

UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE

# ENVIRONMENTAL PERFORMANCE REVIEWS

## Tajikistan

Third Review  
Synopsis



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## *Preface*

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This third Environmental Performance Review (EPR) of Tajikistan takes stock of progress made by Tajikistan in the management of its environment since it was reviewed for the second time in 2010 and assesses the implementation of the recommendations made in the second review. It covers issues of specific importance to the country related to legal and policy frameworks, the financing of environmental expenditures, greening the economy, air protection, water and waste management and biodiversity conservation. It also examines the efforts of Tajikistan to integrate environmental considerations in its policies in the agriculture, industry, energy, transport, housing and health sectors and highlights the progress achieved in the management of disaster risk associated with natural and man-made hazards.

The review further provides a substantive and policy analysis of the country's climate change adaptation and mitigation measures and its participation in international mechanisms. The successes of Tajikistan in the achievement of the Millennium Development Goals are highlighted, as well as the challenges to be addressed by the country when implementing the globally-agreed Sustainable Development Goals.

The third EPR of Tajikistan began in August 2015 with a preparatory mission to agree on the structure of the report and the schedule for its completion. A team of international experts took part in the review mission from 9 to 18 November 2015. The draft report was submitted to Tajikistan for comment in September 2016. It was submitted to the ECE Expert Group on Environmental Performance Reviews for consideration in November 2016. During its meeting on 7 and 8 December 2016, the Expert Group discussed the draft report with expert representatives of the Government of Tajikistan, focusing on the conclusions and recommendations made by the international experts. The recommendations, with suggested amendments from the Expert Group, were then submitted for peer review to the ECE Committee on Environmental Policy at its twenty-second session on 26 January 2017. A high-level delegation from Tajikistan participated in the peer review and the Committee adopted the recommendations in this report.

The Committee and the ECE secretariat are grateful to the Government of Tajikistan and its experts who worked with the international experts and contributed their knowledge and assistance. ECE would also like to express its appreciation to the German Federal Ministry for Environment, Nature Conservation, Building and Nuclear Safety and the German Federal Environment Agency for their support by providing funds through the Advisory Assistance Programme, and to Switzerland for its financial contribution. Sincere thanks also go to Finland, Portugal, the World Health Organization and the Joint United Nations Environment Programme/Office for the Coordination of Humanitarian Affairs Environment Unit for having provided their experts and to the United Nations Development Programme for its support of this review.

ECE also takes the opportunity to thank Austria, the Netherlands and Norway for their general financial support to the EPR Programme and expresses its deep appreciation to Belarus, Estonia, Georgia, Germany, Hungary, Montenegro, the Republic of Moldova, Romania, Sweden and Switzerland for having provided their experts for the ECE Expert Group on Environmental Performance Reviews, which undertook the expert review of this report.



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## *Executive summary*

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*The second Environmental Performance Review (EPR) of Tajikistan was carried out in 2010. This third review intends to assess the progress made by Tajikistan in managing its environment since the second EPR and in addressing new environmental challenges.*

### **Legal, policy and institutional framework**

*A number of new environmental laws have been adopted since 2010, with some of them tackling new issues for Tajikistan.* These include, among others, the 2011 Law on Environmental Audit, which provides for mandatory and voluntary environmental audit to be performed by licensed environmental audit organizations. Significant amendments made to pre-2010 legislation included the introduction in 2012 of a new chapter on basin water management into the 2000 Water Code.

*Progress has been achieved in integrating environmental considerations into sectoral legislation, although such integration is still at the initial stage.* It can be observed at the level of laws and is almost absent at the level of subsidiary legislation.

*The quality of environmental legislation has much room for improvement.* There are a number of contradictions and inconsistencies in the environmental legislation. There are cases of no action having been taken for years to align existing legislation with newly adopted laws or governmental resolutions.

*Progress has been made in improving the accessibility of legislation, including environmental legislation, to governmental officials.* However, the population has free online access only to laws and not to subsidiary legislation.

*Integration of environmental considerations into sectoral strategic planning is still at the initial stage.* Steps are being made to introduce strategic environmental assessment (SEA) into the national legislation.

*The 2016 National Development Strategy for the period until 2030 aims to align the national development agenda to the 2030 Agenda for Sustainable Development.* The environment-related measures include increasing access to water supply systems, sanitation and hygiene; strengthening incentives on environmental protection for the population and economic entities; and development of a natural hazards risk management system.

*The low status of the Committee on Environmental Protection is the core reason for insufficient progress with integration of environmental requirements into sectoral policies and legislation.* The current status of the Committee is not sufficient to ensure the implementation of the ambitious development agenda, set in the 2016 National Development Strategy for the period until 2030 and other strategic documents on environment and socioeconomic development.

*No clear separation of management function and state control function exists in forest management as both functions are vested with the Forestry Agency.* Moreover, the transfer of the protected areas competences from the Committee on Environmental Protection towards the Forestry Agency in 2013 raises concerns with regard to the inherent conflict of responsibilities of the Forestry Agency, which is entrusted to manage forests and at the same time ensure the observance of the protected area regime.

### **Regulatory and compliance assurance mechanisms**

*Policy documents on compliance assurance are scarce.* There are neither defined strategic priorities on environmental law enforcement nor targets on using different compliance assurance instruments to address those priorities at the national and subnational levels.

*The regulated community is well identified, as there are multiple possibilities to receive relevant information about an enterprise. Sector-specific databases that contain relevant enterprise-level information exist in different*

*ministries and agencies.* However, an information system ensuring the interconnection of databases and registers on permits and inspection activity and with external partners does not exist.

*Some improvements occurred in developing product standards.* Quality requirements for marketed fuel were established. On energy efficiency, a few technical standards and regulations were developed, including new norms on the insulation of buildings. Other recent technical regulations set labelling requirements for food products and safety requirements for fodder.

*The 2012 Law on Ecological Expertise, together with subsequently adopted procedures for conducting the state ecological expertise (SEE) and environmental impact assessment (EIA) streamlined the mechanism of environmental assessment of projects.* However, several aspects (e.g. screening and scoping, or the role of the competent authority in EIA) still remain unclear. The lack of guidance materials on EIA and the lack of a publicly accessible information system containing data on previous EIAs are the drawbacks of the current assessment system. Transboundary aspects receive only a brief mention in the legislation on EIA/SEE.

*The system of inspection went through a decade-long process of reform, launched by the enactment in 2006 of the Law on Inspections of Business Entities, later replaced with the 2015 Law.* Compliance monitoring activity is shown to be very intense, but its focus is mainly outside the environmental performance of the industrial sector. Inspection checklists are used but they are rather generic; there are no environmental checklists for different sectors. Other sector-specific guidance materials are not available. Available information on inspection activities is not analysed.

*Tajikistan is starting to use environmental-risk-based approaches for better planning regulatory and enforcement activities.* In 2013, the list of facilities and types of activity subject to EIA introduced risk-based categories for environmental assessment purposes. Earlier, the 2006 Law on Inspections of Economic Entities introduced risk-based requirements for determining the frequency of compliance monitoring actions. However, a list of high-risk facilities based on health and environmental criteria was never developed, so environmental inspections are not planned based on the clear and objective criteria of risk.

*Self-monitoring by the regulated community is an important challenge.* Only about 60 facilities have established self-monitoring. Many of them are municipal wastewater treatment plants (WWTPs) that check a few routine parameters in effluents. There is no legal obligation for operators to regularly report on the acquired data to the authorities.

*Environmental compliance promotion activities remain sporadic.* Only two companies, of which one industrial plant, are ISO 14001 certified. Steps to promote the private sector performance are taken mainly by non-state actors with support from international partners, sometimes outside environment-specific projects.

*Corporate social responsibility and related reporting are at initial stage.* Information disclosure by mining companies in Tajikistan is mainly oriented towards external audiences. Contribution to social issues is the most established form of corporate social responsibility.

*The current environmental enforcement practices are biased towards petty offences.* Monetary penalties are numerous but established and applied at low levels. The legally set level of fines is lacking proportionality in a number of cases. The court system exhibits low awareness about, and experience in, environmental cases.

### **Economic instruments and environmental expenditures and investments for greening the economy**

*The long-standing system of charges on emissions of air pollutants, discharges of water pollutants and generation of industrial waste has not undergone any significant changes since 2010.* Charge rates, which have remained unchanged for some two decades in the presence of high cumulative inflation, are too low compared with the marginal abatement costs of any significant pollution reduction. The number of air and water pollutants subject to charge rates is high, which raises the issue of the resources required to administer this system relative to the environmental benefits.

*The Government levies a tax on mobile sources of air pollution in the form of an excise duty on motor fuels.* Although the tax rate was raised in 2014, it is still very low and unlikely to promote emission reductions from

road motor vehicles. Rates are also not differentiated based on fuel quality, notably as regards the sulphur content of diesel.

*Tariffs for services provided by municipal utilities (water supply and sanitation, waste collection) have been raised significantly for all customer categories since 2010.* The significant feature of the tariff regime is, however, for tariffs applied to legal entities, notably enterprises, to be significantly higher than household tariffs. This points to a continuing system of cross-subsidies in favour of the population. Total revenues collected by municipal utilities are far from sufficient for recovering operating costs.

*Although progress with the installation of water meters has been made in urban areas, most households are not yet equipped with water meters.* Water meters are central to reforming the water sector on the demand side and a necessary condition for the introduction of cost-reflective household tariffs.

*There have been attempts to establish differentiated irrigation fee rates for the two irrigation systems (gravity irrigation and pump irrigation) in order to improve cost recovery.* However as of late 2015, a unique tariff for irrigation water supply at the level of 1.5 dirams/m<sup>3</sup>, excluding VAT, was in place. The unique fee rate allows for broadly covering the costs of operation and maintenance for the gravity system but not the corresponding costs for the pump system. This has contributed to the progressive deterioration of the irrigation and drainage network.

*State budget funds allocated to environmental protection have remained quite limited and were mainly used for financing recurrent expenditures.* A more or less predictable source of financing for environmental expenditures is the earmarked revenues from the collection of pollution taxes and other earmarked charges. However, in general, these resources are too small to finance significant investments. There is a lack of information concerning the kinds of projects and measures financed from these funds.

*Foreign financial assistance has become the mainstay of efforts to promote the economic and social development of Tajikistan.* The Government's annual Public Investment Programme is entirely financed by foreign donor funds. Foreign financial funds were allocated predominantly to the energy and transport sectors, which accounted for some 51 per cent of total disbursements during the period 2011–2014. Water supply and sanitation, together with other communal services, had a share of 5.2 per cent, while environmental protection (in the narrow sense) accounted for 2.3 per cent of total foreign aid.

### **Environmental monitoring, information, public participation and education**

*The environmental monitoring networks are poorly equipped. In particular, this applies to the networks under the Committee on Environmental Protection, including Tajikhydromet, and the Ministry of Health and Social Protection of the Population.* Due to poor equipment, and the lack of chemicals and fuel required to travel to monitoring points, monitoring covers limited monitoring points and monitored parameters on ambient air and water pollution. Forests and biodiversity are monitored using estimating methods.

*Since 2010, the Agency of Statistics has suspended the collection of statistical reporting data on water.* Comprehensive data on water use and water pollution are no longer available.

*In general, the current environmental monitoring system is not indicator based.* The report on the state of the environment was last published in 2010. In early 2016, the Agency of Statistics began to establish an online state of the environment report.

*Environmental information is used mostly for reporting to higher levels.* It is rarely used by public authorities as a tool for development and implementation of environmental policy, monitoring and evaluation of environmental performance.

*Dissemination of environmental information has improved as compared with 2010; this applies in particular to the Committee on Environmental Protection.* Other public authorities actively disseminate environmental information on a more limited basis.

*Public requests for access to environmental information ("passive" access) are not common.* The annual average number of public requests for environmental information submitted to the central office of the Committee on Environmental Protection is less than one hundred.

*The Committee on Environmental Protection and the Forestry Agency cooperate actively with a number of environmental non-governmental organizations (NGOs).* This includes undertaking joint public environmental awareness campaigns and joint actions such as planting trees and conducting training on environmental issues. Other public authorities are less used to cooperation with environmental NGOs and activists.

*In the current EIA/SEE system, public participation as a mandatory element of the procedure is envisaged only at the EIA stage.* At the SEE stage, the possibility of public participation is provided through the so-called public ecological expertise, which is rarely conducted in practice. Public participation in EIA continues to be limited and is mainly organized as part of the projects co-funded by international financial institutions.

*The public seldom takes up opportunities for access to justice on environmental matters.* NGOs have sometimes challenged in the courts the denial of requests for environmental information. More common is the practice of administrative review of complaints by representatives of the public on environmental matters.

*Tajikistan has achieved progress on environmental education.* It has not yet moved towards integration of the elements of Education for Sustainable Development (ESD) into its educational system. Some initiatives to promote ESD take place within the framework of international projects; however, there are no specific legal and policy frameworks to support ESD. Textbooks and guidance materials for teachers on ESD are almost non-existent.

## **Air protection**

*Data on total air pollution provided by the Agency of Statistics, which are mostly calculated by using emission factors, are of the same order of magnitude as the estimated data from the Co-operative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe (EMEP), with the exception of emissions of sulphur dioxide, nitrogen dioxide and carbon monoxide, which are four times higher in the EMEP data.* In contrast with the EMEP data, which show a gradual increase in air emissions in the last 5–10 years, data from the Agency of Statistics show a small reduction in emissions from both stationary and mobile sources.

*With greenhouse gas (GHG) emissions of 0.4 ton of CO<sub>2</sub> per capita, Tajikistan ranks 160th out of 200 countries.* Since 2005, GHG emissions have been stable but, due to the future growth of the population, increased traffic, a growing economy and industrial and agricultural production, GHG emissions are expected to increase in the near future.

*From 1990 to 2010, there has been an enormous shift in the sources of GHG emissions.* In 1990, the energy sector was by far the largest source of GHG emissions (70.46 per cent) and CO<sub>2</sub> by far the most emitted GHG. In 2010, GHG emissions from the energy sector reached 7.47 per cent of those in 1990. Industrial emissions of GHGs in 2010 were 41.49 per cent of the 1990 level. GHG emissions from the agricultural sector increased since 1990 by 17.25 per cent.

*Emissions of NH<sub>3</sub> have increased in the last 10 years due to the growth of livestock husbandry.* Tajikistan has not yet assessed the emission abatement potential. Technical measures based on the application of best available techniques in stables and manure management can reduce the emission of reactive nitrogen compounds. Uncertainties in emission inventory lead to the limited accuracy of emission modelling.

*Heat and power plants, the chemicals industry and manufacturing industries make an important contribution to the SO<sub>2</sub> emissions by their combustion of fossil fuels.* Although the use of fossil fuels in Tajikistan is relatively low, growing use is possible because of the rapid population growth and uncertainties surrounding the future use of hydropower, due to climate change risks.

*Many central heating systems in residential areas have boiler houses heated with natural gas or fuel oil, which are no longer working, since gas imports decreased after 2010. Heating of houses in these areas is now mostly*



*achieved by electricity, bottled gas or coal-fired stoves.* Such stoves contribute to a deterioration of the ambient air quality, as emissions are not abated and chimneys are relatively low.

*Although at present the contribution of Tajikistan to global GHG emissions is very low, Tajikistan is highly vulnerable to the impacts of climate change.* The rapid entry into force and effective implementation of the 2015 Paris Agreement is therefore beneficial to Tajikistan.

*Tajikistan is not a Party to the Convention on Long-range Transboundary Air Pollution and its protocols.* Participation by Tajikistan in the Convention would give the country better access to the necessary knowledge to develop a monitoring strategy on air pollution, a solid system of emission inventories and an air quality strategy.

## **Water management**

*Irrigation is the main water use, accounting on average for 77 per cent of total consumption during the period 2009–2014.* In the same period, each of the other economic sectors accounted for between 3 and 4 per cent. In 2014, the consumption of water by households was 330 million m<sup>3</sup>, which represents 3.73 per cent.

*Progress was achieved with regard to improving access to water and sanitation in line with the Millennium Development Goals.* With regard to access to an improved drinking water source (Indicator 7.8), there was a 23.3 per cent improvement in the period 2000–2015, from 60 per cent of the population in 2000 to 74 per cent in 2015. Most of the increased access was in rural areas (an increase of 39.6 per cent). Similarly, the proportion of the population using an improved sanitation facility (Indicator 7.9) increased by 5.6 per cent in the same period, from 90 per cent in 2000 to 95 per cent in 2015, with a 2.2 per cent increase in urban areas and a 6.7 per cent increase in rural areas.

*The control of drinking water safety parameters and water quality monitoring in centralized and non-centralized systems is conducted by the Service of State Sanitary and Epidemiological Surveillance.* Of over 40,000 facilities under its supervision, only 60 per cent are inspected, mostly due to the lack of human and financial resources.

*Almost the entire sewerage infrastructure is in a deteriorated state and requires rehabilitation, with over 70 per cent of existing systems having high wear and tear.* About 80 per cent of wastewater treatment facilities do not meet technical requirements, so wastewater in urban areas undergoes only partial biological or mechanical treatment prior to being discharged directly to water bodies. Since 2010, no major sewerage systems or WWTPs have been constructed, planned or rehabilitated.

*The irrigation and drainage network comprises 384 pumping stations of various types and capacities, irrigation channels with a total length of 29,200 km, 11,400 km of drainage networks and other infrastructure.* Annually, the pumping stations use 1.3–1.5 billion kWh of electricity to deliver 5–6 billion m<sup>3</sup> of water. Most installations have been in use for 50 years and are obsolete, due to the lack of adequate repair and maintenance. Around 30 per cent of pumps have deteriorated and suffer from power failure.

*The real condition of the assets of water companies, irrigation and drainage network and intra-farm pipeline network is not well known.* Water-related data, including on water quantity and water quality, are spread among various public authorities and organizations. There is no shared platform or system that would provide an overview of the situation in the entire country. The state water cadastre has not been maintained since 2005.

*As of early 2016, 417 water user associations (WUAs) were in operation to distribute water among their members and other users, collect funds for water supply services, and maintain and use on-farm irrigation facilities and other water infrastructure at the farm level.* However, WUAs are rather unstable due to the fact that they do not have fixed assets on their balance sheets.

