

Goal: 7

Ensure Environmental Sustainability



Target 9

Integrate the principles of sustainable development into country policies and programmes; reverse the loss of environmental resources by 2015

Status at a glance

Will target be reached by 2015?

Probably Potentially **Unlikely** Insufficient data

State of supportive environment

Strong fair **Weak but improving** Weak

Indicators	1990	2000
% of forest areas	1%	0.9%
GDP per tonne of consumable energy	\$2.5	\$4.4 (1999)
Dioxide emissions (metric tonne per person)	0.7	0.9 (1999)

Source: Ministry of Planning and International Cooperation

1 Current status and trends

Yemen is facing enormous severe environmental problems, which can be summarized as following:

1. Water crisis: Yemen is one of the countries with the scarcest water resources in the world. This is due to the dry climate prevailing in 90% of Yemen's total area, and to high evaporation rates, in addition to the over-utilization and excessive pumping of ground water. The average drop of water levels in most basins ranges between 1-8 meters per year. Water depletion throughout the country stands at approximately 138% of the annual renewable water. Should pumping continue at the same levels, then it is expected that most water basins would be depleted within a period of 15-50 years;
2. Degradation of soil resources: Yemen's cover of soil resources is extremely limited. Arable land constitutes 2% of the total area of land. The cultivated land is 1.3 million hectares, i.e. 2.4% of the total area and 68.8% of the arable land. Therefore, the deterioration of soil resources poses a genuine environmental threat, due to high salinity of soil and desertification, which threatens approximately 97% of the land throughout the country and destroys almost 3 - 5% of arable land every year;
3. Forests: The annual depletion rate of forest areas during the period 1990-2000 was 1.04% due to a host of factors,

- including agricultural activities, over-grazing and wooding. Statistics indicate that 60% of the population is still using wood as fuel. What is so alarming is that the plant cover is being overdepleted. Depletion exceeds tree-planting by far thus creating a serious environmental situation;
4. Biodiversity: Quick environmental deterioration has resulted in a clear recession of the wild plant cover, thus causing a threat to wild life and bio-diversity in general. This situation has recently pushed the government to declare some forest areas wildlife reserves to protect rare species. The Yemeni government has signed several international agreements, set to safeguard bio-diversity, such as the international agreement for protecting bio-diversity, the agreement on preventing desertification and the agreement on the protection of threatened plants and animal species;
 5. Marine and coastal environment: Threats to coastal environment are multitudes. They include: construction expansion on coastal cities, demolition of coasts, sanitation, ships waste. Environmental degradation threatens fisheries, which could be a rich resource if properly preserved; and
 6. Urban environment: The urban environment faces many problems, the most important of which are: severe shortage of sanitation which covers only 44% of the urban houses; inefficient systems



as only 70% of such waste is collected. Most often, such waste is dumped in areas that are not too far from the cities. Hazardous (poisonous) gas emissions from factories, electricity generation plants, transport vehicles and waste burning are yet other important factors contributing to urban environmental degradation.

These problems are further aggravated by the poor environmental management, thus making it difficult to predict whether it will be possible at all to achieve the international goal of "ensuring environmental sustainability" by the year 2015.

2 Challenges

1. Reducing poverty and ensuring sustainable environmental resources by introducing income-generation programmes in the rural areas;
2. Implementing policies and laws relating to environment protection and adopting firm and strong measures against violations;
3. Encouraging stakeholders' participation, including local communities, local authorities and NGOs, in the management of environmental resources and encouraging the private sector to invest in such areas as "fighting" pollution and solid waste recycling;
4. Enforcing the principle of "the violator pays" in relation to urban environment;
5. Encouraging income-generation activities in rural areas to ensure resources sustainability;
6. Promoting awareness about sustainable

Enhanced role of CSOs in addressing environment related issues

Since the early 1990s, there has been an increase in the number of Civil Society Organizations (CSOs) concerned with environmental issues, comparing to one organization prior to 1990. Preoccupations and concerns of these organizations have covered a multitude of areas, including chemical and radiological pollution, preserving bio-diversity and preventive health... etc. The CSO's activity in the area of environment protection was reflected at three levels:

- 1- Organizations and societies active in the field of protection in general. There were 31 societies by the year 2000
- 2- Organizations specializing in a specific aspect of environment protection, such as the pollution prevention societies, including among others the palm-trees protection societies, horses and water protection societies
- 3- Local development societies, which dedicate part of its activities to environment protection activities, including the development of water resources, palm-tree planting, water and stream harvesting, combating desertification developing range land, and preventing over-cutting of trees, protecting fisheries and implementing sanitation projects, cattle breeding, developing bee-hives and conservation of heritage... etc

(Source: Human Development Report-Yemen 2000/01)

for utilization of natural and environmental resources; and

7. Management of environmental information, research and control.

3 Supportive environment (policies and programmes)

Since the early 1990s, the government has taken effective steps to direct more attention to the environment. It established the Environment Protection Council in 1990, after which it passed the Environment Protection Law in 1995. In 1996, it established the National Water Resources Authority. In the same year, the government drafted the National Environment Action Plan, and then the National Desertification Control Plan. It has recently finalized draft National Bio-diversity Strategy. It has also adopted important measures to conserve water and improve water management. These measures culminated in the adoption of the National Water Strategy and the recent issuance of the Water Law in 2002.

At the unofficial level, concern for the environment has been reflected in the formation of several national societies working for the environment, (See box), albeit their role was below expectations.

Researchers, individuals and/or academic institutions have shown increasing interest in environmental studies and research.

