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Environmental Performance Reviews

UZBEKISTAN - 2010

highlights

Since 2001, Uzbekistan has moved through significant periods of economic development and privatization. Economic growth results have been impressive, and between 2002 and 2012 gross domestic product (GDP) has increased by 80.2 per cent

The increase in the rates of taxes on natural resources, while reducing profit tax rates, enabled Uzbekistan to make a shift towards green taxation. Tariffs have become more cost-reflective and the collection rate has increased. Environmental management, in particular spending on water supply and sanitation, is recognized as a priority in the country. The system of environmental funds has proven its role as a reliable source of funding for environmental purposes.



Water management

Despite its rich and varied natural environment, Uzbekistan became the centre of several serious environmental crises.

Average water losses are 37 per cent, and in a number of regions this figure ranges from 38 to 58% due to various technical and organizational problems, such as obsolete equipment and missing water flow meters. Irrigation consumes 90 per cent of the total volume of water used. There are huge losses of water in the agricultural sector due to the degraded irrigation infrastructure and the application of obsolete irrigation techniques.

The current quality of the country's water resources remains unsatisfactory. The pollution of surface water bodies and groundwater is widespread. The highest level of mineralization and pollution is observed in the middle and lower reaches of the main rivers. This presents a serious threat to the health of the population and to the conservation of habitats. Polluted water comes from irrigated agriculture (78 per cent), industry (18 per cent) and the municipal sector (4 per cent). Overuse of agrochemicals results in the intensive pollution of water resources, from the irrigated fields into collector-drainage waters. Although industrial effluents are slightly smaller in volume, they are more dangerous and harmful because of their level of toxicity.

Many people have to use water from wells and irrigation canals. In most cases, this water does not meet sanitary requirements, especially in the summer. Currently, about one third of the country's population consumes drinking water that does not meet the national requirements. Water pollution plays a determining role in the increase in morbidity rate (kidney disease, oncological and acute infectious diseases).

Aral Sea

The abstraction of huge amounts of water for irrigation purposes from Amudarya and Syrdarya, the two main rivers in the region, the widespread use of agrochemicals and the insufficient treatment of wastewater are causing health and environmental problems on a large scale. In 2008, the Aral Sea covered only 10 per cent of its original size. Uzbekistan has shifted its attention away from restoring the Aral Sea towards creating a series of lakes to its south.

Map 1: Aral Sea 1960-2008



Land management

Agriculture is one of the key sectors of Uzbekistan's economy, contributing to GDP by some 30 per cent. Cotton is the country's most important cash crop. Uzbekistan is the world's second largest cotton exporter after the United States. The amounts of irrigation water, pesticides and fertilizers required for cotton cultivation are high. The level of direct state intervention in the production of cotton and wheat remains high, and there are no pricing incentives to rationalize the use of natural resources, particularly water.

Land management faces problems such as soil salinity, soil erosion and the contamination of soil by harmful substances. Despite the stabilization after the more negative trend in the 1990s, the overall degree of land degradation in irrigated areas is high, with about 55 per cent suffering from degradation and reduced fertility levels in some form.

The use of chemicals for cotton cultivation, inefficient irrigation and poor drainage systems have led to a high filtration rate of contaminated and salinized water back into the soil. As a result, the freshwater supply has received further contaminants. Almost 50 per cent of all irrigated land is classified as saline, and about 5% of irrigated land is severely saline.

Pastures are the most widespread form of land use for agricultural purposes. Permanent meadows and pastures cover 54 per cent of the country's territory.

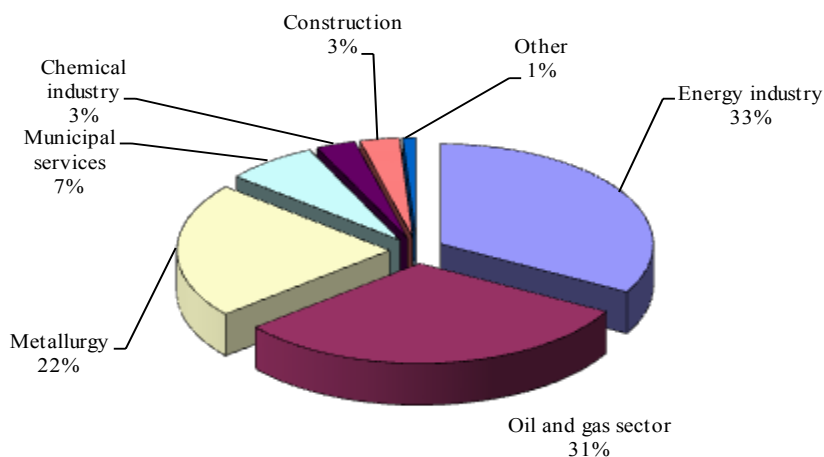


Aral seabed close to Muynak

Overgrazing caused the degradation of more than 16.4 million ha (or 73 per cent) of grazing land. Moreover, the removal of vegetation for fuel initiates erosion processes. Unsustainable management practices are widespread and pose the threat of further land degradation. The lack of crop rotation together with the limited use of organic fertilizer, lead to low organic matter content in the topsoil and reduced soil fertility.