*The 2015 Programme of Water Sector Reform for the period 2016–2025 provides a roadmap for the transition from administrative-territorial water resources management to river basin management.* It triggers major reforms in the institutional structure, the legislative framework and other areas. Its implementation is expected to be financed primarily through projects financed by development partners.

*Climate change impacts on glaciers and water resources are already felt.* The area covered by glaciers has declined by approximately one third since the 1930s. By the year 2050, the volume of glacial ice is expected to

decrease by 25–30 per cent and river run-off to increase by 6–15 per cent. It is expected that the peak discharge in non-regulated rivers will shift to earlier months of the years, affecting economic sectors dependent on water supply. Climate change is also associated with siltation of the hydropower dams.

## Waste management

*Tajikistan does not have a national waste management strategy and action plan for waste management.* Such strategy is under preparation. Also, the country lacks waste management plans for regions, municipalities and individual waste generators.

*National data on collected municipal solid waste (MSW) are reported in m<sup>3</sup>, but individual operators prefer collecting waste data in tons. Partial data are available on MSW collection in Dushanbe and Khujand only.* In 2013 and 2014, Dushanbe generated 220,880 tons and 257,000 tons of MSW, respectively. Khujand generates around 52,000 tons per year.

*In 2016, collection was provided to 38.25 per cent of the country's population.* This collection coverage is low; modernization of waste services must aim at increasing the share of the serviced population and developing adequate disposal capacity.

*MSW is collected from designated places, which may be equipped with containers.* In some cases, waste is dumped on the ground, and a front loader is used to transfer the waste to a collection truck. Another option is large containers (skips) located at the entrances to housing areas.

*MSW is disposed of to allocated areas, which lack basic measures for avoiding the dispersion of pollution from waste.* The Committee on Environmental Protection identified 69 disposal sites in 2016 that are used for municipal waste disposal. Existing disposal sites at regional centres are overfilled and there is an urgent need to start developing a national network of landfills.

*Waste separation has not yet commenced, although some progress has been made as the collection of fluorescent lamps started.* The country generally lacks recycling infrastructure, except for recycling of scrap metals and paper.

*There is little information on industrial waste, because regular reporting is not carried out.* Industrial enterprises and organizations, based on agreement with the road maintenance units, transport their waste to the municipal disposal sites, where it is disposed of together with municipal waste. The Committee on Environmental Protection has begun to make an inventory of disposal sites used for industrial waste.

*Understanding of hazardous waste is limited to radioactive waste and pesticides.* These types of waste are a priority at present and, once their situation has been improved, it is expected that progress will be achieved by defining an approach to waste with other hazardous properties.

*Medical waste management is improving under the influence of donor funded projects.* However old management practices continue. Experience gained in pilot projects is not evaluated and good practice is not extended to all hospitals. No healthcare waste management strategy has been developed to manage this type of waste.

*Adoption of the National Concept on Rehabilitation of Uranium Waste Tailings for the period 2014–2024 has been an important step towards improvement of the situation in radioactive waste management.* The Concept defines priorities for rehabilitation works on individual tailing ponds. The highest priority is given to rehabilitation of Istiklol tailing pond, followed by Digmay tailing pond and Kujand ore heaps and mining water on the right riverbank of Syr Darya River. International donors have begun to implement programmes and projects aimed at reducing the harmful impacts of radioactive waste mismanagement.

*Tajikistan has upgraded the two facilities for disposal and long-term storage of obsolete pesticides.* This opens up the opportunity to accumulate pesticides from the country's small storage facilities within the central ones and to export pesticides for final disposal.

*In 2016, Tajikistan acceded to the 1989 Basel Convention on Transboundary Movements of Hazardous Wastes and their Disposal.* Participation in this treaty will increase the protection of the country from unregistered import

of hazardous waste and will improve access to facilities for disposal of hazardous waste abroad. The country is not yet a party to the 1998 Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade and the 2013 Minamata Convention on Mercury.

### **Biodiversity, biosafety, forestry and protected areas**

*The majority of available information on biological diversity, ecosystems and forests is outdated.* Neither complex inventories nor systematic monitoring were conducted since 1991. Hence, the planning for nature conservation and forest management has been based on outdated inventories and rough estimates.

*The forest cover is estimated at only 2.95 per cent of the total territory. The state forest fund accounts for 1.8 million ha, including 0.4 million ha of forests and 1.4 million ha of non-forested areas, e.g. pastures.* The further decline of forests may result in accelerated desertification, landslides, mudflows and other natural disasters, limiting the profitability of agricultural practices and threatening human settlements.

*The annual rate of deforestation caused by intensive livestock grazing and illegal firewood collection is higher than the natural forest biomass increment and regeneration ability.* It is estimated that, due to logging and intensive cattle grazing, the area of juniper forests declines at the rate of some 2 to 3 per cent per year. Due to intensive livestock grazing in pistachio light forests, their natural regeneration is no longer possible. Mitigating the current pressures on existing forests and intensive reforestation are one of the most urgent challenges.

*Some rare and endangered animal species, considered particularly attractive for trophy hunting, are subject to legalized "limited hunting", including inside protected areas.* The determination of annual quota for hunting game species is based on rough estimates as reliable information on the actual size of species populations is limited.

*No data on poaching and illegal trophy hunting are publicly available.* The 2014 Fifth National Report to the Convention on Biological Diversity reports on the dynamics of hunting on wild species of animals and illegal hunting for 2012, and data on authorized and unauthorized hunting are presented by one aggregated number for each species.

*The three million ha of protected areas accounts for about 21.58 per cent of the territory of Tajikistan.* Improving the management effectiveness of the existing 20 protected areas is much more urgent than establishing any new protected areas. The only exception is the designation of small state nature reserves to protect rare or endangered flora species and communities.

*The five-year management plans for several protected areas have been prepared.* The area of the Tigrovaya Balka state nature reserve, previously encompassing 49,786 ha, was extended in 2011 by an additional 12,462 ha.

*In 2013, the protective status of 12 out of 13 nature preserves (zakazniki) expired. It was extended only in late 2015.* In 2013–2015, the unclear status of these areas resulted in growing pressures (e.g. for grazing areas) which, in some cases, led to their deterioration.

*The Tajik national park was inscribed on the World Heritage List in 2013, becoming the first natural World Heritage site in the country.* Five other natural areas are on the Tentative List.

*The second edition of the Red Book was published in October 2015.* It lists more species than the previous one; this is due to recent methodological corrections, e.g. the inclusion of lichens, and not to the growth in the number of endangered species.

*The implementation of the 2005 Law on Biological Safety has been impeded by the absence of relevant by-laws establishing control and decision-making mechanisms, in addition to the lack of human and technical capacities, equipment and facilities.* The country has no experience in conducting risk assessments nor in controlling intentional transboundary movements of GMOs.

*In 2016, Tajikistan acceded to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).* Some time and effort would still be required to provide necessary training and increase the operational capacities of agencies responsible for CITES enforcement.

## Agriculture and environment

*Agriculture remains a key sector of Tajikistan's economy. In 2014, 25 per cent of the total labour force worked in agriculture, and agriculture accounted for 23.5 per cent of GDP.* An increasing population requires an increasing amount of agricultural production. In recent years, food crop yields and livestock numbers have increased; however, productivity and profitability remain low.

*In 2014, agriculture consumed over 81.76 per cent of total water use, including for irrigation (77 per cent of the total water use). The agricultural sector is the largest source (accounting for around 80 per cent) of NH<sub>3</sub> emissions.* But agricultural practices are not implemented in an environmentally friendly way; land and water management, especially, need to be improved.

*According to official data, the overall consumption of fertilizers has decreased by 60 per cent, from 410,200 tons in 1999 to 245,300 tons in 2014.* The amount of mineral fertilizers used annually in the period 2010–2014 was 141–182 kg/ha, but there is no strong trend of this decreasing. The manure of cattle that graze near villages is collected and dried, and used mainly (up to 90 per cent) as fuel; a very small share is used as fertilizer in agricultural production.

*Pastures are a source of direct rural income as well as providing much of the country's meat and milk requirements.* Pastures are not managed in a sustainable way that is economically viable, socially acceptable and environmentally responsible. Due to overgrazing, about 89 per cent of the summer pastures and 97 per cent of the winter pastures suffer from a medium to strong level of erosion.

*In 2014, privately owned dehkan farms managed around 80 per cent of the arable land and produced 90 per cent of agricultural products.* Half of dehkan farms are managed by unqualified people with no experience in agriculture. In general, farmers lack information on how to optimize the use of fertilizers, pesticides and water. Another issue has been the lack of freedom for dehkan farms to select agricultural crops to grow.

*Some international projects provide for learning about the rational and sustainable use of agricultural practices.* Extension services are not provided on a systematic basis by the Government.

*The potential for organic farming is high.* There have been pilot projects that have gained good results and have shown the availability of markets for organic production abroad. However, the accumulated best practices and knowledge are not communicated to farmers and there is no support provided to farmers to start organic farming.

*The agricultural sector is vulnerable to the impacts of climate change, including increased and more severe floods, droughts, changing availability of water resources, increasing temperature and lowering and more erratic rainfall.* The Pilot Programme for Climate Resilience has gained good experience in adaptation to climate change; however, this experience is not widely communicated and applied.

## Industry and environment

*The number of industrial enterprises increased from 1,320 in 2007 to 2,150 in 2014.* However, not all registered enterprises are in operation due to a lack of raw materials and seasonal work.

*Since 2007, more than 210 industrial enterprises have transferred to coal.* However, for the reasons cited above, only 160 of those enterprises are now in operation.

*Industrial air emissions of most pollutants did not show any specific trend during the period 2004–2011 for companies reporting to the Ministry of Industry and New Technologies, therefore excluding the State Unitary Enterprise Tajik Aluminium Company (TALCO).* The only clear exception is carbon monoxide, emission of which decreased dramatically from 2004 to 2010. The decreasing trend reversed in 2011.

*Average GHG emissions from the "Industrial processes" sector in 2005–2010 amounted to 9.25 per cent of total national emissions.* In 2005–2010, the highest volume of emissions was observed in 2007. Metal production contributed 80 per cent of CO<sub>2</sub> emissions in 2010. Aluminium production contributes considerably to industrial GHG emissions.

*As the mining industry has been developing over the last five years, waste generation by this industry has increased elevenfold, from 111,400 tons in 2010 to 1,267,646 tons in 2014.* The amount of waste generated by light industry reportedly skyrocketed from 10,301 tons in 2010 to 1,107,549 tons in 2014. Such an increase can be partly explained by better data collection.

*Tajikistan does not have policies for greening industry and promoting sustainable production, although some strategies were adopted by the Government.* This important policy gap hampers the development and implementation of measures towards more efficient and green industry.

*Little information is available on the pressures that industry places on the environment.* Neither data nor estimates are available of industrial wastewater discharges and associated surface and groundwater pollution. There is no information on land uptake by industrial facilities and land degradation and soil contamination caused by industrial activities. Noise and vibration from industrial installations are not measured.

## **Energy and environment**

*The dissolution of the Central Asia Power System, limited gas supplies and an underdeveloped coal sector have left Tajikistan almost solely reliant on hydropower generation, which remains insufficient in the winter.* An estimated one million people spend much of the winter without access to reliable electricity supplies.

*The country's thermal power plants (TPPs) mainly use coal.* Due to the fact that more coal-fired TPPs are currently in the pipeline, an increase in effects upon the environment might be expected to take place in the future.

*Since 2005, investments in energy efficiency have increased more than threefold, reaching almost 3.5 per cent of GDP, with budget funding from all sources amounting to at least 30 per cent of investment costs.* The GDP energy intensity has decreased by about 30 per cent compared with 1995.

*The power sector is highly subsidized, and consequently tariffs for electricity are still low and do not reflect the costs of energy production.* Energy subsidies and socially determined pricing mechanisms have failed to promote sound energy efficiency policies. Selling electricity at low prices stimulated excessive consumption.

*The 2013 Law on Energy Saving and Energy Efficiency provides for the introduction of energy efficiency materials, appliances and technologies.* However, energy efficiency has very low priority in practice, determined by the fact that a large proportion of the population does not have secure and reliable access to energy. There is no governmental department to govern, regulate, enforce and monitor energy efficiency reforms. Energy efficiency measures are still heavily focused on the supply side, with little improvement in demand-side management.

*A Technical Committee "Energy saving, energy efficiency and energy management" was established in 2012 as part of the Agency on Standardization, Metrology, Certification and Trade Inspection under the Government.* This Committee develops standards in the area of buildings, energy-consuming products and renewable energy. However, efforts to introduce standards are partly undermined by the 2010 Law on Standardization, which stipulates that standards are applied on a voluntary basis.

*The Government introduced measures to restrict the manufacture, import and sale of incandescent lamps.* All government, industrial and commercial organizations were requested to switch to the use of energy saving lamps from 1 May 2009. About 241,000 poor households were provided with energy saving lamps, financed from the state budget. In the period 2009–2011, two new plants for production of energy-saving lamps have been built and put into operation.

*With regard to renewable energy sources (RES), Tajikistan uses less than 1 per cent of the potential of RES other than hydropower.* About 10 per cent of the country's population lives in remote, mountainous, off-grid areas where off-grid renewable energy solutions make more economic sense. To date, photovoltaic and wind energy systems are used only on a pilot basis. Overall, solar power is not yet considered as a priority supply option. The potential for using geothermal resources, the availability of thermal water and its characteristics are not well researched.

*As approximately 98 per cent of the country's electricity is produced from hydropower sources in river basins fed by glacial meltwater and snowmelt, the energy sector is greatly exposed to climate change.* The majority of the existing power plants, including the large Vakhsh cascade with a total capacity of over 4.5 GW, were designed in the 1950s, with no regard for climate change implications.

### **Transport and environment**

*Although vehicle ownership in Tajikistan is still rather low at 43–44 vehicles per 1,000 people, over the last decade, dramatic growth in the vehicle fleet has occurred.* The rapid increase in the number of vehicles has already resulted in traffic congestion and increased air pollution.

*The vehicle fleet is ageing, due to large-scale importation of outdated second-hand cars.* The average age of the vehicle fleet is around 15–18 years, for both light duty vehicles (LDVs) and freight vehicles. As a result, motor transport is identified as the number one cause of environmental impacts on the quality of air in Dushanbe and other cities.

*Over recent years, the impact of the transport sector on air pollution has stabilized in absolute terms.* Compared with 2009, emissions of air pollutants from transport in 2014 have increased by only 14 per cent (from 249,000 to 284,000 tons), while the vehicle fleet has increased by 26 per cent (from 337,425 to 423,303) in the same period. This phenomenon is explained by the fact that more and more vehicles with petrol engines have been converted to use liquefied petroleum gas as fuel, because of its lower price and consumption rate.

*In relative terms, however, road transport remains by far the main source of air pollution.* In 2014, its contribution was more than 13 times higher than the total emissions from the industry and energy sectors.

*The existing system of customs import duties and taxes provides almost no incentives for the importation of recent vehicles.* New vehicles (produced within the last five years) are subject to a 5 per cent import duty, compared with 7 per cent for vehicles that are older than five years. This 2 per cent difference is not significant, taking into account that all imported vehicles are also subject to a 10 per cent excise tax and 18 per cent VAT. Customs duties and taxes provide no distinctions based on a vehicle's engine power, volume, powertrain or fuel (petrol, diesel, hybrid, etc.). When calculating the annual vehicle ownership tax, no distinction is made based on the powertrain or fuel consumption of a vehicle.

*The Government has introduced mandatory periodic vehicle inspections and emission testing to determine the roadworthiness of LDVs and freight vehicles.* However, the current system of vehicle emission tests and roadworthiness inspections is not stringent enough and mainly gears up for revenue collection, rather than for improving air quality and road safety.

*The 2015 Law on Ensuring the Environmental Safety of Road Transport envisages a wide range of measures to mitigate the environmental impacts of the road transport.* However, a coordination mechanism among various public authorities is not yet available. The available international standards for road vehicles, which are indispensable for the proper implementation of this Law, have not yet been adopted.

*Several projects have been completed to improve the public transport system.* Still, the current public transport system cannot cope with the increasing needs of the population. This is due to the outdated fleet, deteriorating infrastructure and inefficient structure of routes for various types of public transport. The growing demand for public transport services, in particular in the capital, is partially met by unlicensed private companies (4,000 illegal carriers in Dushanbe alone) that operate without proper control by the authorities, cause traffic problems and impede road safety.

### **Housing and utilities sector and the environment**

*The Government adopted the Concept for Reform of the Housing and Utilities Sector for the period 2010–2025 and the Programme of Development of the Housing and Utilities Sector for the period 2014–2018.* However, issues relating to modernization of the existing housing stock in apartment buildings, enhancement of its reliability and improvement of its energy efficiency and environmental safety are not addressed sufficiently. A

governmental body responsible for development and implementation of state policy in the housing and utilities sector – envisaged by the Programme – has not yet been established.

*Over the past decade, the total floor space of the housing stock has increased by 52.5 per cent. Rural housing stock grew by 75.58 per cent and urban housing stock by 21.4 per cent.* This is a result of citizens' initiatives, mostly in rural areas, in the absence of any substantial governmental support. The increase falls short of satisfying people's housing needs: the average per capita floor space (10.9 m<sup>2</sup>) remains below the established social standard of per capita floor space (12 m<sup>2</sup>).

*The revision of construction standards and norms is in process, with an aim to establish clear requirements for design and construction, which would facilitate the use of new and traditional safe construction materials and modern technologies designed to resist seismic and other unfavourable natural factors and to provide environmental safety.* At the same time, the level of public awareness in respect of seismic protection regulations, energy efficiency and resilience to climate change is still low. New construction standards and norms are hardly ever applied in construction of self-build houses in rural areas.

*The legal framework for establishing home owners associations has been put in place.* However, only a few associations were established. In the majority of cases, they play a minor role in improving the management and maintenance of apartment buildings. For many years, apartment buildings have not had adequate technical maintenance and repairs. There is a huge need for capital repairs and enhancement of energy efficiency in such buildings.

