent reforms that have taken place.

Sector context

Factors contributing to the severe water problems faced by Yemen include:

Water resources and uses

- There is no perennial surface water and the country depends entirely on rainfall, groundwater, and flash flooding.
- Population is growing rapidly and per capita water availability is declining.
- Market-led irrigation, which accounts for 90 percent of total water use, is drawing groundwater at unsustainable levels.

Institutional aspects

- Centralized governance and fragmentation of responsibility have contributed to lack of accountability and inefficiency.
- Supply-driven approaches have concentrated on expansion rather than efficient water use.
- Private water markets do exist, but there is no real enabling or regulatory environment.

A decade of reform

Since the establishment of the National Water Resources Authority (NWRA) in 1996, and publication of the influential World Bank report *Yemen: Towards a Water Strategy* in 1997, a wide range of reform measures have been implemented, though with varying degrees of success.

Key water challenges in Yemen today

This section reviews the current situation in Yemen, focusing on the five key challenges facing the water sector.

Challenge 1: Overextraction of groundwater. Use of groundwater has driven rural growth and employment, but has done so unsustainably and inequitably in a weak policy and regulatory environment.

Challenge 2: Equitable and efficient valuation and allocation of water. Private water

This Note reports key messages and findings from the *Republic of Yemen Country Water Resources Assistance Strategy* published by the World Bank in March 2005. Readers may download the complete paper from www.worldbank.org/water.

markets do exist, particularly in urban areas, but are generally informal and unregulated.

Challenge 3: Meeting the MDG in potable water and sanitation. Meeting the Millennium Development Goal (MDG) target of halving, "by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation" will require considerable investment and capacity building, particularly in urban areas.

Challenge 4: The need to protect water sources and the quality of water. Traditional water management techniques have worked well in Yemen in the past, but a broader approach to integrated watershed[1] management is now required, with greater coordination between upstream and downstream demands.

Challenge 5: Building institutional capacity in the public sector. While Yemen has, impressively, created a modern administration in just a few decades, systems of governance remain weak.

Yemen's strategic response to the water crisis

Positive climate for change

A number of factors have started to create a positive climate for a new strategic focus on Yemen's water sector:

- A new Ministry of Water and Environment (MWE), created by the Water Law of 2003, has brought most water institutions under one umbrella, though irrigation and watershed management remain with the Ministry of Agriculture and Irrigation (MAI).
- A national decentralization process will favor participatory and bottom-up approaches.
- The Poverty Reduction Strategy Paper (PRSP) process has fixed attention on poverty reduction and inclusiveness.
- A National Water Sector Strategy and Investment Plan (NWSSIP) has been prepared.

Key actions in the NWSSIP

The NWSSIP is a comprehensive document, and includes detailed proposals on a number of issues, including:

- Integrated management of groundwater, including through water markets and a new incentive structure;
- Greater coordination between MWE and MAI;
- Decentralization of certain NWRA functions to basin level;
- Increased investment to attain the MDGs;
- Encouragement of public-private partnership;
- More equitable water distribution, including through reform of the tariff system;
- Piloting of integrated packages to assess efficiency of new arrangements;
- Preparation of strategies for rural water supply and sanitation and watershed management.

World Bank and Yemen's water sector

Bank involvement

In the 1990s, the World Bank's involvement in Yemen moved away from support for basic infrastructure to a more integrated, demand management approach. Examples of Bank-supported activity during the last decade have included:

- Urban water reform: Sana'a Water Supply and Sanitation Project;
- Demand-driven approaches: Rural Water Supply and Sanitation Project;
- Basin planning: Support to NWRA;
- Improved water use efficiency: Groundwater and Soil Conservation Project;
- Macroeconomic level: 1999 and 2002 Country Assistance Strategy processes.

Impact of Bank interventions on poverty reduction

The Yemen PRSP correctly cites efficient and equitable water resources management as critical to

[1] The word "watershed" properly denotes the dividing line between two river basins, but it is commonly applied to a river's upper catchment area.

poverty reduction. The Bank has been more active in the urban sector, but could increase the pro-poor impact of its interventions by:

- Giving greater emphasis to well-targeted and efficient rural water supply and sanitation;
- Supporting adjustment to a more pro-poor tariff structure in urban water supply;
- Guarding against elite capture in spate irrigation systems and groundwater irrigation efficiency improvements;
- Promoting water user associations, especially as a component of integrated approaches to groundwater management;
- Investing more broadly in watershed management.

Changing attitudes to water: The political economy of water sector reform

Stakeholders in the Yemen water sector have a number of different stances, several of which require adjustment to facilitate reform (table 1). Such changes will require time, dialogue, opportunism, incentives, adaptation, and leadership.

Proposed Bank program

The proposed Bank program in Yemen should be based on a number of key principles, including adoption of a long-term, strategic, sectorwide approach; prioritization of projects that are feasible and that further the reform process; and involvement of a wide range of governmental and nongovernmental actors.

Based on these principles, the following is proposed:

- A near-term (2006–2008) program for the Bank in water, to coincide with the next CAS period;
- A longer-term (2008–2015) indicative program to show what long-term issues the Bank should be working on.

Table 2 summarizes some elements of the program. Each element would be assessed according to agreed criteria. The chances of the Bank being effective are raised by the strategic and selective nature of the proposed action plan.

Table 1. Stakeholder attitudes to water sector reform

Stakeholder	Traditional stance/interest	Change needed
Government	Subsidized investment in water resource development within unregulated market economy; supply-side emphasis	Policy and strategy shift toward cost recovery, sustainability, pro-poor management, decentralization; demand-side emphasis
Large farmers	Groundwater seen as limitless bounty, water rights defended	Recognition of unsustainability of current system
Small farmers	Increased water rights desired	Water user associations, changes in incentives
Domestic users	Subsidized tap water	Accept higher tariffs for improved service
Private sector	Small-scale provision	Facilitating environment for involvement, bringing capital, management skills, entrepreneurship
Donors	Infrastructure investment, stand-alone projects	Integrated water resources management, capacity building, advocacy, pro-poor interventions
Nongovernmental organizations	Public interest	Increased involvement, grass-roots mobilization

Table 2. Yemen CWRAS: Summarized elements of Bank program, 2006–2015

Area of intervention	Near term (2006–2008)	Longer term (2008–2015)
Sector governance		
Agree long-term strategic partnership with government	Agree programmatic economic and sector work (PESW) Sign memorandum of support for NWSSIP Deliver CWRAS	Continue
Improve sector governance	Capacity building in MWE and MAI, particularly regarding irrigation and watershed management	Continue
Adjust incentive structure	Focus on influencing private investment and groundwater behavior	Adjustment lending to support changes in incentive structure
Improve resource allocation	Public expenditure review of water sector	Continue
Water resources management		
Encourage basin management, integrated pro-poor approach to watershed management	Continue Sana'a Basin Project Support NWRA decentralization	Finance watershed management project
Develop community-based model for groundwater management	Implement Groundwater and Soil Conservation Project Support groundwater network for monitoring, learning	Finance project to support broad community-based groundwater management
Develop model for equitable, market-based intersectoral (rural-urban) water transfer	Support pilot on water markets	
Develop model for self-sustaining spate irrigation management	Continue Integrated Irrigation Improvement Project	Second phase of project
Water supply and sanitation		
Urban water supply and sanitation	Continue urban Adaptable Program Credit (APC) Review pro-poor tariff structure	Second phase of APC, including emphases on private sector involvement
Rural water supply and sanitation	Finalize, implement sector strategy	Expand financing through APC with pro-poor focus

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