Energy and environment

Figure 1: Emission of polluting substances into the atmosphere from the main economic sectors



Source : State Committee for Nature Protection, 2009.

Despite the great potential of renewable energy, especially solar energy, there is no plan to develop renewable energy sources. On the contrary, Uzbekistan anticipates increasing the share of coal in energy sector from 5 to 10 per cent in the next five years, which would lead to a large increase in emissions. The energy industry is the largest and the oil and gas processing industry is the second largest fixed source of the country's air pollution. The high sulphur content (up to 2.7 per cent) in crude oil and an absence of desulphurization lead to high sulphur dioxide emissions from thermal power stations, boiler houses and refineries.

Climate change

The drying up of the Aral Sea and high water losses through evaporation underline the close links between climate change, water security and development in Uzbekistan.

Water availability for irrigation and household consumption are among the areas most vulnerable to the impact of climate change. The annual total water deficit in Uzbekistan in 2005 was estimated at 2 km³. According to projections it is possible that the water deficit will increase to 7 km³ by 2030, rising to as much as 13 km³ by 2050. At the same time, it is estimated that the required increase in irrigation rates due to the consequences of climate change will be 5 per cent by 2030, 7–10 per cent by 2050, and 12–16 per cent by 2080.

If the current water-inefficient agricultural practices continue or are changed only marginally, climate change will inevitably lead to significant water shortages and, subsequently, to food and agricultural production shortfalls. A good example is cotton, the most important crop in the country, both in terms of exports and employment. Cotton is vulnerable to further increases in the number of days with extremely high air temperatures (over 39°C), which are expected to cause a considerable decrease in yield. Losses due to high temperatures and low moisture conditions are estimated to range from 9 to 15 per cent.

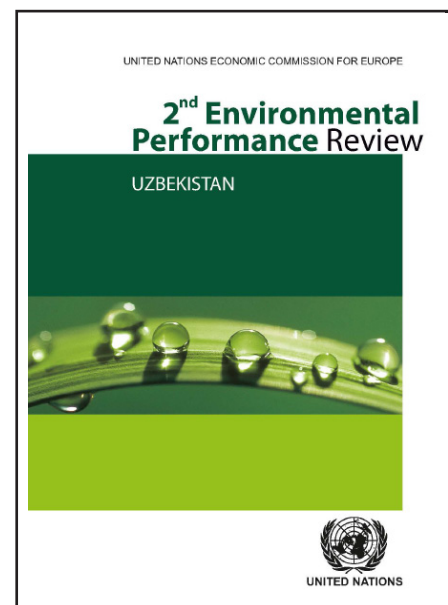
Expected increases in air temperatures will increase water losses in irrigation zones as a result of evaporation. To sustain agricultural output drastic changes will have to take place in irrigation technologies, practices (for example, night irrigation or the use of plastic chutes) and the choice of cultivated varieties (use of less water-intensive crops or of improved, drought-resistant varieties).

To satisfy increased water demand, likely short-term solutions, such as compensating for water losses by extracting groundwater reserves, will lead to the long-term aggravated exhaustion of these resources and intensify the desertification processes.

The second Environmental Performance Review (EPR) of Uzbekistan was carried out in 2008-2009. Recommendations to the country were adopted by the United Nations Economic Commission for Europe (UNECE) Committee on Environmental Policy in October 2009.

The EPR Programme assesses a country's efforts to reduce its overall pollution burden, manage its natural resources in a sustainable way, integrate environmental and socio-economic policies, and strengthen cooperation with the international community.

The most recent reviews include: Kazakhstan (2008), Kyrgyzstan (2009), Georgia (2010).



Printed EPR reports may be obtained from the United Nations Publications department at: <https://unp.un.org/>

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For further information please contact:

UNECE Information Unit
Palais des Nations, Geneva, Switzerland
Fax: + (41) 22 917 05 05
E-mail: info.ece@unece.org