*There are no statistical data available on air pollution by the housing and utilities sector.* About 88 per cent of rural households and 37 per cent of urban households with limited access to electricity use stoves for heating and cooking. These stoves run on solid fuels (coal, wood, agricultural waste) and contribute to air pollution. Most boiler houses of the remaining central heating systems are characterized by high emission of pollutants, partly due to their conversion from gas to coal without modern flue-gas cleaning systems.

*Large green areas in parks, mini-parks, alleys and gardens in land pots adjacent to housing are typical of urban settlements in Tajikistan.* Green areas account for about 30 per cent of the total area of cities. However green areas of common use are poorly developed in peripheral areas of towns and cities. Non-native tree species, which are vulnerable to the climate of Tajikistan, are used in place of native broad-leaved species in new green areas in urban communities, especially in Dushanbe.

*The available data on the state of the housing sector are limited to the information received through the 2010 population census and published in 2013.* There are no up-to-date reliable and comprehensive statistical data that would allow the Government to identify and comprehend the problems in respect of housing provision and the availability of communal services.

## **Health and environment**

*The notifiable gastrointestinal infections, which continue at high levels in the period 2005–2014, indicate a significant burden of ill health associated with unsafe water.* The incidence of viral hepatitis, especially the most common Hepatitis A, tends to be on the rise. Though declining after 2009, the life-threatening disease typhoid fever is still present. The actual burden of water-related diseases is likely to be higher because of the limitations of the country's surveillance system.

*The increasing incidence rates for selected parasitic diseases in the period 2005–2014, with infections sourced from contaminated food and/or water, is an alerting signal for environmental public health status.* These infections are: giardiasis caused by contaminated food or water, ascariasis and enterobiasis, caused by contaminated hands due to poor personal hygiene and poor sanitation, as well as by contaminated food and, less commonly, water.

*Morbidity from major notifiable zoonoses such as bovine tuberculosis, brucellosis and anthrax persisted in the period 2007–2011.* Improper treatment of animal products (e.g. non-pasteurisation of milk), the illegal selling of farm products on the streets and overall weak control determine the burden of the population's ill health of

epizootic origin. Monitoring and control of food contamination is not efficient and neither is there capacity for timely detection and prevention of human zoonoses.

*Three centres for prevention and control of undernutrition have been set up across the country.* However, undernutrition remains a priority issue severely affecting children and other vulnerable populations. Overall, only 20 per cent of children aged 6–23 months are fed appropriately according to the recommended infant and young child feeding practices.

*There are no data on chemical incidents and number of cases of poisoning induced by chemicals.* The poisoning of schoolchildren in May 2016 following a school disinsection in the Shamsiddin Shokhin district of the Khatlon Oblast showed the lack of capacity of the health sector in chemical incident preparedness and response.

*Asbestos-related diseases have not been registered in the occupational diseases register of Tajikistan.* Workers at the asbestos facilities undergo regular occupational medical check-ups. Asbestos-containing products are legally available, and the Dushanbe cement factory resumed production of corrugated asbestos-cement sheets in September 2013.

*Although national legislation prohibits the employment of children below 15 years of age, child labour still remains a widespread problem.* According to Child Labour Survey 2012–2013, 26.9 per cent of boys and 19.7 per cent of girls aged 5–17 years are working. In the 5–11 years age group, these figures are 13.3 per cent for boys and 8.1 per cent for girls. Among 12–14 years group, 34.7 per cent of boys and 25.1 per cent of girls are working and in the 15–17 years age group, these figures are 45.5 per cent and 38.4 per cent, respectively. Children are mostly engaged in elementary occupations and are unpaid family workers.

*Tajikistan has ratified most of the health-relevant international conventions.* However, it has not acceded to the ECE/WHO Protocol on Water and Health. The country has only partially benefited from the Strategic Approach to International Chemicals Management initial capacity-building activities. The participation of Tajikistan in the European Environment and Health process has been rather ad hoc.

### **Management of disaster risk associated with natural and man-made hazards**

*Over the past 10 years, a lot of effort has been put into strengthening the disaster risk management (DRM) system.* Through the 2010 National DRM Strategy for the period 2010–2015 and the National Platform for Disaster Risk Reduction, disaster risk reduction has become a known concept in the country. However, the practical work of key institutions still centres on response.

*The 2010 National DRM Strategy for the period 2010–2015 was based on the Hyogo Framework for Action 2005–2015 and complemented DRM measures that have been provided in previous programmes and action plans. The inclusion of DRM in local programmes of socioeconomic development was one of a number of achievements.* However, the links between the National DRM Strategy and ongoing climate change adaptation work appear to be weak.

*Existing disaster risk coordination platforms are limited in their scope.* The National Platform for Disaster Risk Reduction does not include all relevant government authorities or partners.

*The recently introduced Uniform State System for Emergency Prevention and Response is a good attempt to harmonize sectoral disaster management initiatives.* According to the Uniform System, commissions on emergency situations are set up at the national, regional, district and facility levels and are responsible for decision-making and coordination in the event of emergency. However, the Uniform System has yet to be put into concrete action through the clarification of duties and responsibilities and development of concrete mechanisms for collaboration.

*Risk information is not systematically managed, with vertical silos hindering information sharing between authorities and across sectors.* A lot of risk information is classified and not shared among government bodies, and much less with partners and the general public. Gender-disaggregated disaster data are not publicly available.



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*Many good efforts by donors and international and national NGOs have been implemented at the local level, where community awareness of risk has increased.* Search and rescue teams, and volunteers, are responding to disasters and saving lives. At the national level, the lack of ownership, and technical and financial capacity is hindering the sustainability of the work of these partners.

*Tajikistan has committed to the Sendai Framework for Disaster Risk Reduction 2015–2030. The country is part of the Shanghai Cooperation Organisation, through which capacities for disaster response are being strengthened.* However, Tajikistan is not a member of the International Search and Rescue Advisory Group and is not represented in the United Nations Disaster Assessment and Coordination team.

*In 2011, Tajikistan acceded to both the Convention on Early Notification of a Nuclear Accident and the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency.* Tajikistan is not yet a Party to the ECE Convention on the Transboundary Effects of Industrial Accidents.



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# ***CONCLUSIONS AND RECOMMENDATIONS***

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## **Chapter 1: Legal, policy and institutional framework**

There are a number of contradictions and inconsistencies in the environmental legislation. There are cases of no action having been taken for years to align existing legislation with newly adopted laws or governmental resolutions. The development and adoption of subsidiary legislation often takes years. The mechanism of the legal expertise (review) of draft laws and other legal acts is in place but does not seem to function properly. Progress has been made in improving the accessibility of legislation, including environmental legislation, to governmental officials. However, the population has free online access only to laws and not to subsidiary legislation.

### *Recommendation 1.1:*

*The Government should:*

- (a) *Strengthen the quality of environmental legislation by eliminating contradictions and inconsistencies, ensuring timely development and adoption of subsidiary legislation, and aligning existing legislation with newly adopted legislation;*
- (b) *Ensure free online access to all environmental legislation.*

Strategies and programmes usually describe financing needs, of which a very minor part is secured at the moment of adoption of a strategic document. Grants from foreign donors and other non-budgetary funds often constitute an important co-funding source. Many strategies and programmes in the environmental area remain significantly underfunded.

Governmental resolutions, which approve state programmes include provisions on annual reporting. The Committee on Environmental Protection submits annual reports on implementation of the State Environmental Programme to the Government. However, the reports on implementation of state programmes are not publicly available.

Besides local programmes of socioeconomic development, strategic documents on environmental protection, which would address specific environmental issues at local level are scarce.

Strategic environmental assessment, as provided for in the ECE Protocol on Strategic Environmental Assessment or in Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment, does not exist in Tajikistan.

### *Recommendation 1.2:*

*The Government should:*

- (a) *Ensure allocation of adequate governmental funding for implementation of strategic documents on sustainable development and environmental protection on the basis of a reasonable number of priorities;*
- (b) *Provide free online access to the reports on implementation of strategic documents on sustainable development and environmental protection;*
- (c) *Support local authorities in the development and adoption of local strategic documents on environmental protection;*
- (d) *Progressively introduce strategic environmental assessment.*

The Government has been aligning its strategic documents with the Millennium Development Goals (MDGs). Official reports on MDG implementation were prepared in 2003 and 2010. Statistical information on MDG indicators is available at <http://www.tojikinfo.tj>. In 2013–2014, Tajikistan had an extensive process of national consultations on the national priorities and vision for the post-2015 development agenda. The 2016 National Development Strategy for the period until 2030 aims to align the national development agenda to the 2030 Agenda for Sustainable Development. Implementation of the National Development Strategy for the period until 2030

can be enhanced on the basis of thorough analysis of MDG implementation and close coordination with the efforts to implement the Sustainable Development Goals.

Recommendation 1.3:

*The Government should:*

- (a) *Prepare and publish the final report on implementation of the Millennium Development Goals;*
- (b) *Implement the National Development Strategy until 2030 on the basis of the globally agreed Sustainable Development Goals.*

The low status of the Committee on Environmental Protection does not allow the Committee to effectively coordinate the activities of all governmental authorities on environmental issues and ensure environmental protection and promotion of sustainable development in various sectors. Its current status is the core reason for insufficient progress with integration of environmental requirements into sectoral policies and legislation. The current status of the Committee is not sufficient to ensure the implementation of the ambitious development agenda, set in the 2016 National Development Strategy for the period until 2030 and other strategic documents on environment and socioeconomic development.

Recommendation 1.4:

*The Government should raise the status of the national environmental authority to a ministry, taking into account the strategic economic development plans.*

No clear separation of management function and state control function exists in forest management as both functions are vested with the Forestry Agency. Moreover, the transfer of the protected areas competences from the Committee on Environmental Protection towards the Forestry Agency in 2013 raises concerns with regard to the inherent conflict of responsibilities of the Forestry Agency, which is entrusted to manage forests and at the same time ensure the observance of the protected area regime.

Recommendation 1.5:

*The Government should:*

- (a) *Entrust the competency on all specially protected natural areas to the Committee on Environmental Protection;*
- (b) *Ensure clear separation of the state control over the management of natural resources and the management functions in forest management.*

Training and in-service training of employees of the Committee on Environmental Protection on general (non-environmental) issues takes place in the Institute of Public Administration under the President, and on environmental protection issues through participation in various seminars. Occasionally, brief seminars are conducted on new legislation. However, the system lacks regularity and a systematic approach to ensure comprehensive coverage of environmental and sustainable development issues, including emerging problems and new concepts.

Recommendation 1.6:

*The Committee on Environmental Protection should improve the system of training and in-service training of its staff by ensuring regularity and comprehensive coverage of environmental and sustainable development issues.*

No schemes of regular training and in-service training for civil servants on environmental issues are available for the employees of sectoral ministries and agencies.

Recommendation 1.7:

The Government should establish schemes of training and in-service training on environmental issues for civil servants in sectoral ministries and agencies.

## Chapter 2: Regulatory and compliance assurance mechanisms

The direction and pace of changes in regulatory and compliance assurance mechanisms in Tajikistan have mainly been driven by factors that are external to the environmental sector. The Government's commitment to improve the investment climate for the enterprise sector and the related reform agenda seems to have played a key role.

The legal framework was further extended in scope, e.g. by adopting the Law on Environmental Audit, and modernized, e.g. by amending the Law on Environmental Protection and a few sector-specific laws. This extended the choice and use of compliance assurance instruments, and improved some of the procedural aspects of environmental regulation and compliance assurance.

The vertical reallocation of permitting tasks in mid-2015 resulted in a system that puts considerable administrative burden on the central level while largely depriving the oblast divisions of the Committee on Environmental Protection of operational flexibility. Technical capacity at the subnational level is much lower than at the central level. At the same time, the number of the Committee's staff at the central level is quite limited and they suffer from a significant workload.

Transparency and coordination of work on compliance assurance is insufficient, and its strategic planning is limited. Horizontally, potential duplications of activities on nature protection are likely to occur between the environmental inspectors and the State Forest and Hunting Inspectorate following the redesign of mandates and the establishment of the Forestry Agency.

### Recommendation 2.1:

*The Committee on Environmental Protection should:*

- (a) *Establish strategic priorities and indicators for the compliance assurance system;*
- (b) *Strengthen internal coordination mechanisms, as well as intragovernmental horizontal coordination with the Forestry Agency.*

Since 2010, the procedural soundness of environmental assessments has marginally improved. At the same time, the scope and procedures of such assessments are not fully adjusted to the international experience. The competent authorities are not involved in the screening and scoping steps of environmental impact assessment (EIA). The State Ecological Expertise Body rarely rejects project dossiers. The lack of guidance materials on EIA and the lack of a publicly accessible information system containing data on previous EIAs are the drawbacks of the current assessment system. Transboundary aspects are almost not pronounced in the legislation. There was no progress towards completing Tajikistan's accession to the Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention).

### Recommendation 2.2:

*The Committee on Environmental Protection should continue the process of aligning the scope and modalities of Environmental Impact Assessment (EIA)/State Ecological Expertise (SEE) procedures with international benchmarks by:*

- (a) *Strengthening the involvement of competent authorities in the screening and scoping steps of EIA;*
- (b) *Enforcing the EIA procedure in a stricter and more transparent manner;*
- (c) *Developing materials that would help the regulated community to better understand EIA/SEE procedures and comply with them;*
- (d) *Detailing the transboundary aspects of the EIA in the legislation;*
- (e) *Reassessing the costs and benefits of accession to the Convention on Environmental Impact Assessment in a Transboundary Context with a view to completing the accession process.*

Compliance monitoring activity is shown to be very intense, but its focus is mainly outside the environmental performance of the industrial sector. While the risk-based approach is legally proclaimed, the list of high-risk installations for better planning of environmental inspections has not been developed. Inspection checklists are used but they are rather generic; there are no environmental checklists for different sectors. Other sector-specific guidance materials are not available. Available information on inspection activities is not analysed and hardly disclosed. Self-monitoring practices remain basic and lack legal ground.

**Recommendation 2.3:**

*The Committee on Environmental Protection should enhance compliance monitoring activities by:*

- (a) *Revising the system of measuring environmental inspection activities and outcomes in order to shift the accent from annual intensification of activities towards a more strategic compliance-focused approach;*
- (b) *Further developing risk-based planning of environmental inspections;*
- (c) *Equipping inspectors with sector-specific guidance notes and checklists;*
- (d) *Further improving collection, reporting, analysis and disclosure of information on inspection activities;*
- (e) *Enhancing the legal basis for and extending the practice of self-monitoring.*

The current environmental enforcement practices are biased towards petty offences. Monetary penalties are numerous but established and applied at low levels. The legally set level of fines is lacking proportionality in a number of cases. The court system exhibits low awareness about, and experience in, environmental cases. The collection rates for damage compensation claims applied by environmental authorities and damage compensation and fines imposed by the judiciary and the prosecutor's offices in environmental cases are very low.

**Recommendation 2.4:**

*The Government should:*

- (a) *Ensure the proportionality of legally imposed penalties, especially monetary ones, with the consequences that may arise from the breach of law;*
- (b) *Raise the environmental awareness of judges and the judicial system more generally;*
- (c) *Improve collection for damage compensation claims applied by environmental authorities and damage compensation and fines imposed by the judiciary and the prosecutor's offices in environmental cases.*

### **Chapter 3: Economic instruments, environmental expenditures and investments for greening the economy**

The long-standing system of charges on emissions of air pollutants, discharges of water pollutants and generation of industrial waste has not undergone any significant changes since 2010. The number of air and water pollutants subject to charge rates is extremely high, which raises the issue of the resources required to administer this system relative to the environmental benefits. In fact, there is no supportive evidence for any significant environmental effectiveness of this charging regime. Charge rates, which have remained unchanged for some two decades in the presence of high cumulative inflation, are too low compared with the marginal abatement costs of any significant pollution reduction.

The system of charge rates is combined with annual limits for pollution and waste generation that do not appear to be binding constraints on the operations of enterprises, given that they are based on actually installed technologies. The main function of these pollution and waste charges is to generate government revenue, mainly for financing general environmental expenditures.

**Recommendation 3.1:**

*The Government should:*

- (a) *Review the number of pollutants subject to charges and limit them to major priority pollutants;*
- (b) *Raise pollution charge rates to levels that create effective incentives for significant pollution abatement measures;*
- (c) *Replace charges on industrial waste generation with effective waste management charges to create incentives for waste minimization;*
- (d) *Complement the system of reformed pollution and waste charges with a system of permits that impose strict limits on emissions and discharges of other pollutants, notably those that are of toxic nature, including toxic industrial waste.*

Besides the tax on emissions of atmospheric air pollutants from stationary sources, the Government also levies a tax on mobile sources of air pollution in the form of an excise duty on motor fuels. Although the tax rate was raised in 2014, it is still very low and unlikely to promote emission reductions from road motor vehicles. Rates are also not differentiated based on fuel quality, notably as regards the sulphur content of diesel. Another indirect

tax on mobile sources of air pollutants is an excise tax on the volume of imports and domestic production of motor fuels, but it is also too small to make a difference with regard to environmental impacts from motor vehicles.

*Recommendation 3.2:*

*The Government should raise excise tax rates on motor fuels as well as differentiate them based on fuel quality standards (sulphur content).*

Tariffs for services provided by municipal utilities (water supply and sanitation, waste collection) have been raised significantly for all customer categories since 2010. The important feature of the tariff regime is, however, for tariffs applied to legal entities, notably enterprises, to be significantly higher than household tariffs. This points to a continuing system of cross-subsidies in favour of the population, for whom the low-cost provision of communal services has been regarded as part of social policy. In the event, total revenues collected by municipal utilities are largely insufficient for recovering operating costs.

A major problem is that most households are not yet equipped with water meters, although significant progress with the installation of meters has been made in urban areas. Water meters are central to reforming the water sector on the demand side, because without meters there are no incentives for more economical use of water. The installation of meters is, moreover, a necessary condition for the introduction of cost-reflective household tariffs.

