

## ENSURE ENVIRONMENTAL SUSTAINABILITY

**Target:** Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources

**Target:** Halve the proportion of people without sustainable safe drinking water.

**Target:** By 2020, to have achieved a significant improvement in the lives of at least 100 million slum dwellers

**Performance Summary**

Will Development goal be reached?

Possibly-Probably-Unlikely-**Lack of Data**

**State of Supportive Environment**

Strong-**Fair**-Weak but Improving-Weak

### Status and Trends

Unchecked high population growth, and ad hoc urbanization and industrialization, undoubtedly will result in depletion of natural resources and, diminishing biodiversity. This operates contrary to the government strategy of adopting sustainable development policies, and a setting that intended to effectively set Agenda 21 in motion. It is paramount that integration of environmental management becomes an integral part of the overall development objectives.

#### Land area protected to maintain biological diversity

Three sites have been set aside as protected areas in the Kingdom of Bahrain with a total area of 71.54 sq km, 10 per cent of the total area of the country. The Tubli Bay Protected Area is a diverse marine environment which shrank from 24 sq km in 1956 to a mere 12 sq km by 2000. The second protected area is the Hawar Islands estimated at 51.4 sq km in which animal and bird life is protected. These two sites are registered in the RAMSAR Treaty. Al-Areen Wildlife Sanctuary is a third protected area of 9.14 sq km containing rare and endangered Arabian wildlife species as well as desert plants.

#### Carbon dioxide emissions (per capita)

The energy sector produces the highest level of CO<sub>2</sub> emissions of 75 per cent followed by waste and effluents, Table (1). The two major producers are power stations and the aluminum industry. Although CO<sub>2</sub> emissions from the transportation sector represent only 5.6 per cent of the total, dependency on private cars has increased the number of vehicles from 14 persons per car in 1970 to 3.3 in 1997. At present, more than 90 per cent of Bahraini families own at least one car and about half own at least two cars.

Table (1)  
Major sector GHG emission in the state of Bahrain

Sector	G.gram Co2	%
Energy	17,428	75.8
Waste	2,327	10.1
Industrial Process	1,895	8.2
Transport	1,300	5.7
Other	46	0.2
Total	22,996	100.0

Source: Environmental Affairs

*The energy sector produces the highest level of CO<sub>2</sub> emissions.*

Even though GHG emission and its contribution of CO<sub>2</sub> to the world total is less than 0.1 per cent, the protection of the atmosphere and abatement of global warming is important. A preliminary vulnerability assessment indicates that due to high carbon dioxide emission the Kingdom's land area will have an inundation level of 5 per cent if the sea level rises by 20cm and 10 per cent if the sea level rises by 100 cm.

#### Proportion of population with sustainable access to an improved water source

According to MDG survey, universal access to improved water resources is 100 per cent, a figure which contributes substantially to the high standard of living in the Kingdom of Bahrain. Since 1986 domestic water has increased at 6 per cent per annum. Average per capita water use is more than 500 liters per day, all dependent on depleted groundwater sources and costly desalination processes. Nearly one-third of water demand is met by groundwater abstraction, while desalinated water contributes to two-thirds

*Universal access to improved water resources is 100 per cent.*

#### Proportion of people with access to improved sanitation

The MGD survey revealed that 97.1 per cent of Bahraini families have flush toilets and only 2.6 per cent have toilets not equipped with flush. On the other hand, the areas provided with a

sewerage system has increased steadily every year, and is planned by the year 2010 to reach virtually all inhabited areas of Bahrain. An official report published in 1993 indicated that 75.3 per cent of the population was provided with central sewerage facilities.

## Challenges to Achieving the Goal

### Marine environment

Bahrain has approximately 126 km of coastline and 8,000 km<sup>2</sup> of marine area, an area where more than 90 per cent of the population lives close to it, which is posing great threat to these natural resources. For instance, it is reported that about 82 per cent of coral reefs in marine areas are endangered due to bleaching and pollution. Implementing sustainable development plans that concentrate on adopting policy measures to integrate coastal zone management and conservation of marine resources represent a national challenge.

### Water management

As mentioned before, the country suffers from a scarcity of water resources, although, only 30 per cent of the sewage effluent is tertiary treated currently and used in watering forage crops and landscapes. The future plans aim at fully utilizing recycled wastewater of the expected effluent of 200,000 m<sup>3</sup> per day by 2010, which will save 20 per cent of the current annual abstract.

### Management of wastes and chemicals

On the other hand, it is estimated that 1400 tons of municipal waste are generated per day, well above 464 kg/person/year considered relatively high for a developing country. Municipal waste is increasing annually by 3.4 per cent, whereas industrial solid and oily wastes as well as solid healthcare wastes are on an annual rise of 1.2 and 5 per cent respectively. Most of this waste is dumped in landfill sites with healthcare waste being incinerated. Implementing an effective waste management, including recycling, should become a priority.

Furthermore, Ministerial Order No:7 of 2002 bans 127 hazardous chemicals and severely restricts the importation and use of further 255 ones. In 2002, Bahrain signed the Stockholm Convention on Persistent Organic Pollutants and in January 2003, UNEP assisted with the formulation of a Plan of Action to further strengthen Bahraini's capability to implement the Convention. GEF was invited to support.

## Supportive Environment

The political will and support for sustainable development in the country is expressed in the Charter of National Action (CNA) adopted by a referendum in 2001. Since its adoption, significant steps have been taken to consolidate social organizations, in order to activate interest and participation in synthesizing sustainable development policies.

A central committee for preparing a national plan to execute Agenda 21 has been formed from representatives of all Ministries, NGOs, and academia. Both civil society organizations and the recently elected Municipal Councils are keen to participate in decisions aiming to improving the physical environment of their constituencies.

In addition, the Kingdom's interaction with the international community and signing of many international conventions has created an opportunity for revising legislations and development plans to incorporate environmental considerations. Furthermore, the implementation of a currently under preparation "National Environmental Strategy" that is supported by UNDP should result in the creation of a national capacity capable of balancing the diverse interests of economic, environmental, and societal development.

## Priorities for Development Assistance

- Support the capacity-building initiatives that are targeting the newly formed environmental body, which is a primary factor in dealing effectively with diverse environmental and natural resource issues. These initiatives are essential for ensuring proper capacity that is capable of ensuing an environmentally sustainable development policies and optimum utilization of natural resources.
- Development and implementation of a national strategy for sustainable development, including coastal zone management plan, with participation of all partners.
- Institutionalization and consolidation of environmental impact assessment policies based on sound environmental information system and database.

*Bahrain suffers from a scarcity of water resources.*

*The "National Environmental Strategy" prepared by UNDP will create a national capacity to deal with the environment.*