The adoption recently of the Poverty Reduction Strategy will have a direct impact on environment sustainability. Work is also underway on the drafting of the Rural Development Strategy, which aims at reducing rural poverty, achieving

resources sustainability, and minimizing risks for the poorest categories of the rural population. However, institutional structures are not yet strong enough, nor are environmental legislations, which are weak inter-related and lacking executive bills, let alone the poor implementation of these laws and bills and the poor database.



4 Priorities for development assistance

Development partners can provide effective support in the following areas;

1. Capacity-building programmes based on improving management, planning, and institutional structures, as well as developing human resources and promoting environmental awareness;
2. Follow-up and environmental evaluation to enhance capacity in policy formulation, analysis, research and environmental studies;
3. Supporting Yemen's efforts to develop environmental management. Support is also needed to develop capacities at the

- central authority and stakeholders levels, in the implementation of the principle of broadening participation in management of environmental resources;
4. Developing information systems to improve knowledge and data base and enhance its role in the evaluation of environmental resources; and
 5. Technical assistance in the field of energy substitutes for impoverished rural concentrations.

5 Reverse Environmental Losses: Monitoring and Evaluation Environment

Elements of monitoring environment	Assessment		
	Strong	Fair	Weak
Data gathering capacities			
Quality of recent survey information			
Statistical tracking capacities			
Statistical analysis capacity			
Capacity to incorporate statistical analysis into policy, planning and resource allocation mechanisms			
Monitoring and evaluation mechanisms			



Reduce by half the proportion of People without sustainable access to safe drinking water by 2015

Status at a glance

Will target be reached by 2015?

Probably Potentially **Unlikely** Insufficient data

State of supportive environment

Strong fair **Weak but improving** Weak

Indicators	1991	1999	2015
Proportion of population without sustainable access to safe drinking water	65.1	64.1	32.6

Source: Demographic Survey of Maternal and Child Health (1991/92) National Poverty Survey (1999)

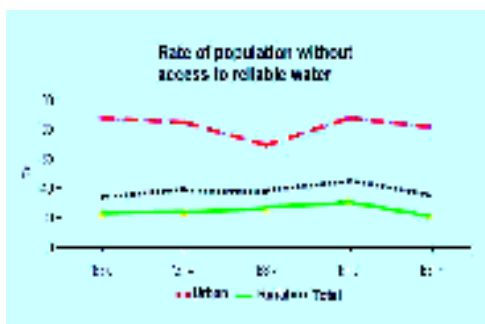
1 Current status and trends

The general trend in Yemen suggests that the achievement of the MDG by the year 2015 will not be possible for the following reasons:

1. Scarcity of water resources in Yemen and weak sources of coverage, thus reflecting negatively on the water distribution programme;
2. High annual population growth rate of 3.5% and expansion of economic activity, thus creating an increasing demand for water; and
3. Water pollution and low quality of water in most basins, aggravated by water salinity in coastal areas.

Water resources in Yemen have reached a critical stage, threatening with a crisis, thus making water security a national challenge requiring enormous efforts. Expectations indicate that water reserves will not be sufficient for the coming few years. Official data shows a deficit of 900 million cubic meters, noting that these predictions are based on the present levels of demand, which, in reality, are at their lowest levels. Consumption of water from municipal sources constitutes only 7-10% of water consumption. The average per capita of municipal water ranges between 11 and 30 cubic meters per annum. It is most likely that the consumption rates will further drop as a result of population and

economic growth, and rapid urbanization rate of 8% per annum .



The general trend for the period 1990 - 2000 suggests stable access to drinking water at the national level, despite the fluctuations witnessed during this period.

The National Poverty Survey has shown that 36% of all Yemeni families receive drinking water from the main water network, while the remaining 64% receive water from other sources, including, in order of priority: water wells (with and without pumps), streams and springs, covered and uncovered pools, dams, etc.

In light of the data and information available, it will be difficult to achieve the MDG of reducing the proportion of population who does not receive safe drinking water by the year 2015.



4 Priorities for Development Assistance

Due to the great disparities in access to safe drinking water between rural and urban areas, development assistance provided by partners should focus on supporting the goals of improving access to safe water in rural areas, giving special consideration to the following matters:

1. Building national capacities at the local and central levels to help to implement the Water and Sanitation Reform Sector;
2. Building the capacities of those involved in planning, management and maintenance of the water infrastructure to expand coverage of safe drinking water in rural areas;
3. Creating a national information system to ensure safe drinking water supplies;
4. Finalizing assessment of water reserve

in water basins, controlling of water resources and monitoring the factors affecting it;

5. Providing support to experiments, research and activities capable of contributing to the efficient utilization of water resources;
6. Establishing and applying quality assurance systems, quality control and scientific laboratories;
7. Accomplishing the sanitation and treatment plants in the various cities;
8. Applying modern technologies for water rationing purposes; and
9. Establishing a comprehensive system to upgrade and maintain the water network to reduce water loss.

5 Access to Safe Drinking Water: Monitoring and Evaluation Environment

Elements of monitoring environment	Assessment		
	Strong	Fair	Weak
Data gathering capacities			
Quality of recent survey information			
Statistical tracking capacities			
Statistical analysis capacity			
Capacity to incorporate statistical analysis into policy, planning and resource allocation mechanisms			
Monitoring and evaluation mechanisms			

6 Financial Resources Needed to Achieve the Safe Drinking Water Goal:

To achieve the MDG of ensuring access to safe drinking water, tremendous efforts need to be made to increase the number of households receiving safe tapped drinking

water. Currently, the coverage rate of this service is very low. The table below shows the required resources and the funding gap for the period 2001/15.

Resources (in millions US Dollars)	Total		Annual Average	
	2001-2005	2006-2015	2001-2005	2006-2015
Total resources required	438	1,540	88	154
Total public expenditure	357	1,147	71	115
Additional resources needed (financial gap)	81	393	17	39