Tariffs for electricity supply, which has remained a state monopoly, were also, in general, on an upward trend in recent years. Average tariffs, however, are not cost reflective, with household tariffs continuing to be significantly lower than tariffs applied to industry. Low household tariffs, below the cost recovery level, are regressive because they benefit mainly above-average-income earners. Within the industrial sector, moreover, privileged seasonal tariffs are granted to TALCO, the state-owned aluminium company, which is the largest single electricity consumer in the country. Privileged seasonal electricity tariffs are also granted to water pumping stations that ensure supply of irrigation water for agriculture. The upshot is that Barki Tojik, the state electricity company, has been unable to cover its operating costs with the revenues collected. Revenues were also adversely affected by volatile bill collection rates for households and other customer groups.

A common feature of both municipal services (water supply, waste collection) and electricity supply is the lack of specific tariff methodologies for determining full cost recovery tariff levels.

*Recommendation 3.3:*

*The Government should:*

- (a) *Adopt for each of the utility services a tariff setting methodology so as to be able to recover all costs incurred in provision of these services;*
- (b) *Apply cost recovery tariffs that, combined with stringent bill collection, ensure the financial viability of service providers;*
- (c) *Introduce clearly defined and transparent targeted social support measures that ensure affordability of utility services for lower income private households;*
- (d) *Continue to support the installation of meters for household water supply services and complete the corresponding programmes as soon as possible.*

Agriculture plays an important role in the economy of Tajikistan; water for irrigation of agricultural crops accounts for more than 90 per cent of total water use. The irrigation infrastructure is in a dilapidated state because available financial resources for adequate maintenance and modernization are largely insufficient. One important factor behind this is low agricultural productivity, which is constraining the income of farmers. Another factor, partly related to this, is irrigation tariffs that are too low to allow for recovery of the costs of operation and maintenance – a feature that has been aggravated by low bill collection rates.

*Recommendation 3.4:*

*The Government should:*

- (a) *Gradually raise irrigation tariffs to cost recovery levels over a well-defined time period;*
- (b) *Support farmers who cannot afford to pay cost recovery irrigation tariffs during the transition period;*

- (c) *Support programmes for installation of water meters for gauging the water supplied by the off-farm irrigation system and water used by the on-farm irrigation systems;*
- (d) *Adopt an adequate tariff methodology for establishing cost recovery irrigation tariffs.*

*See Recommendation 6.5.*

State budget funds allocated to environmental protection have remained quite limited and were mainly used for financing recurrent expenditures. A more or less predictable source of financing for environmental expenditures is the earmarked revenues from the collection of pollution taxes and other earmarked charges. However, in general, these resources are too small to finance significant investments. There is a lack of information concerning the kinds of projects and measures financed from these special funds and also as regards the criteria for evaluating and selecting them. The efficiency of the allocation of public funds is therefore difficult to gauge. There is also incomplete information concerning the revenues collected from each of the earmarked pollution taxes and other charges. A comprehensive computer database on detailed revenues and expenditures that would facilitate analysis of past revenue streams and expenditures and help improve planning for the future, is lacking in the Committee on Environmental Protection. There are also no medium-term planning processes that align environmental priorities with well-developed expenditure programmes. It is not clear when the Government expects to integrate the Committee into the Medium-Term Expenditure Framework, given the challenge to develop the necessary skills and capacities within the Committee.

*Recommendation 3.5:*

*The Committee on Environmental Protection should develop a comprehensive and modern system for the collection and analysis of information on planned and actual revenues collected from earmarked taxes and other charges and on expenditures on environmental and nature protection purposes.*

*Recommendation 3.6:*

*The Government should:*

- (a) *Establish clear and transparent criteria for allocation of scarce public funds to different uses with a view to ensuring economic and environmental effectiveness of expenditures;*
- (b) *Ensure that the Committee on Environmental Protection reports on the extent to which objectives of financed environmental projects were achieved;*
- (c) *Start developing the capacities required for the envisaged full integration of the Committee on Environmental Protection into the Government's Medium-Term Expenditure Framework.*

#### **Chapter 4: Environmental monitoring, information, public participation and education**

The environmental monitoring networks are poorly equipped. In particular, this applies to the networks under the Committee on Environmental Protection, including Tajikhydromet, and the Ministry of Health and Social Protection of the Population. Due to poor equipment, and the lack of chemicals and fuel required to travel to monitoring points, monitoring covers limited monitoring points and monitored parameters on ambient air and water pollution. For regulatory purposes, information on compliance with requirements on air and water pollution is based mainly on calculations. Forests and biodiversity are monitored using estimating methods.

*Recommendation 4.1:*

*The Government should strengthen the environmental monitoring networks by:*

- (a) *Funding the implementation of the Programme of Recovery of Hydrometeorological Stations and Hydrological Posts for the period 2007–2016 and the Environmental Monitoring Programme for 2013–2017;*
- (b) *Adequately funding the modernization of the laboratories of the Centre for Analytical Control and regional offices of Tajikhydromet.*

There has been no visible progress with implementation of the ECE Guidelines for the Application of Environmental Indicators in Eastern Europe, Caucasus and Central Asia. In general, the current environmental monitoring system is not indicator based. The report on the state of the environment was last published in 2010.



In early 2016, the Agency of Statistics began to establish an online state of the environment report. However, not all data are available in the online report; available data mostly concern air pollution, climate and biodiversity.

Recommendation 4.2:

*The Committee on Environmental Protection, in cooperation with the Agency of Statistics and other relevant stakeholders, should ensure:*

- (a) *The use of key environmental indicators included in the ECE Guidelines for the Application of Environmental Indicators in Eastern Europe, Caucasus and Central Asia;*
- (b) *That future state-of-environment reports are indicator-based.*

Since 2010, the Agency of Statistics has suspended the collection of statistical reporting data on water (reporting form 2-tp (water economy)). Some territorial units of the Committee on Environmental Protection collect data using this reporting form, as they did previously. However, comprehensive data on water use and water pollution are no longer available.

Recommendation 4.3:

*The Agency on Statistics, in cooperation with the Committee on Environmental Protection, should reestablish the statistical reporting on water use and pollution covering all water users.*

Environmental information is used mostly for reporting to higher levels and, to some extent, for planning some measures. It is hardly used as a tool for development and implementation of environmental policy, monitoring and evaluation of environmental performance by public authorities or providing access to information to the public for effective public participation in environmental decision-making processes.

The Committee on Environmental Protection does not maintain electronic databases for monitoring and reporting environmental data. Moreover, environmental data are spread over numerous institutions such as the Agency of Statistics, Ministry of Health and Social Protection of the Population, Ministry of Economic Development and Trade, Ministry of Industry and New Technologies, Committee on Emergency Situations and Civil Defence, Forestry Agency, Main Administration on Geology, and Academy of Sciences.

Information on factors affecting or likely to affect the environment, such as pollutants, energy, noise, radiation and waterborne diseases, remains very incomplete and sparse, not being properly managed by public authorities; it is not disseminated to the general public, with the exception of data on air pollution in a few urban territories. Easily available environmental information is mostly limited to information published in statistical books, newspapers and journals or placed on the websites of public authorities. The Committee on Environmental Protection is in the initial phase of developing the Consolidated State System of Environmental Monitoring, which is focused on centralized collection of monitoring data from its various departments and some other public authorities, instead of establishing protocols to access data from their sources. However, it is unlikely to address the main weakness of the current system of environmental information management, such as the very limited availability of the end products to other public authorities and the general public.

The current legislation on access to environmental information shows some gaps, e.g. it does not regulate access to information in relation to the EIA procedure and provides rather broad discretionary power to public authorities for calculation of a charge for the provision of information.

Recommendation 4.4:

*The Government should:*

- (a) *Ensure that all governmental bodies collecting and managing environmental information and data apply Shared Environmental Information System (SEIS) principles to their respective environmental information and data;*
- (b) *Establish a "one-stop shop" portal in line with SEIS principles for environmental data and information and using geographic information system (GIS) technologies to improve the online accessibility of environmental information and data;*

- (c) *Ensure access to all environmental information in accordance with the provisions of the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention).*

Public participation in environmental decision-making processes is limited mainly to strategic environmental decisions (plans, programmes) and legislation. However, in the absence of well-established procedures for public participation in decision-making on strategic documents and legislation, the current public participation framework is not effective. Procedures for public participation in EIA remain complicated and are used to a limited extent, namely, in cases of development projects co-funded by international organizations. The modalities for public participation in SEE, through recommending public representatives for participation in SEE, are not clear, while the public ecological expertise is rarely used. The capacity of governmental bodies to ensure implementation of public participation procedures remains low.

Recommendation 4.5:

*In line with its obligations under the Aarhus Convention, the Government should:*

- (a) *Provide mechanisms in the legislation to ensure effective public participation in the development of plans, programmes and other strategic documents and legislation in accordance with articles 7 and 8 of the Convention;*
- (b) *Provide mechanisms in the legislation to ensure effective public participation in decision-making on specific activities in accordance with article 6 of the Convention;*
- (c) *Ensure the translation of the Maastricht Recommendations on Promoting Effective Public Participation in Decision-making in Environmental Matters to national language and disseminate them among public authorities and relevant stakeholders;*
- (d) *Undertake capacity building for public authorities dealing with public participation procedures.*

Tajikistan signed the Protocol on Pollutant Release and Transfer Registers (Protocol on PRTRs) but has not ratified it. No national PRTR is in place. In early 2016, the Committee on Environmental Protection requested assistance from the Aarhus Convention Secretariat for capacity building and establishment of the national PRTR. Participation in this international legal regime would strengthen the country's efforts to provide public access to information related to emissions into the environment.

Recommendation 4.6:

*The Government should:*

- (a) *Introduce legislation and institutional and technical measures required for establishing a national pollutant release and transfer register;*
- (b) *Establish a national pollutant release and transfer register;*
- (c) *As soon as appropriate capacities for implementation are available, ratify the Protocol on Pollutant Release and Transfer Registers to the Aarhus Convention.*

The country is not a Party to the 2005 Almaty Amendment on genetically modified organisms (GMOs) to the 1998 Aarhus Convention, although participation in the Amendment would ensure opportunities for the public to participate in decision-making on the deliberate release of GMOs into the environment and their placement on the market, thereby widening the application of the Convention's public participation pillar and increasing the quality of decision-making on GMOs.

Recommendation 4.7:

*The Government should ratify the Almaty Amendment on genetically modified organisms to the Aarhus Convention.*

Tajikistan has achieved progress on environmental education but has not yet moved towards integration of the elements of Education for Sustainable Development (ESD) into its educational system. Some initiatives to promote ESD take place within the framework of international projects; however, there are no specific legal and policy frameworks to support ESD. The country did not submit any national implementation report under the three cycles of reporting on the ECE Strategy for Education for Sustainable Development. Textbooks and guidance materials for teachers on ESD are almost non-existent.

**Recommendation 4.8:**

*The Ministry of Education and the Committee on Environmental Protection should:*

- (a) *Develop legal and policy frameworks to support education for sustainable development (ESD), including the national implementation plan for the Strategy for Education for Sustainable Development;*
- (b) *Communicate the progress on implementation of the Strategy for Education for Sustainable Development to the ECE Steering Committee for Education for Sustainable Development;*
- (c) *Consider adaptation of textbooks and guidance materials on ESD from other countries for use in Tajikistan;*
- (d) *Ensure regular training for teachers to enhance national educational capacities as regards teaching on sustainable development and environment-related topics, from preschool to higher education levels.*

**Chapter 5: Air protection**

Discussions with neighbouring countries about transboundary effects of air pollution on the population and the environment caused by installations near the borders, show the importance for Tajikistan of exercising better management of the effects of transboundary air pollution. Participation by Tajikistan in the Convention on Long-range Transboundary Air Pollution would give the country better access to the necessary knowledge to develop a monitoring strategy on air pollution, a solid system of emission inventories and an air quality strategy.

**Recommendation 5.1:**

*As soon as appropriate capacities for implementation are available, the Government should accede to the Convention on Long-range Transboundary Air Pollution and its amended protocols, i.e. the Protocol to Abate Acidification, Eutrophication and Ground-level Ozone, the Protocol on Heavy Metals and the Protocol on Persistent Organic Pollutants.*

Emissions of NH<sub>3</sub> have increased in the last 10 years due to the growth of livestock husbandry. Tajikistan has not yet assessed the emission abatement potential. Technical measures based on the application of BAT in stables and manure management can reduce the emission of reactive nitrogen compounds. Uncertainties in emission inventory lead to the limited accuracy of emission modelling.

**Recommendation 5.2:**

*The Committee on Environmental Protection, in cooperation with the Ministry of Agriculture, should perform an emission data inventory of NH<sub>3</sub> and scenario projections for the NH<sub>3</sub> emission trends in order to investigate the necessity of possible reductions in the emission of reactive nitrogen compounds in the future.*

Heat and power plants, the chemicals industry and manufacturing industries make an important contribution to the SO<sub>2</sub> emissions by their combustion of fossil fuels. Although the use of fossil fuels in Tajikistan is relatively low, growing use is possible because of the rapid population growth and uncertainties surrounding the future use of hydropower, due to climate change risks.

**Recommendation 5.3:**

*The Ministry of Industry and New Technologies and the Committee on Environmental Protection should encourage the application of best available techniques (BAT) in all industrial sectors and, in particular, to reduce SO<sub>2</sub>, PM and other emissions to air.*

Tajikistan is a Party to the UNFCCC and has to monitor GHG emissions regularly. Technical capacities to ensure a regular and reliable GHG inventory are, however, limited. The uncertainty of the inventory is assessed to be at the medium level, which means that the overall uncertainty of the data is between 10 and 50 per cent, in particular in the energy and industry sectors. Emissions in the agricultural sector, however, are twice those of the energy and industry sectors as calculated in CO<sub>2</sub> equivalents. Therefore, in the energy and industry sectors also, reliable monitoring on GHG emissions is necessary.

**Recommendation 5.4:**

*The Committee on Environmental Protection and the Hydrometeorology Agency should ensure the delivery of good quality information on greenhouse gas (GHG) emissions by reducing uncertainties in the monitoring of GHGs.*

Many central heating systems in residential areas have boiler houses heated with natural gas or fuel oil, which are no longer working, since gas imports decreased after 2010. Heating of houses in these areas is now mostly achieved by electricity, bottled gas or coal-fired stoves. Such stoves contribute to a deterioration of the ambient air quality, as emissions are not abated and chimneys are relatively low. In rural areas, much of the cooking of meals is over wood and takes place outside the houses.

**Recommendation 5.5:**

*In areas not connected to functional central heating, the Government should promote by awareness raising activities the use of heating installations and energy saving equipment for cooking that have only limited effects on the ambient air quality, taking into account the safety of these installations and indoor air quality.*

In April 2016, Tajikistan signed the 2015 Paris Agreement. Although at present the contribution of Tajikistan to global GHG emissions is very low, Tajikistan is highly vulnerable to the impacts of climate change. The rapid entry into force and effective implementation of the Agreement is therefore beneficial to Tajikistan. Ratification of the Agreement by Tajikistan would be a step to urge other countries with higher emissions to ratify too.

**Recommendation 5.6:**

The Government should ratify the 2015 Paris Agreement.

## **Chapter 6: Water management**

The real condition of the assets of water companies, irrigation and drainage network and intra-farm pipeline network is not well known. Water-related data, including on water quantity and water quality, are spread among various public authorities and organizations. There is no shared platform or system that would provide an overview of the situation in the entire country. The state water cadastre has not been maintained since 2005.

**Recommendation 6.1:**

*The Ministry of Energy and Water Resources, the Ministry of Health and Social Protection of the Population, the Agency of Land Reclamation and Irrigation and the Committee on Environmental Protection, in cooperation with relevant stakeholders, e.g. water companies and water user associations, should:*

- (a) *Carry out the inventory of all water infrastructure;*
- (b) *Develop a publicly available water information system based on SEIS principles that would include all water-related information, such as water infrastructure, quantity and quality of water resources, water users and water user permits.*

Ongoing projects focus mainly on urban water supply. A very small portion of funds is allocated to rural water supply. Furthermore, there is more emphasis on water supply than sanitation. This results in a significant financing gap if the goal of achieving higher sanitation coverage of the population is to be met. The financial resources necessary for rehabilitation, expansion and construction of new systems, in order to achieve the water and sanitation objectives and goals provided in the sectoral programmes, are estimated to be more than US\$2 billion in the period up to 2025.

**Recommendation 6.2:**

*The Government should increase investments and create a favourable environment for attracting investment in water supply and sanitation infrastructure, especially in rural areas, to be able to meet the water and sanitation targets set in the national strategic documents in line with the country's international commitments.*

The recently adopted Programme of Water Sector Reform for the period 2016–2025 envisages the transition from administrative-territorial water resources management to river basin management and the separation of various functions in the water sector. The Programme triggers major reforms in the institutional structure (e.g. the establishment of river basin organizations and river basin councils), the legislative framework (e.g. revision of the Water Code and later adoption of a new one) and other areas, including stakeholder participation and collection of data and information. Implementation of the Programme is expected to be financed primarily through projects financed by development partners. While the Programme is a clear step forward for Tajikistan, there are some risks, including potential resistance of existing institutions to changes in mandates, enormous needs in building capacity and high dependence on donor funding. Currently, the Programme enjoys considerable support

from the international and donor community; however, in the event that the Programme's implementation is deterred or unreasonably delayed, this may jeopardize the support by the international community in the future.

**Recommendation 6.3:**

*The Government should ensure proper and timely implementation and monitoring of the Programme for Water Sector Reform for the period 2016–2025.*

The draft programme for development of land reclamation and irrigation for the period 2016–2025 intends to increase the efficiency of irrigation systems, ensure stable financing of the sector and introduce management of irrigation systems at the level of basins, sub-basins and irrigation systems in cooperation with water user associations (WUAs) and WUA federations. The draft recognises the need for introduction of water saving technologies and improving energy efficiency.

**Recommendation 6.4:**

*The Government should finalize and adopt the programme for development of land reclamation and irrigation with due account to environmental aspects, in particular stimulating the introduction of water saving technologies and improving energy efficiency of irrigation systems, especially for pump irrigation.*

*See Recommendation 3.4.*

The area covered by glaciers has declined by approximately one third since the 1930s. By the year 2050, the volume of glacial ice is expected to decrease by 25–30 per cent and river run-off to increase by 6–15 per cent. It is expected that the peak discharge in non-regulated rivers will shift to earlier months of the year, affecting economic sectors dependent on water supply. It is expected that, by 2050, river discharge will possibly be reduced in summer and in early autumn, the period during which demand for water from agriculture is highest. Active melting and loss of glaciers regulating river flow will impact on the hydrological regime, changing the balance of inputs to river flows, with rain playing a greater role. Due to variation in precipitation patterns, the occurrence of floods is likely to increase. Limited access to safe drinking water and sanitation during floods stimulates the spread of waterborne diseases. Climate change is also associated with siltation of the hydropower dams.

**Recommendation 6.5:**

*The Government should guarantee the security and safety of water supply to the population during floods and droughts and ensure that climate change concerns are properly reflected in the design of new water supply and sanitation infrastructure and water management infrastructure and addressed during the maintenance of existing ones.*

Tajikistan is not a Party to the two international framework conventions on transboundary water cooperation, the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention) and the 1997 Convention on the Law of the Non-navigational Uses of International Watercourses. Participation in these agreements would strengthen Tajikistan's position in regional water cooperation and would contribute to the image of the country as a champion of the international water cooperation agenda. Participation in the Water Convention would also allow the country to be actively involved in further development of international water law through the opportunities provided by the institutional platform of the Convention.

**Recommendation 6.6:**

*The Government should accede to:*

- (a) *The 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes;*
- (b) *The 1997 Convention on the Law of the Non-navigational Uses of International Watercourses.*

## **Chapter 7: Waste management**

The management of municipal waste is increasingly under attention and results from the EBRD project completed in Dushanbe were a starting point for replication in other cities of Tajikistan.

A national waste management strategy accompanied by an action plan has been developed but not yet adopted.

The State Unitary Enterprise "Housing and communal services" (KMK) has the potential to help with the implementation of the waste legislation by the development of regional disposal sites. The enterprise can gain additional experience by cooperation with international donors in future investment projects on waste management.

Waste separation has not yet commenced. Some progress has been made as the collection of fluorescent lamps started. The country generally lacks recycling infrastructure, except for recycling of scrap metals and paper.

Recommendation 7.1:

*The Committee on Environmental Protection, in cooperation with local executive authorities and the State Unitary Enterprise "Housing and communal services", should improve the management of municipal solid waste, mainly by:*

- (a) *Finalizing the draft national waste management strategy and action plan and promoting their approval;*
- (b) *Introducing a system of waste management plans in national legislation;*
- (c) *Further developing the system of regional disposal sites and ensuring allocation of suitable land;*
- (d) *Further developing the system of separate collection of recyclable waste and improving / creating waste recycling infrastructure for big cities and populated areas.*

The available information on the volumes of municipal and industrial waste is not sufficient for full assessment of the current situation or the evaluation of progress in waste management.

Recommendation 7.2:

*The Agency of Statistics, in cooperation with the Committee on Environmental Protection, should review the current system of waste data collection and identify possibilities to increase the quality of information on waste from local authorities and industries.*

The state of radioactive waste storage facilities is one of the main problems in waste management in Tajikistan. Development of the National Concept on Rehabilitation of Uranium Waste Tailings for the period 2014–2024 and defining priorities has been an important step towards improvement of the situation in radioactive waste management. However, due to the size of the problem, it is hard to expect that this problem will be solved in the foreseeable future.

Recommendation 7.3:

*The Government, through the Agency for Nuclear and Radiation Safety under the Academy of Sciences, should continue the implementation of the National Concept on Rehabilitation of Uranium Waste Tailings for the period 2014–2024 and seek opportunities for financing modernization and remediation measures by involving international donors as well as owners of privatized companies in the mining sector.*

Tajikistan has upgraded the two facilities for disposal and long-term storage of obsolete pesticides. This opens up the opportunity to accumulate pesticides from the country's small storage facilities within the central ones and to export pesticides for final disposal.

Recommendation 7.4:

*The Committee on Environmental Protection should:*

- (a) *Approach donors for assistance in accumulating unsecured obsolete pesticides within central storage facilities;*
- (b) *Identify opportunities for export of pesticides for final disposal.*

Medical waste management is improving under the influence of donor funded projects conducted in pilot hospitals. However old management practices continue. Experience gained in pilot projects is not evaluated and good practice is not extended to all hospitals. Equipment that was provided to hospitals by foreign donors is not used. No healthcare waste management strategy has been developed to manage this type of waste.

**Recommendation 7.5:**

*The Ministry of Health and Social Protection of the Population, in cooperation with the Committee on Environmental Protection, should prepare a healthcare waste management strategy, which will:*

- (a) Clearly define responsibilities on the national as well as the local level for healthcare waste management;*
- (b) Introduce and enforce monitoring and reporting of healthcare waste;*
- (c) Present appropriate and suitable methods for storage, transport and disposal of healthcare waste.*

Participation in the 1989 Basel Convention on Transboundary Movements of Hazardous Wastes and their Disposal to which Tajikistan acceded in 2016 will increase the protection of the country from unregistered import of hazardous waste. Tajikistan will gain better access to information on hazardous waste management and to facilities for disposal of hazardous waste abroad. However Tajikistan does not yet participate in the 1998 Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade and the 2013 Minamata Convention on Mercury. Participation in these treaties would increase the capacity of Tajikistan to protect human health and the environment.

**Recommendation 7.6:**

*The Government should:*

- (a) Ratify the 1998 Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade;*
- (b) Accede to the 2013 Minamata Convention on Mercury.*

**Chapter 8: Biodiversity, biosafety, forestry and protected areas**

The majority of available information on biological diversity, ecosystems and forests is outdated. Neither complex inventories nor systematic monitoring were conducted since 1991. Hence, since 1991, the planning for nature conservation and forest management has been based on outdated inventories and rough estimates, not reflecting the actual situation. Biodiversity and forest monitoring systems that comply with international standards and would provide reliable, accurate, comprehensive and regularly updated information on the state of ecosystems (including forests) and species are still lacking. No central database, no harmonized databases and no unified information system on biological diversity and forest and non-forest ecosystems exist. The lack of reliable data and information on natural resources, including forests, is an obstacle to proper management planning and prioritization of measures to be taken.

**Recommendation 8.1:**

*The Government should ensure that:*

- (a) Comprehensive inventories of the different components of biological diversity and forest and non-forest ecosystems are carried out;*
- (b) A biodiversity and forest monitoring system is developed and implemented, utilizing efficient contemporary data acquisition, processing and visualization techniques (including geo-information techniques, GIS, remote sensing, aerial photo and satellite image analysis);*
- (c) Information systems on species and ecosystems, utilizing modern techniques of electronic data storage and retrieval, are designed, established and continuously maintained with the objective to foster information exchange and harmonize datasets in the possession of state agencies, other public institutions (e.g. research institutes) and environmental non-governmental organizations.*

The chances for the effective protection and maintenance of viable populations of rare and endangered flora and fauna species listed in the Red Book largely depend on the protective status granted by the legislation, as well as on timely implementation of relevant conservation measures. Currently, not all Red Book species enjoy relevant protection, regardless of whether they occur inside protected areas or beyond their boundaries. The protection of rare and endangered plant species and plant communities outside currently existing protected areas is not effective, due to the general absence of e.g. floristic reserves, in spite of the fact that the designation of such is planned in different strategic documents. Some rare and endangered animal species, considered particularly attractive for trophy hunting, are subject to either poaching or legalized "limited hunting", including inside

protected areas. The determination of annual quota for hunting game species is based on rough estimates as reliable information on the actual size of species populations is quite limited.

The protection of rare and endangered plant species and plant communities, depending on the species and its habitat location, can also be achieved by the modification of land use, or establishing small private or community-owned and managed nature reserves, upon provision of adequate financial compensation for the necessary limitations on land use, to be paid to landowners or land users.

**Recommendation 8.2:**

*The Government should enforce the effective protection of rare and endangered flora and fauna species listed in the Red Book by:*

- (a) *Designating small state nature reserves aiming at the protection of rare and endangered plant species;*
- (b) *Encouraging land users to establish and sustainably manage private or community-owned reserves by the application of sound motivation programmes, including compensation for the necessary modification or limitation of land use;*
- (c) *Ensuring that decisions on quota for the hunting of animals inscribed in the Red Book are always based on accurate and regularly updated species population census, so as to maintain viable populations of such species.*

Currently, the forest cover is estimated at only 2.95 per cent of the total territory of the country. The further decline of forests may result in accelerated desertification, landslides, mudflows and other natural disasters, limiting the profitability of agricultural practices and threatening human settlements. The adverse trends of forest decline and degradation would immediately result in increased government expenditures on risk management, protective and emergency measures.

Currently, the annual rate of deforestation caused by intensive livestock grazing and illegal firewood collection is higher than the natural forest biomass increment and regeneration ability. Mitigating the current pressures on existing forests and intensive reforestation are one of the most urgent challenges for Tajikistan. Reforestation has to be perceived in the long term, as, due to climate and soil conditions in mountain regions, the success of such activities would require at least several decades of effort and investment.

The draft Strategy for the Development of the Forestry Sector for the period 2016–2030 assumes the planting of 10,000 ha of new forests over the next 15 years, which is far from sufficient, as it would not offset the current deforestation trend. The main objective of the Strategy is to accelerate reforestation and afforestation activities to reach the level of some 4,500 ha annually, coupled with effective measures to be undertaken in existing forests, limiting the pressure posed by unsustainable livestock grazing and enhancing the natural forest regeneration potential, as well as establishing industrial fuelwood plantations in areas less favourable for grazing, in the close vicinity of villages, in order to further limit illegal firewood collection.

**Recommendation 8.3:**

*The Government should:*

- (a) *Accelerate the reforestation and afforestation activities to reach the level of some 4,500 ha annually throughout the period 2016–2030, in order to offset the current deforestation trend;*
- (b) *Undertake effective measures in existing forests towards mitigating the pressure posed by unsustainable livestock grazing and enhancing the natural forest regeneration potential;*
- (c) *Establish industrial fuelwood plantations in areas less favourable for grazing, located in the vicinity of villages, in order to further limit illegal firewood collection.*

The provisionally granted legal protective status of nature preserves cannot currently be perceived as an effective solution to ensuring their protection. This is particularly so in the case of the 13 nature preserves, which are traditionally designated for 10 years only, which status is not always prolonged in a timely manner for the subsequent period.



The nature preserves are managed by the state forestry institutions. Since 2014, the State Institution of Specially Protected Natural Areas, responsible for the management of state nature parks and nature reserves, is subordinated to the Forestry Agency.

Recommendation 8.4:

*The Government should amend the 2011 Law on Specially Protected Natural Areas so as to grant permanent legal protective status to all protected areas.*

See Recommendation 1.5.

Non-extractive anthropogenic pressures on biodiversity and ecosystems include conversion of natural ecosystems into agricultural land, fragmentation, degradation or destruction of habitats and landscape in the course of infrastructural investments, illegal construction of settlements inside protected areas and the introduction of invasive alien species. Climate change affects almost all ecosystems present in Tajikistan. These pressures are likely to increase in the near future, especially taking into account the nexus between food, energy and biodiversity.

Recommendation 8.5:

*The Government should integrate natural capital and ecosystem management in its socioeconomic planning to address climate vulnerability and the nexus between food, energy and biodiversity.*

The effective management of the natural resources of Tajikistan requires strengthening human resources, capacity building (e.g. professional staff training) and providing necessary infrastructure and basic equipment. Otherwise, the implementation of state policies and strategies might not be feasible, as, currently, the state institutions and their field services are lacking capacities to ensure their implementation and effective law enforcement.

Recommendation 8.6:

*The Government should raise the human and technical capacities of the institutions and agencies involved in the implementation of state policies and strategies aimed at sustainable use of natural resources and biodiversity conservation, in particular by recruiting additional staff and providing professional training, basic infrastructure and equipment.*

## **Chapter 9: Agriculture and environment**

Agriculture has an important role in Tajikistan for securing food, providing employment and providing input to GDP. In recent years, food crop yields and livestock numbers have increased; however, productivity and profitability remain low. An increasing population requires an increasing amount of agricultural production. Currently, agricultural practices are not implemented in an environmentally friendly way; land and water management, especially, need to be improved.

The Programme for Reforming the Agricultural Sector for the period 2012–2020 forms a comprehensive and ambitious programme for large structural changes in agriculture, including crop diversification; sustainable water and land management; establishment of cooperatives to support small farms; reform of the authorities; ensuring financing for developing high-income and profitable agricultural production with rational use and sustainable management of natural resources; and ensuring food security for the increased population. As sustainable land and water management is one of the main objectives of the Programme, its systematic implementation would have a positive impact on the state of the environment, especially on land and water.

Recommendation 9.1:

*The Ministry of Agriculture should implement the agricultural reform using the research based information and experience gained in various projects, by:*

- (a) *Promoting crop diversification in order to increase food crops and agro-biodiversity and improve soil quality;*
- (b) *Securing the freedom of dehqan farms to select and grow agricultural crops in accordance with sustainable agricultural practices;*

- (c) *Allowing dehkan farms to join cooperatives, which could ensure advice on agricultural practices with rational and sustainable use of water resources and land management, access to markets, access to machinery, fertilizers and pesticides, and extension services, including education and awareness-raising on environmentally and socially sustainable farming;*
- (d) *Promoting agricultural practices for sustainable management of water and land, and energy saving technologies.*

The agricultural sector is vulnerable to the impacts of climate change, including increased and more severe floods, droughts, storms, mudslides, changing availability of water resources, increasing temperature and lowering and more erratic rainfall. Climate change adaptation measures play a key role in the future development of agriculture. The Pilot Programme for Climate Resilience has gained good experience in adaptation to climate change; however, this experience is not widely communicated and applied.

Recommendation 9.2:

*The Ministry of Agriculture, in cooperation with relevant stakeholders, should:*

- (a) *Prepare an action plan on adaptation to climate change in the agricultural sector taking into consideration the different agro-ecological conditions of Tajikistan and focusing on sustainable land and water management in changing climate conditions, and involving local rural communities;*
- (b) *Promote the implementation of the action plan at all levels and by the population involved in agriculture.*

Pastures are a source of direct rural income as well as providing much of the country's meat and milk requirements. The increased number of livestock and unsustainable management of pastures form a challenge for livestock feed supply. Due to overgrazing, most pastures suffer from land degradation and erosion. Pastures are not managed in a sustainable way that is economically viable, socially acceptable and environmentally responsible. Sustainable productivity and limiting the number of livestock are not taken into account when developing livestock husbandry, and neither is managing the pasture lands to decrease current pressures.

In 2013, Tajikistan adopted the Law on Pastures and the country has recently adopted the Programme for Development of Pastures for the period 2016–2020, which includes concrete activities for sustainable use of pastures to avoid the further degradation of, and rehabilitate, pastures.

Recommendation 9.3:

*The Ministry of Agriculture and regional authorities should ensure implementation of the 2013 Law on Pastures and the 2015 Programme for Development of Pastures for the period 2016–2020, in particular by:*

- (a) *Encouraging pasture user unions to be organized and ensuring that all farmers have the possibility of joining them;*
- (b) *Ensuring sustainable pasture management throughout the whole country by preparing pasture management plans and securing the rotation in the use of pastures.*

Around half of the dehkan farmers have not been educated in farming. In general, farmers lack information on how to optimize the use of fertilizers, pesticides and water. Extension services for learning about the rational and sustainable use of agricultural practices are provided by some international projects but are not provided on a systematic basis by the Government. The best practices that are developed in several pilot projects are not transferred to all farmers. Establishing cooperatives in accordance with the agricultural reform could serve this process.

Recommendation 9.4:

*The Ministry of Agriculture should:*

- (a) *Ensure the systematic provision of extension services that would reach all farmers;*
- (b) *Develop comprehensive guidance on sustainable agriculture based on international best practices and promote it among all farmers.*

Tajikistan has high potential for organic farming, which is not actively promoted. As there is a lack of fertilizers and pesticides, organic farming would provide a good alternative, together with crop rotation and other

sustainable practices. There have been pilot projects that have gained good results and have shown the availability of markets for organic production abroad.

However, the accumulated best practices and knowledge are not communicated to farmers and there is no support provided to farmers to start organic farming.

**Recommendation 9.5:**

*The Ministry of the Agriculture should develop measures to support organic production.*

**Chapter 10: Industry and environment**

Tajikistan does not have policies for greening the industry and promoting sustainable production, although some strategies were adopted by the Government. This important policy gap hampers the development and implementation of measures towards more efficient and green industry.

**Recommendation 10.1:**

*The Ministry of Industry and New Technologies should:*

- (a) *Promote the change of production patterns with a view to greening industry by supporting activities related to eco-design and clean production, and eco-labelling in the textile industry;*
- (b) *Create the conditions for the transfer of know-how related to industry, in particular best available techniques, product standards, and technology and innovation platforms.*

Little information is available on the pressures that industry places on the environment in Tajikistan. Neither data nor estimates are available of industrial wastewater discharges and associated surface and groundwater pollution. There is no information on land uptake by industrial facilities and land degradation and soil contamination caused by industrial activities. Noise and vibration from industrial installations are not measured.

**Recommendation 10.2:**

*The Agency of Statistics, together with the Ministry of Industry and New Technologies and in cooperation with the Committee on Environmental Protection, should ensure regular environment-related data collection from the industrial enterprises.*

**Recommendation 10.3:**

*The Committee on Environmental Protection, together with the Ministry of Industry and New Technologies and in cooperation with the Agency of Statistics, should undertake an assessment of the impact of industry on the environment.*

**Chapter 11: Energy and environment**

The power sector is highly subsidized, and consequently tariffs for electricity are still low and do not reflect the costs of energy production. Energy subsidies and socially determined pricing mechanisms have failed to promote sound energy efficiency policies and measures. Selling electricity at low prices stimulated excessive consumption and did not provide sufficient preconditions for energy conservation.

**Recommendation 11.1:**

*The Government should pursue the policy of restructuring electricity tariffs to eliminate cross-subsidies and achieve the level of prices that reflects the costs of production in the power sector, while taking adequate measures to protect vulnerable social groups.*

With regard to the renewable energy sources (RES), Tajikistan uses less than 1 per cent of the potential of RES other than hydropower. About 10 per cent of the country's population lives in remote, mountainous, off-grid areas where off-grid renewable energy solutions make more economic sense. To date, photovoltaic and wind energy systems are used only on a pilot basis. Overall, solar power is not yet considered as a priority supply option. The potential for using geothermal resources, the availability of thermal water and its characteristics are not well researched. The Government works on creating a favourable regulatory framework for small-scale hydropower development.

Recommendation 11.2:

*The Government should:*

- (a) *Support renewable sources of energy, in particular solar energy for water heating, small hydropower taking into account the minimum ecological flow, and wind energy for off-grid energy supply;*
- (b) *Consider conducting studies to identify prospective geothermal sites, which could support off-grid energy supply.*

The 2013 Law on Energy Saving and Energy Efficiency stipulates the legal and organizational framework for energy efficiency and provides for the introduction of energy efficiency materials, appliances and technologies. The Law has provisions for introducing mandatory energy audits, establishing procurement procedures that incorporate criteria on energy efficiency, and requirements for energy use in buildings and household appliances, etc. It provides for the establishment of a national fund for renewable energy sources, energy saving and energy efficiency. Energy efficiency has very low priority in practice, determined by the fact that a large proportion of the population does not have secure and reliable access to energy.

To date, there is no established governmental department to govern, regulate, enforce and monitor energy efficiency reforms.

Recommendation 11.3:

*The Government should establish an independent national centre for energy efficiency and renewable energy to facilitate the implementation of strategic goals on energy efficiency defined by the Government.*

Analysis of the energy sector policy framework reveals the lack of long-term energy sector planning in Tajikistan, which presents one of the most significant risks to the country's ability to make its energy sector climate resilient. As approximately 98 per cent of the country's electricity is produced from hydropower sources in river basins fed by glacial meltwater and snowmelt, the energy sector is highly dependent on hydrology and therefore is greatly exposed to climate change. Most of the existing HPPs in Tajikistan were built with no regard to climate change.

Recommendation 11.4:

*The Ministry of Energy and Water Resources should:*

- (a) *Develop and adopt a long-term climate-resilient national energy strategy;*
- (b) *Take into account the impacts of climate change on hydrology when planning for new hydropower facilities, by ensuring that their design and management are able to cope with more frequent extreme weather events under a range of projected climate change scenarios.*

Inconsistencies were observed between energy-related data (data on imports of gas and on renewable energy sources), alongside fuelwood consumption data not being recorded in the energy balance. The methodology used for policy formulation and forecasting of electricity export potential, in particular, was rather optimistic and not fully aligned with the present realities of Tajikistan.

Recommendation 11.5:

*The Government should:*

- (a) *Continue improving the collection, monitoring and verification of data from the energy sector in accordance with internationally agreed standards;*
- (b) *Include fuelwood statistics in the energy balance.*

## **Chapter 12: Transport and environment**

According to statistical data, road transport is responsible for the vast majority of air pollution in Tajikistan. The recent Law on Ensuring the Environmental Safety of Road Transport proclaims a number of important principles and envisages a wide range of measures to mitigate the environmental impacts of the road transport sector. However, a coordination mechanism among various public authorities is not yet available. The available international standards for road vehicles, which are indispensable for the proper implementation of this Law, have not yet been adopted.

Recommendation 12.1:

*The Government should adopt a road map for the implementation of the 2015 Law on Ensuring the Environmental Safety of Road Transport, clarifying time frames for each step.*

The vehicle fleet in Tajikistan is ageing, due to large-scale importation of outdated second-hand cars. As a result, motor transport is identified as the number one cause of environmental impacts on the quality of air in Dushanbe and other cities. The situation also has adverse effects on road traffic safety and continues to worsen, due to the constant increase in vehicle numbers, especially in the capital. There are insufficient policy measures to improve the quality of fleet. The current system of vehicle emission tests and roadworthiness inspections is not stringent enough and mainly gears up for revenue collection, rather than for improving air quality and road safety.

Recommendation 12.2:

*The Government should introduce economic incentives and/or administrative tools to facilitate the renewal of the country's ageing fleet by:*

- (a) *Adopting emission standards for vehicles and their technical specifications;*
- (b) *Allowing importation only of vehicles that meet the Euro 3 standard and above and, in the period 2018–2020, raising this threshold level to Euro 4, as was done in the countries of the Eurasian Economic Union in January 2015;*
- (c) *Reducing customs payments (import duty, value added tax and excise) for importation of new vehicles (produced within the last five years) and/or vehicles meeting the Euro 4 standard and above;*
- (d) *Differentiating vehicle ownership tax based on vehicle emissions, fuel and powertrain;*
- (e) *Gradually phasing out the use of vehicles that are more than 25 years old and of those not equipped with catalytic converters;*
- (f) *Strengthening inspections of roadworthiness and vehicle emission tests and, at the same time, reducing the frequency of environmental checks from quarterly to biannual or annual;*
- (g) *Tightening control over the fuel quality standards, especially vis-à-vis sulphur content of liquid fuel, and phasing out the use of fuels that do not meet Class 3 or 4 standards.*

Despite completed and ongoing projects, the current system of public transport cannot cope with the increasing needs of the population. This is due to the outdated fleet, deteriorating infrastructure and inefficient structure of routes for various types of public transport (trolleybuses and buses with different seating capacities). The growing demand for public transport services, in particular in the capital, is partially met by unlicensed private companies that operate without proper control by the authorities, cause traffic problems and impede road safety.

Recommendation 12.3:

*The Government, in cooperation with local authorities, should intensify its efforts to develop sustainable transport systems, including public transportation, by:*

- (a) *Continuing the rehabilitation and enlargement of trolleybus networks and developing other low-emission urban transport modes (trams, light rail, etc.);*
- (b) *Modernizing the bus fleet, in particular by replacing minibuses for 12–15 passengers used for both intercity and urban transport by larger buses and coaches with capacity of at least 40–50 passengers;*
- (c) *Improving urban transport planning, optimizing traffic management and public transport routes;*
- (d) *Combating unlicensed passenger operators in Dushanbe and introducing bidding procedures for private transport companies that would take into account road safety and environmental protection;*
- (e) *Learning from the experience of other countries and conducting projects on combatting air pollution from transport sector.*

Tajikistan is not yet party to two ECE agreements in the area of vehicle regulation that are of particular importance for environmental protection and road safety – the 1958 Agreement concerning the Adoption of Uniform Technical Prescriptions for Wheeled Vehicles, Equipment and Parts which can be fitted and/or be used on Wheeled Vehicles and the Conditions for Reciprocal Recognition of Approvals Granted on the Basis of these Prescriptions, and the 1997 Agreement concerning the Adoption of Uniform Conditions for Periodical Technical Inspections of Wheeled Vehicles and the Reciprocal Recognition of such Inspections. At the same time, Tajikistan is already indirectly using many provisions of these Agreements through national and inter-State (CIS and EEU) standards that have been transposed into national legislation. The implementation of these legal instruments will

contribute towards the improvement of the environmental performance and roadworthiness of vehicles travelling on the roads of Tajikistan.

Recommendation 12.4:

*The Government should accede to:*

- (a) *The 1958 Agreement concerning the Adoption of Uniform Technical Prescriptions for Wheeled Vehicles, Equipment and Parts which can be fitted and/or be used on Wheeled Vehicles and the Conditions for Reciprocal Recognition of Approvals Granted on the Basis of these Prescriptions;*
- (b) *The 1997 Agreement concerning the Adoption of Uniform Conditions for Periodical Technical Inspections of Wheeled Vehicles and the Reciprocal Recognition of Such Inspections.*

### **Chapter 13: Housing and utilities sector and the environment**

Taking into account the scale of the current problems in the housing and utilities sector, it is essential that a comprehensive approach be used, taking due account of social and economic factors and the state of the legal, institutional and financial frameworks. A governmental body responsible for development and implementation of state policy in the housing and utilities sector – envisaged by the Programme of Development of the Housing and Utilities Sector in the Republic of Tajikistan for the period 2014–2018 – has not yet been established. Although local authorities have competences on some issues related to housing provision and communal services, their role is not clearly defined and they lack financial resources for addressing issues in the housing and utilities sector in their territories.

Recommendation 13.1:

*The Government should:*

- (a) *Define a governmental body in charge of state policy in the housing and utilities sector;*
- (b) *Delegate the relevant responsibilities and financial resources to regional/local authorities to address issues in the housing and utilities sector.*

The Government adopted the Concept for Reform of the Housing and Utilities Sector in the Republic of Tajikistan for the period 2010–2025 and the Programme of Development of the Housing and Utilities Sector of the Republic of Tajikistan for the period 2014–2018. Issues relating to modernization of the existing housing stock in apartment buildings, enhancement of its reliability and improvement of its energy efficiency and environmental safety are not addressed sufficiently. At the same time, no national housing strategy was developed and approved to encompass the whole range of issues relating to provision of affordable and high quality housing to the constantly growing population in a safe and environmentally sound environment, which should be followed by targeted state programmes to address each aspect of the housing sector, i.e. construction of commercial real estate, non-profit rental and social housing, and self-build housing.

Recommendation 13.2:

*The Government should develop a national housing strategy to meet the housing needs of the constantly growing population, taking due account of opportunities and the needs of various groups of households.*

The available data on the state of the housing sector are limited to the information received through the 2010 population census. There are no up-to-date reliable and comprehensive statistical data that would allow the Government to identify and comprehend the problems in respect of housing provision and the availability of communal services. There are no regularly updated statistical data covering housing conditions, housing characteristics, the availability of communal services, volumes of housing construction, including self-build housing, tenure issues and housing needs.

Recommendation 13.3:

*The Agency of Statistics should ensure the collection and dissemination of reliable and comprehensive data on the state of the housing sector.*

Many Soviet construction standards are still in force in the construction sector; they are gradually reviewed and translated into the Tajik language. In parallel, the revision of construction standards and norms is in process, with

an aim to establish clear requirements for design and construction of residential buildings, which would facilitate the use of new and traditional safe construction materials and modern technologies designed to resist seismic and other unfavourable natural factors and to provide environmental safety. At the same time, the level of public awareness in respect of seismic protection regulations, energy efficiency and resilience to climate change is still low. Performance of construction works in respect of apartment buildings and individual buildings in urban settlements is carried out under the supervision of territorial inspectorates of the Committee on Architecture and Construction under the Government. In rural areas, construction of individual buildings by dwellers themselves, departing from construction design documentation (which is a mandatory requirement for the allocation of a land plot for the purpose of housing construction), still tends to be a widespread practice because of the lack of training and shortage of inspectors in the oblast and district construction inspectorates.

A wealth of international experience is available to assist Tajikistan in addressing these challenges. The Sustainable Cities Programme works at city level in collaboration with local partners to strengthen their capabilities for environmental planning and management. At ECE, the Committee on Housing and Land Management has developed guidance materials on these issues, including the 2013 Good Practices for Energy-Efficient Housing in the UNECE region.

***Recommendation 13.4:***

*The Committee on Architecture and Construction under the Government should:*

- (a) *Continue the practice of revising the construction standards and norms, with the aim to establish clear requirements for the design and construction of residential buildings that encourage the use of safe materials and modern technologies in line with best international practice, in particular programmes such as Sustainable Cities, and relevant ECE guidance documents;*
- (b) *Raise public awareness in respect of the norms on seismic protection, energy efficiency and resilience to climate change;*
- (c) *Improve education and professional training of specialists and workers engaged in construction works, including those engaged in individual building construction;*
- (d) *Ensure proper control over compliance with the construction standards and norms, including during self-build housing construction in rural areas;*
- (e) *Enhance the professional qualification of the inspectors in local departments.*

Construction of new housing, including infill construction, and implementation of transport and utilities infrastructure projects in urban areas, may lead to the reduction of green areas. Green areas of common use are poorly developed in peripheral areas of towns and cities. Moreover, non-native tree species, which are vulnerable to the climate of Tajikistan, are used in place of native broad-leaved species in new green areas in urban communities, especially in Dushanbe.

***Recommendation 13.5:***

*The Government should ensure:*

- (a) *The preservation and expansion of green areas in existing residential neighbourhoods in urban settlements, as well as compliance with the requirements for creation of green areas in new residential neighbourhoods;*
- (b) *The creation of new recreation areas within and adjacent to the boundaries of urban settlements during the revision of master plans;*
- (c) *Increased rates of tree planting in rural areas, to restore the forests damaged by illegal logging by the population for heating purposes;*
- (d) *The use of native types of trees and shrubs, well adapted to the local climate, when developing and restoring green areas.*

## **Chapter 14: Health and environment**

There are severe limitations on surveillance of infectious diseases, in particular those related to the environment, such as water- and foodborne diseases, as well as human zoonoses. There are no organizational arrangements with other healthcare institutions to ensure infections are reported to the Service of State Sanitary and Epidemiological Surveillance (SSSES). Upgrading the laboratory network under limited financial resources and having numerous laboratories with varying technical and human capacities requires careful planning to achieve

optimal results in disease control. Applying analytical epidemiological methods will provide important insights into disease incidence, e.g. on susceptible population groups, sources of infection and pathways. Maintaining effective links between those involved in detection of pathogens in the water supply and food products, and epidemiologists, is essential for tracking causes, developing early warning systems for outbreaks and taking timely containment measures. Timely and regular exchange of data between the SSSSES and the State Veterinary Inspection Service (SVIS) on the incidence of zoonoses in humans and animals is equally important.

Recommendation 14.1:

*The Ministry of Health and Social Protection of the Population should:*

- (a) *Enhance infectious disease surveillance through introducing integrated service delivery and legally specified data flows to data reporting by primary healthcare centres, hospitals and other healthcare institutions, and ensure training of all those involved in uniform diagnosis of diseases;*
- (b) *Strengthen laboratory networks through cost-effective upgrading of selected laboratories with enhanced capabilities to diagnose a range of infectious diseases and detect bacterial, viral and parasite pathogens in water and food samples;*
- (c) *Improve capacity and skills at national and district levels to apply geographical and analytical epidemiological methods to surveillance and other relevant data to inform and support disease control and prevention;*
- (d) *Establish mechanisms for maintaining links between epidemiologists and microbiologists on a daily basis and conducting linkage analyses between microbiological and surveillance data;*
- (e) *Together with the Ministry of Agriculture, establish mechanisms for maintaining timely and regular exchange of data and information on the incidence of human and animal zoonoses between the Service of State Sanitary and Epidemiological Surveillance and the State Veterinary Inspection Service at national and district levels and for joint investigation of local outbreaks.*

Providing sustainable access to safe drinking water and adequate sanitation requires a huge capital investment and must be the target of long-term action in an incremental stepwise process. Careful planning at each stage has to ensure progress in access to water and sanitation while allocating limited resources across the country. Prioritization based on achieving maximal health benefits from reducing water-related risks in the entire population can ensure cost-effective implementation and implies a set of measures to address existing diverse situations concerning access to drinking water sources. For example, improving hygiene and sanitation conditions together with hygiene education can provide, in the short-term, a cost-effective solution in reducing the spread of infections through surface water used as drinking water by considerable numbers of people. The huge investment necessary for the development and extension of sewerage systems requires prioritization, and public buildings such as schools and hospitals should be given top priority.

Recommendation 14.2:

*The Ministry of Health and Social Protection of the Population, in cooperation with the relevant government bodies, should:*

- (a) *Develop and implement programmes to improve hygiene and sanitary conditions, in particular in those villages where there is no piped drinking water supply and where the people use surface water as a source of drinking water;*
- (b) *Reinforce hygiene education, in particular in remote rural communities;*
- (c) *Ensure that modernization of water treatment systems and distribution networks is governed by achieving maximum reduction of health risks from microbiological contamination of the drinking water;*
- (d) *Ensure progressive implementation of the World Health Organization (WHO) water safety plans in small water supply systems across the country;*
- (e) *Undertake a nationwide review of sewage collection and sanitary disposal facilities in schools and hospitals in order to prioritize investments.*

There are considerable health risks associated with unsafe food and zoonotic diseases, yet monitoring and control of food contamination is not efficient and neither is there capacity for timely detection and prevention of human zoonoses.



**Recommendation 14.3:**

*The Ministry of Health and Social Protection of the Population, in cooperation with the Ministry of Agriculture and other relevant government bodies, should:*

- (a) *Take actions to decrease foodborne health risks along the entire food chain in order to protect public health;*
- (b) *Strengthen a risk-based national integrated system on food safety that includes foodborne zoonoses and ensures effective and efficient control throughout the entire food chain;*
- (c) *Ensure inter-agency coordination to improve food safety control management by developing national procedures for food safety and for improved communication internally, throughout the food chain and internationally;*
- (d) *Strengthen the capacity of laboratories to conduct food safety analyses according to international standards for all products in Tajikistan and accreditation of the laboratories for these tests;*
- (e) *Ensure updating of the curricula of various educational institutions, introducing a component on food safety to align them with the requirements of the Codex Alimentarius, including hazard analysis and critical control points (HACCP) system, and including topics relevant to food safety, focusing on risk analysis, risk-based inspection and early warning systems.*

The country has a strong demand for modern expertise and more skilled human resources in environmental and health activities. In particular, the capacity of the various institutions involved in environmental and health monitoring, control and regulatory activities to apply risk management has to be improved in order to align the country's prevailing environment and health management practice to modern international requirements.

The Tajik Scientific Research Centre for Preventive Medicine is responsible for preparation of health reports for internal use within the Ministry of Health and Social Protection of the Population. Despite the resource-intensive sanitary-epidemiological surveillance concentrated under the Ministry of Health and Social Protection of the Population, there is no capacity for periodic analytical reports on population health and environmental risks highlighting the effect of preventive activities.

**Recommendation 14.4:**

*The Ministry of Health and Social Protection of the Population should ensure capacity building of the professionals at the Tajik Scientific Research Centre for Preventive Medicine and the Republican Centre for Medical Statistics and Information for assessing and reporting on the population's health status and environmental risks, to inform public authorities and the population.*

Tajikistan has ratified most of the health-relevant international conventions. However, it has not acceded to the ECE/WHO Protocol on Water and Health, the first international legally binding instrument on prevention, control and reduction of water-related diseases through sustainable management of water resources. The country has undergone the process of setting national targets according to the Protocol's goals but will not fully benefit from international cooperation in introducing good practice to water management and equitable access to water and sanitation. Furthermore, well-coordinated surveillance and early warning systems established in line with the Protocol would enhance the country's preparedness and response to outbreaks and major threats of water-related diseases.

Chemical safety is an important issue for the environment and health in Tajikistan. The country has only partially benefited from the Strategic Approach to International Chemicals Management (SAICM) initial capacity-building activities. The international cooperation and support available has not been sufficiently used to establish the basis for introducing integrated approaches to chemical management in the country, i.e. identifying the key institutions, regulatory approaches and inter-agency coordination needs and emerging policy issues, such as highly hazardous pesticides.

The participation of Tajikistan in the European Environment and Health process has been rather ad hoc.

**Recommendation 14.5:**

*The Government should:*

- (a) *Take the measures to accede to the ECE/WHO Protocol on Water and Health in order to fully benefit from international assistance in advancing water safety management and in strengthening preparedness and response to outbreaks and incidents of water-related diseases;*
- (b) *Strengthen participation in the Strategic Approach to International Chemicals Management to benefit from the available international expertise and information in taking actions on safe management of chemicals throughout their life cycle;*
- (c) *Enhance sustainable participation in the European Environment and Health process in order to advance partnership between the environment and health sectors and integration of health in other sectors' policies.*

A number of international projects on health and environment are implemented in Tajikistan. The use of international technical assistance mechanisms for implementation of projects targeted at addressing priority issues of adverse impact of the environmental pollution on human health should be continued, with a clear focus on replication of piloted solutions and tools.

Recommendation 14.6:

The Government should use international technical assistance mechanisms in order to implement projects targeted at addressing priority issues of adverse impact of the environmental pollution on human health.

#### **Chapter 14: Management of disaster risk associated with natural and man-made hazards**

Over the past 10 years, a lot of effort has been put into strengthening the disaster risk management (DRM) system in Tajikistan. Through the National Disaster Risk Management Strategy and the National Platform for Disaster Risk Reduction, disaster risk reduction (DRR) has become a known concept in the country. However, the practical work of key institutions, such as the Committee on Emergency Situations and Civil Defence, still centres on response. The lack of concrete progress on DRR is in part due to a lack of leadership and coordination.

The Committee on Emergency Situations and Civil Defence does not have sufficient authority to properly coordinate the risk reduction measures of other state institutions. This is exemplified by the fact that the National Disaster Risk Management Strategy for the period 2010–2015 was not fully financed or implemented. Nevertheless, the inclusion of DRM in local programmes of socioeconomic development is one of a number of achievements.

Existing disaster risk coordination platforms are limited in their scope. The National Platform for Disaster Risk Reduction does not include all relevant government authorities or partners, even though its expert group does meet and contributes to coordination at a technical level. The early warning reporting mechanism set up under the Ministry of Economic Development and Trade is a good initiative that strengthens multisectoral collaboration on risk monitoring and preparedness.

Recommendation 15.1:

*The Government should strengthen coordination roles on risk management and revitalize existing coordination structures, namely by:*

- (a) *Ensuring the participation of all relevant government authorities, as well as the private and civil sectors and academia, in the National Platform for Disaster Risk Reduction;*
- (b) *Revisiting existing response coordination mechanisms at the strategic and operational levels, and empowering national and local authorities, civil society and international organizations to develop and implement strategic response plans;*
- (c) *Improving the system of multisectoral collaboration for early warning and disaster response preparedness at the national and regional levels.*

There still seems to be limited real coordination between work on climate change adaptation work conducted by the Committee on Environmental Protection and DRM work, including the implementation of the Uniform State System for Emergency Prevention and Response by the Committee on Emergency Situations and Civil Defence. Climate change adaptation is addressed through projects of the PPCR, but does not seem to be well coordinated with the work of the Committee on Emergency Situations and Civil Defence. Establishing a strong coordination mechanism at a high political level, between the Committee on Emergency Situations and Civil Defence and the

Committee on Environmental Protection, is key, if efforts to link climate change adaptation and DRR are to be successful.

Recommendation 15.2:

*The Government should increase the effectiveness of national disaster risk management and climate change adaptation efforts by:*

- (a) *Actively promoting synergies between the Committee on Environmental Protection and the Committee on Emergency Situations and Civil Defence;*
- (b) *Formally cross-linking coordination platforms;*
- (c) *Developing joint/aligned plans and strategies.*

The lack of coordination and ownership has led to limited uptake of risk reduction measures in sectoral policies and tools, even in cases where risk management is included in legislation. The recently introduced 2014 Resolution of the Government No. 833 establishing responsibilities under the Uniform State System for Emergency Prevention and Response is a good attempt to harmonize sectoral disaster management initiatives. However, the Uniform System has yet to be put into concrete action through the clarification of duties and responsibilities and development of concrete mechanisms for collaboration. The Uniform System seems to partly overlap with, or duplicate, existing laws and regulations, e.g. those related to industrial risk management, including the monitoring of hazardous objects. Other types of emergencies, such as transport accidents and radiation safety, are excluded from the Uniform System.

Another key issue hindering the transition to risk management is the fragmented approach to knowledge management. Risk information is not systematically managed, with vertical silos hindering information sharing between authorities and across sectors. A lot of risk information is classified and not shared among government bodies, and much less with partners and the general public. Gender-disaggregated disaster data are not publicly available.

Recommendation 15.3:

*The Committee on Emergency Situations and Civil Defence should strengthen its approach to risk management by:*

- (a) *Setting up a coordination mechanism for data collection and information sharing between relevant entities, including a uniform data platform based on existing data, which should also address the gaps;*
- (b) *Making data accessible online to stakeholders at the national and local levels;*
- (c) *Collecting gender-disaggregated data;*
- (d) *Reviewing and enforcing sectoral legislation to harmonize it with the Uniform State System for Emergency Prevention and Response;*
- (e) *Strengthening coordination with the Committee on Environmental Protection and other relevant government entities, e.g. by organizing joint inspections of hazardous objects, including industrial facilities and mining operations;*
- (f) *Approving and applying harmonized risk assessment and loss, damage and needs assessment methodologies, in coordination with national and local stakeholders;*
- (g) *Strengthening the monitoring of break-through prone glacier lakes.*

Many good efforts by donors and international and national NGOs have been implemented at the local level, where community awareness of risk has increased. Search and rescue teams, and volunteers, are responding to disasters and saving lives. At the national level, the lack of ownership, political will and technical and financial capacity is hindering the sustainability of the work of these partners. In the event of a large-scale disaster demanding international support, it is clear that the country would face immense challenges. The country does not take enough advantage of existing programmes and networks to strengthen preparedness and readiness. While information on the current gender composition of the rescue teams is not available, previous projects on search and rescue called for the strengthening of efforts to increase the number of women among rescuers.

Recommendation 15.4:

*The Government should build on the work and experiences of other countries on risk management by participating in the work of the International Search and Rescue Advisory Group and by increasing the number of women in search and rescue work.*

Tajikistan is not a Party to the ECE Convention on the Transboundary Effects of Industrial Accidents. In 2005, it committed to implementing the Convention by participating in the High-level Commitment Declaration. Tajikistan is a beneficiary country of the Convention's Assistance Programme and there is room for enhancing its participation in the Assistance Programme and other activities under the auspices of the Convention to enable its accession to the Convention in the future.

Recommendation 15.5:

*The Government should build on the work and experiences of other countries on industrial risk management by:*

- (a) Nominating a national focal point(s) and competent authority/authorities for the Convention on the Transboundary Effects of Industrial Accidents;*
- (b) Ensuring the continuous involvement of the relevant bodies in activities under the Convention and, notably, under the Assistance Programme;*
- (c) Nominating point(s) of contact for industrial accident notification and mutual assistance to the Industrial Accident Notification system under the Convention;*
- (d) Engaging in national capacity building activities to strengthen institutional structures and policymaking on industrial accident prevention, preparedness and response;*
- (e) Preparing a national self-assessment and action plan, using the Benchmarks for the implementation of the Convention with indicators and criteria to identify challenges in its implementation and possible needs for further assistance;*
- (f) As soon as appropriate capacities for implementation are available, acceding to the Convention*

# **IMPLEMENTATION OF THE RECOMMENDATIONS IN THE SECOND ENVIRONMENTAL PERFORMANCE REVIEW<sup>1</sup>**

## **Chapter 1: Policymaking framework for environmental protection and sustainable development**

### Recommendation 1.1:

*The Government should:*

- (a) *Ensure that appropriate financial resources for the approved strategies, programmes and plans for environmental protection and sustainable development are allocated under the central and local budgets and ensure efficient use of foreign aid and support;*
  - (b) *Establish an efficient and transparent mechanism to monitor and assess the implementation of the strategies, programmes and plans.*
- (a) The recommendation has been partially implemented. The strategies and programmes usually describe financing needs, of which a very minor part is secured at the moment of adoption of a strategic document. Many strategies and programmes in the environmental area remain significantly underfunded. At the same time, measures are in place to ensure efficient use of foreign aid and support (e.g. the Foreign Aid Report and other activities of the State Committee on Investments and Management of State Property).
- (b) The recommendation has been largely implemented. The mechanism to monitor and assess the implementation of the strategies, programmes and plans is in place. The reports on implementation of programmes are regularly submitted and in some cases the Government adopts follow-up resolutions, including measures aimed at streamlining implementation. The follow-up governmental resolutions are publicly available, while the reports themselves are not directly available in the national legal database ("Adlia"). Therefore, there is much room for improving the efficiency and transparency of the mechanism.

### Recommendation 1.2:

*To improve the current situation in law-making and with effective and timely implementation of laws related to environmental protection and natural resources, the Government should:*

- (a) *Improve the coordination of the legislative initiatives and transparency of the lawmaking process at the national level;*
- (b) *Review existing environmental legislation to identify shortcomings in secondary legislation and ensure their drafting and adoption;*
- (c) *Request ministries, committees and agencies to combine law-making with the harmonization of principles and provisions and more consistency in the legal framework and with planning of effective further implementation of initiated laws;*
- (d) *Improve the procedure for the drafting and approval, by competent ministries, committees or agencies, of regulations to newly adopted laws, with timelines that are practicable and consistent with public participation requirements;*
- (e) *Coordinate intersectoral work of governmental agencies.*

Some efforts have been made to implement this recommendation, in particular with regard to items (b), (c) and (e). At the same time, the quality of legislation related to environmental protection and natural resources remains low. The mechanism of the legal expertise (review) of draft laws and other legal acts is in place but does not seem to function properly. The procedure for mandatory review by concerned agencies (and, therefore, the Committee on Environmental Protection) of draft legal acts is in place. However, it is not clear to what extent the Committee on Environmental Protection actually uses this procedure for the purpose of including environmental aspects in sectoral legislation and whether the Committee can have an impact on draft legislation coming from sectoral ministries.

<sup>1</sup> The second review of Tajikistan was carried out in 2010

**Recommendation 1.3:**

*The Government should:*

- (a) *Raise the status of the Committee on Environmental Protection to that of a ministry to enable the national environmental authority to fulfil its mandate,*
- (b) *Until this decision is made, ensure the Committee on Environmental Protection's active participation in the coordination of intersectoral and intergovernmental cooperation on environmental protection and sustainable development at national level to ensure environmental protection and promote sustainable development.*
- (c) *Upon proposal by the Committee on Environmental Protection, approve internal restructuring of the Committee in order to establish a department on air protection, water and waste management to promote proper environmental permitting and to avoid conflict of interest in issuing permits and checking their enforcement by one and the same structure.*

This recommendation has been partially implemented.

The low status of the Committee on Environmental Protection, which is not part of the Government, does not allow the Committee to effectively coordinate the activities of all governmental authorities on environmental issues and ensure environmental protection and promotion of sustainable development in various sectors.

Since mid-2015, almost all competences for environmental permitting have been transferred to the central apparatus of the Committee on Environmental Protection; prior to that, most of the waste management permits and some air emission permits were granted by the Committee's oblast and district divisions. This formally separated the permitting and inspection activities that were often previously combined at the oblast and district levels. The oblast divisions and district and town offices/units are still involved in preparing the permit dossiers (e.g. checking the draft limit values) but the formal decisions are taken and the permits themselves are granted by the central apparatus of the Committee.

## **Chapter 2: Compliance and enforcement mechanisms**

**Recommendation 2.1:**

*The Government should develop a transparent mechanism to ensure implementation of environmental policies, strategies, plans, and legislation with the focus on environmental performance.*

The recommendation has been partially implemented. No mechanism to ensure implementation of environmental policy documents and legislation was created. Several elements of such a mechanism are being introduced, though. The 2015 Law on Inspections of Business Entities, which entered in force in mid-2016, is more focused on environmental performance: it strengthens the risk-based approach to inspections and introduces new inspectors' performance assessment indicators. However, no list of high-risk facilities was developed by the Government.

The compliance monitoring activity is intense but its focus is mainly outside the environmental performance of the industrial sector. Inspectors spend their time on checking microenterprises or small agricultural farms regarding environmental payments and petty issues instead of focusing on potentially harmful facilities, many of them industrial. The main performance indicator is the increase in the number of checks compared with the previous period. Environmental inspectors do not dispose of sector-specific guidance materials and checklists. Thus, while the risk-based approach was legally proclaimed, no change occurred in practice.

**Recommendation 2.2:**

*The Committee on Environmental Protection should ensure that data on the results of its inspections and law enforcement activities are analysed, reported and made publicly available for further utilisation in decision-making and updating of strategies, policies, programmes and plans.*

The recommendation was partly implemented.

Monthly inspection reports are prepared for the Committee on Environmental Protection and local authorities. Every quarter, inspection results are discussed during the Committee's Board meetings. Statistical information

on the inspections and law enforcement activities is still collected and kept separately by various Committee units (air, water resources, lands and waste treatment, flora and fauna).

Inspection reports are not publicly disclosed. General indicators of inspection work are published annually in environmental bulletins issued by the Committee on Environmental Protection (as well as by some oblast divisions of environmental protection) in a limited number of copies. The structure of inspection statistics is not well aligned with types of inspection mentioned in the 2015 Law on Inspections of Business Entities, thus analysis of adherence to this law is complicated. The presentation format is not tailored to the general public; nor is it adapted for utilization in decision-making. The analysis of data is limited to turning data into meaningful information.

*Recommendation 2.3:*

*The Committee on Environmental Protection should improve existing procedures, including through observation of certain stages and time frames, ensure collection and recording of written comments, and also improve control within the EIA procedure (both within OVOS and within the process of acceptance of the documentation for the State Ecological Expertise).*

The recommendation was partly implemented.

The 2012 Law on Ecological Expertise, the 2012 Procedures for conducting state ecological expertise (SEE) and the 2014 Procedures for the organization and conduct of environmental impact assessment (EIA) streamlined the mechanism of environmental assessment of projects. They brought several procedural adjustments, such as introducing more flexibility in the duration of SEE, which is now linked to the complexity of projects. The EIA Procedures have been differentiated in relation to the project risk. Public participation is described in the EIA Procedures in more detail, as is the content of the EIA report. However, several aspects (e.g. the role of the competent authority in EIA) still remain unclear and procedural guidance on EIA is lacking.

The current assessment system does not envisage either screening or scoping as specific procedural steps of EIA concluded by a decision of the competent authority. Deciding on the need for EIA (screening) and determining the scope and content of environmental assessment (scoping) are now totally within the responsibility of the project proponent. There is no formal requirement for dialogue between the proponent and the public authorities on these matters. In fact, the competent authority is now totally dissociated from the EIA. Previously, the authority had a role to play in EIA scoping since the proponent was requested to agree with it the content of the EIA report.

*Recommendation 2.4:*

*The Committee on Environmental Protection should promote the practice of involvement of the public more actively in the environmental impact assessment and State ecological expertise procedures as well as in discussion of policies, programmes and plans relating to the environment, inter alia, through publication of guidance documents, training for officials and NGOs, providing consultations to NGOs and citizens.*

The recommendation has been partially implemented.

The spectre of legal opportunities for public participation in EIA/SEE procedures as well as in the discussion of environment-related policies has been widened in the period 2012–2014. The public participation element of EIA has been described in more detail in the 2014 Procedures on EIA. The EIA reports for category I projects, for example, have to contain a non-technical summary. These reports are available for review by the population who may be affected by the project. The minimum duration of public consultation was set at 30 days since its announcement by the local executive authorities. Concerned citizens can request public hearings of a specific EIA report.

The 2012 Law on Ecological Expertise strengthened another element of public participation, the public ecological expertise. Also, the Law introduced the right of the public associations to recommend their representatives for participation in SEE.

The practical implementation of legal opportunities for public consultation on environmental assessments remains very weak. Public participation is mainly limited to large projects co-financed by international actors. Not a single public ecological expertise was undertaken, due to lack of public initiative, limited resources and limited

knowledge of procedural and legal requirements. The low environmental awareness of both the general public and the public authorities, and the lack of relevant mechanisms for participation in cases of public ecological expertise and proposing representatives from the public to participate in SEE, are at the origin of this situation.

### **Chapter 3: Monitoring, information, public participation and education**

#### Recommendation 3.1:

*The Government should ensure adequate funding for monitoring networks and for the development of monitoring programmes through:*

- (a) *The implementation of the Programme for the Restoration of Hydrometeorological Stations and Hydrometeorological Posts for the period 2007–2016 in order to provide reliable environmental data for decision-making as well as for further dissemination to the public;*
- (b) *The modernization of the laboratories of the Centre for Analytical Control.*

This recommendation has not been implemented. Financing under relevant state programmes was insufficient for strengthening the monitoring networks and development of monitoring programmes. The conditions of the monitoring networks remain poor and monitored substances have not been expanded significantly. This has worsened to some extent, in particular as concerns the equipment of the Centre for Analytical Control and some regional laboratories of the Hydrometeorology Agency.

#### Recommendation 3.2:

*The Committee on Environmental Protection should give more priority on processing, analysing, disseminating and publishing environmental information and resume publication of state of the environment reports.*

This recommendation has been partially implemented. The Committee on Environmental Protection is giving greater priority to disseminating and publishing environmental information through its website, information bulletins, newsletter and journal, as well as organizing journalists who specialize in environmental topics. The work of the Environmental Information Centre within the Committee has been strengthened and it works in close cooperation with the national Aarhus Centre. However, the most recent state of the environment report dates from 2011.

#### Recommendation 3.3:

*The Government should ensure that the programme on environmental education and plan on implementation of education for sustainable development are adopted and are financially secured.*

This recommendation has been partially implemented. The State Comprehensive Programme of Development of the Environmental Awareness and Education of the Population for the period until 2020 (2015 Resolution of the Government No. 178) is considered to be a plan for implementation of education for sustainable development. However, the financing of planned measures under this Programme is not foreseen. The Programme does not indicate even required financial resources for implementation.

#### Recommendation 4.5 (from the first EPR of Tajikistan):

*The State Committee for Environmental Protection and Forestry should prepare, for submission to the Government and, thereafter, to the Majlisi Oli, amendments to the Law on Ecological Expertise to streamline its provisions with those of the Aarhus Convention. Particular attention should be given to:*

- *Clarifying the accessibility of environmental information;*
- *Informing the public about applications for projects which require ecological expertise; setting deadlines for supplying information; setting timeframes for different phases of public participation;*
- *Clarifying the definition of the public concerned which should be informed;*
- *Involving the public in the State ecological expertise.*

*Pending the adoption of such amendments, the State Committee for Environmental Protection and Forestry should issue detailed guidelines on public participation for its ecological expertise branches using international experience, including the guidelines on public participation prepared under the Convention on Environmental Impact Assessment in a Transboundary Context.*



See implementation of recommendations 2.3 and 2.4.

#### **Chapter 4: Implementation of international agreements and commitments**

##### Recommendation 4.1:

*The Government should ensure sufficient financial resources for the autonomous implementation of multilateral environmental agreements and other environmental agreements' strategies, on the ground through Tajikistan's own priority programmes which meet Tajikistan's own specific needs from ratified multilateral environmental agreements.*

*The Committee on Environmental Protection should propose actions aimed at a progressive reduction of the foreign assistance dependency and at the same time promote a learning-by-doing approach, taking advantage of the expertise offered by foreign assistance technical plans and in the context of country-led approaches.*

The recommendation was not implemented. Tajikistan continued to rely on international assistance in implementation of the multilateral environmental agreements and other environmental agreements' strategies. No efforts to reduce dependency on foreign assistance were taken.

##### Recommendation 4.2:

*The Committee on Environmental Protection in cooperation with other relevant authorities should assess the costs and benefits of and promote the ratification of the following environmental agreements:*

- (a) *Convention on International Trade in Endangered Species of Wild Fauna and Flora;*
- (b) *Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal;*
- (c) *Convention on the Protection and Use of Transboundary Watercourses and International Lakes and its Protocol on Water and Health;*
- (d) *Convention on the Transboundary Effects of Industrial Accidents;*
- (e) *Convention on Long-range Transboundary Air Pollution;*
- (f) *Protocol on Pollutants Release and Transfer Registers to the Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice.*

The recommendation has been partially implemented. Tajikistan became a Party to the Convention on International Trade in Endangered Species of Wild Fauna and Flora and to the Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal in 2016. It has participated in a number of activities and projects under all other multilateral environmental agreements mentioned in this recommendation. The Committee has promoted the country's accession to the Convention on Long-range Transboundary Air Pollution and the Protocol on Pollutants Release and Transfer Registers.

##### Recommendation 4.3:

*The Government should:*

- (a) *Finalize the accession procedure to the Espoo Convention on Environmental Impact Assessment in a Transboundary Context by duly informing the Convention Depository;*
- (b) *Identify the competent authority(ies) and its (their) functions and competency, and amend the effective law with provisions regarding the transboundary environmental impact assessment procedure in order to duly implement the Espoo Convention.*

The recommendation was not implemented. The Government of Tajikistan did not deposit the instrument of accession with regard to the Espoo Convention on Environmental Impact Assessment in a Transboundary Context. Moreover, Tajikistan stepped back from the provisions on transboundary impact in the 2012 Law on Ecological Expertise and within the 2014 Procedures of Environmental Impact Assessment. Transboundary aspects of the new developments have been reduced to the minimum in the new legislation, without providing any details, e.g. on the notification procedure; requirements on consultations between the parties to an EIA report; and requirements on the final decision concerning the project and submitting it, together with its justification, to the affected Party.

**Recommendation 4.4:**

*In view of the ratification of the Convention on the Transboundary Effects of Industrial Accidents, the Government should:*

- (a) *Ensure the continuous involvement of the relevant bodies in activities under the Convention and notably under the Assistance Programme;*
- (b) *Ensure that the relevant bodies make use of the benchmarks for the implementation of the Convention to identify challenges in the implementation of the Convention and possible needs for further assistance activities.*

The recommendation was not implemented.

**Chapter 5: Economic instruments and expenditures for environmental protection****Recommendation 5.1:**

*The Committee on Environmental Protection, in cooperation with other relevant stakeholders, should carry out a special study of the existing system of pollution charges and fines with objective view to:*

- (a) *Focusing the system on a few major air and water pollutants;*
- (b) *Defining adequate, technically feasible, air pollution and surface water quality standards;*
- (c) *Raising incentives for pollution abatement and control by means of an adequate combination of environmental standards and economic instruments;*
- (d) *Ensuring that revenues from pollution charges cover at least the associated administrative costs of policy design and effective implementation.*

The recommendation was not implemented.

**Recommendation 5.2:**

*The Committee on Environmental Protection, in cooperation with other relevant stakeholders, should review charges for the use of flora and fauna with a view to make them supportive of nature protection.*

The recommendation has been partially implemented. Charges for use of flora and fauna are partly indexed to inflation.

**Recommendation 5.3:**

*The Government and its competent bodies for tariffs applied to utility services, waste services, and irrigation services should:*

- (a) *Ensure that tariffs are gradually approaching levels that allow, in combination with a high collection rate of bills, to recover production costs, including an adequate profit rate to finance investments;*
- (b) *Introduce clearly defined and transparent policy measures for providing targeted social support measures that ensure adequate access of the poorest and vulnerable parts of the population to these services;*
- (c) *Promote the progressive installation of meters, notably as regards water use, in households and enterprises, including farms, for monitoring consumption.*

The implementation of this recommendation is ongoing. Some progress has been made with moving towards more cost-reflective tariffs. There has also been progress with the installation of water meters in urban areas, but not in rural areas. The Government is preparing a countrywide scheme for providing targeted social assistance designed also to ensure affordability of communal services tariffs for lower income groups.

**Recommendation 5.4:**

*The Government, in cooperation with its competent bodies, notably the Committee on Environmental Protection, the Ministry of Finance and the Ministry of Economic Development and Trade, should:*

- (a) *Include environmental protection within the medium-term expenditure framework and give greater priority to environmental spending;*

- (b) *Define, in cooperation with major Government spending units, medium-term priorities and objectives for environmental policy across major sectors of the economy and prepare estimates of associated costs and benefits that would be used in the preparation of the medium-term expenditure framework;*
- (c) *Take measures designed to mobilizing private sector resources for environmental protection based on a more effective application of the polluter-pays and user-pays principles.*

The recommendation was not implemented. Overall progress with extending the Medium-Term Expenditure Framework to all line ministries has been slow.

**Recommendation 5.5:**

*The Committee on Environmental Protection in cooperation with other competent bodies, such as the Ministry of Finance and the Ministry of Economic Development and Trade, should:*

- (a) *Review the management and operations of environmental funds;*
- (b) *Assess the potential advantages of consolidating environmental funds into a much smaller number, if not a single fund;*
- (c) *Publish an annual report on the activities and achievements of environmental funds.*

The recommendation was not implemented. There is little transparency with regard to the expenditures of the environmental funds at the national and local levels.

## **Chapter 6: Climate change**

**Recommendation 6.1:**

*The Government should consider establishing a body on climate change issues to inter alia:*

- (a) *Address climate change issues;*
- (b) *Procure studies on climate change impacts in different sectors;*
- (c) *Coordinate and monitor adaptation and mitigation activities;*
- (d) *Coordinate fund mobilization for climate change;*
- (e) *Raise awareness on adaptation and technology transfer issues at different levels;*
- (f) *Ensure the integration of climate change issues into strategies policies, programmes, plans and investment projects.*

This recommendation has been largely implemented. The Committee on Environmental Protection is in charge of coordinating policy development on climate change issues. The Hydrometeorology Agency includes the Centre for Studies on Climate Change and the Ozone Layer in charge of scientific, research and coordination activities. The Hydrometeorology Agency is responsible for all reporting under the UNFCCC. Also, the PPCR has its coordination mechanism, which includes an Inter-Ministerial Committee.

**Recommendation 6.2:**

*The Government should:*

- (a) *Develop a national adaptation strategy as well as a low-emission development strategy in line with the recent strategies developed on relevant topics;*
- (b) *Ensure financial and human resources for the implementation of these strategies and continue fund mobilization for adaptation and mitigation actions.*

The implementation of this recommendation is ongoing. The National Action Plan on Climate Change Adaptation (2003 Resolution of the Government No. 259) is formally still valid. A national strategy on adaptation to climate change is under preparation. Financing for implementation of climate change adaptation and mitigation measures is provided through the PPCR and various international projects.

**Recommendation 6.3:**

*The authorities dealing with climate change issues should:*

- (a) *Raise the level of expertise at the national, regional and municipal levels, through capacity-building and training programmes;*
- (b) *Carry out awareness-raising campaigns on climate change risks, mitigation and adaptation to climate change in cooperation with NGOs and community-based institutions.*

The implementation of this recommendation is ongoing, primarily through the activities of the Hydrometeorology Agency's Centre for Studies on Climate Change and the Ozone Layer, PPCR and various international projects.

**Recommendation 6.4:**

*The Government should strengthen the capacities of observations and monitoring on meteorology, hydrology, and glaciers by ensuring*

- (a) *The development of a network of automatic hydrological gauges and early warning systems, particularly in the upper reaches of river basins prone to formation of mudflows and floods;*
- (b) *The information transfer and exchange systems.*

This recommendation was not implemented. There is still a lack of production of proper hydrometeorological and glacier data and this poses difficulties in terms of the country's integration into the Global Observing System. There is no funding for such production under the 2006 Programme for the Recovery of Meteorological and Hydrological Stations Posts for the period 2007–2016 and the Programme for Studying and Preserving Glaciers for the period 2010–2030.

**Recommendation 6.5:**

*In order to produce a more robust inventory of Greenhouse Gases, the Government should ensure:*

- (a) *Availability of financial and human resources for the development of a reliable system of monitoring and registering of Greenhouse Gases;*
- (b) *Cooperation between key players in the statistical reporting related to the country's Greenhouse Gases inventory.*

This recommendation has been partially implemented. Monitoring and registry of GHGs is still carried out when national communications under the UNFCCC are being prepared with the assistance of relevant UNDP projects. Statistical books on environmental protection provide data on emissions of GHGs from the Second National Communication under the UNFCCC.

## **Chapter 7: Sustainable management of water resources**

**Recommendation 7.1:**

*The Ministry of Land Reclamation and Water Resources should:*

- (a) *Implement the guiding principles and activities under the water sector reform developed in the cooperation with Food and Agriculture Organization of the United Nations (FAO) and other international organizations;*
- (b) *Support the start of the European Union Water Initiative National Policy Dialogue on Integrated Water Resources Management (IWRM) as a forum for the high-level inter-sector communication on the development and implementation of the water sector reform and as a vehicle for donor activities' coordination;*
- (c) *Set up guidelines for flood risk assessment and calculation of protective measures.*
- (d) *In cooperation with Ministry of Energy and Industry, draw up management rules for water reservoirs and involve all stakeholders;*
- (e) *Analyze existing water protected areas and, where appropriate, initiate pilot projects for setting appropriated water protection areas for groundwater, which is used for drinking water;*
- (f) *Ensure that flood prevention programmes follow common rules and take into consideration the integration of forestry, agriculture and settlement issues;*
- (g) *Ensure that management of water reservoirs is balanced and avoid giving single priority to power generation.*

This recommendation has been partially implemented, mostly due to delays in approval of the water sector reform. The Programme of Water Sector Reform for the period 2016–2025 was adopted much later than expected. Since 2011, the Steering Committee of the National Policy Dialogue on IWRM serves as a platform for regular intersectoral discussions on water sector priorities with a focus on IWRM. The Government has included water resources issues in its key policy targets. In the case of energy-oriented reservoir management, agricultural food production is often affected.

Recommendation 7.2:

*The Government should ensure appropriate planning activities of water works as well as renovation and extension of existing water sector infrastructure, taking into account the needs to elaborate well-optimized technical solutions, including pre-treatment needs to the industrial wastewater treatment.*

The implementation of this recommendation is ongoing. There are examples of appropriate planning activities of water works as well as renovation of existing water sector infrastructure, taking into account the need to elaborate well-optimized technical solutions (box 11.3).

Recommendation 7.3:

*The Committee on Environmental Protection should encourage developers to include erosion and natural risks prevention when carrying out an environmental impact assessment.*

Both the 2014 EIA Procedures and the previous 2006 EIA Procedures provided only general requirements for the content of the EIA documentation and made no specific reference to erosion or natural risks prevention. In the period 2006–2014, EIA scoping was subject to coordination with the environmental authority, i.e. the Committee on Environmental Protection. The 2014 EIA Procedures contain no formal requirement for dialogue between the proponent and the public authorities on this matter: scoping is now totally within the responsibility of the project proponent. Therefore, the possibility for the Committee to "encourage the developers to include erosion and natural risks prevention when carrying out an environmental impact assessment" has been further restricted.

Recommendation 7.4:

*The Ministry of Land Reclamation and Water Resources, in cooperation with the water users associations, the Ministry of Health and other relevant stakeholders, should ensure that the rehabilitation of irrigation and drainage networks is accompanied by training and guidelines to farmers for improved water economy and sustainable farming.*

This recommendation was partially implemented in the form of training organized through international projects.

Recommendation 7.5:

*The Government should:*

- (a) *Raise awareness of the population on water issues by organizing campaigns in cooperation with relevant stakeholders, NGOs and international organizations;*
- (b) *Ensure capacity-building and appropriate training at all levels of water management.*

This recommendation was partially implemented in the form of training and capacity-building organized through international projects.

Recommendation 7.6:

*The Ministry of Land Reclamation and Water Resources, the Khojagii Manziliyu Kommunal, the Ministry of Education, and the Committee on Environmental Protection should revise vocational training in water issues and increase capacity-building, fully utilize internal skills and experiences (i.e. out of pilot projects).*

This recommendation was partially implemented in the form of training and capacity-building organized through international projects.

## Chapter 8: Waste management

### Recommendation 8.1:

*In order to improve the management of municipal waste, the Committee on Environmental Protection, in cooperation with municipalities and the State Unitary Enterprise Khojagii Manziliyu Komunali, should:*

- (a) *Finalize the draft national waste management strategy and its action plan with concrete funding plans for their implementation and promote their adoption;*
- (b) *Develop secondary legislation for municipal waste management at the national and municipal level, with special attention to the regulation on waste segregation, waste recycling and disposal practices;*
- (c) *Develop the system of separate collection of recyclable waste;*
- (d) *Further develop a system of regional disposal sites and allocation of suitable land.*

The implementation of this recommendation is ongoing.

- (a) A national waste strategy is under preparation but it is not yet finalized.
- (b) Some secondary legislation on waste was developed and adopted at national and municipal levels. However, waste segregation and waste recycling are not a priority.
- (c) Some progress was achieved, although Tajikistan generally lacks recycling infrastructure, except for recycling of scrap metals and paper.
- (d) The Committee started to collect information on individual sites and international donors are developing waste infrastructure in several towns.

### Recommendation 8.2:

*The State Property Committee, in cooperation with the Committee on Environmental Protection, should include environmental clauses in contracts in case of privatization or change of ownership of industries, and identify possibilities and elaborate concrete plans for remediation of industrial wastes with new owners.*

This recommendation was implemented. The Committee on Environmental Protection facilitated the introduction of a mandatory environmental audit before privatization. This audit includes assessment of waste management and accumulated waste.

### Recommendation 8.3:

*The Agency for Nuclear and Radiation Safety at the Academy of Sciences should pursue the implementation of the International Atomic Energy Agency projects and identify opportunities for financing modernization and remediation measures by involving international donors as well as new owners of privatized companies in the mining sector.*

The implementation of this recommendation is ongoing. The National Concept on Rehabilitation of Uranium Waste Tailings for the period 2014–2024 presents a strategy for remediation of radioactive waste tailings and dumps. Remediation projects started and will continue.

### Recommendation 8.4:

*The Committee on Environmental Protection should:*

- (a) *Cooperate and exchange practical experience with countries, which have already improved their situation in management of obsolete pesticides;*
- (b) *Approach donors for assistance with investment projects for improvement of obsolete pesticides storage.*

The implementation of this recommendation is ongoing.

- (a) Tajikistan participates in regional activities under the Stockholm Convention on Persistent Organic Pollutants.
- (b) Two pesticide storage sites were upgraded. A team for pesticide packaging and transport was trained.

### Recommendation 8.5:

*The Ministry of Health, in cooperation with the Committee on Environmental Protection, should ensure that the following medical waste-related issues are included in the Waste Management Strategy:*

- (a) *Clear definition of responsibilities at national as well as at local level for hospital waste management;*
- (b) *Introduction and enforcement of monitoring and reporting of this waste;*
- (c) *Setting out of appropriate and suitable methods for storage, transport and disposal of this waste.*

The recommendation was not implemented, except for (c), which is in progress.

- (a) No changes to the institutional responsibilities in healthcare waste were identified.
- (b) Generation of waste from the health sector is not recorded. No national data on healthcare waste are published.
- (c) The implementation of this recommendation is ongoing. The situation is beginning to improve in Dushanbe, mainly under the influence of international projects aimed at upgrading healthcare facilities.

## **Chapter 9: Biodiversity, forestry and protected areas**

### Recommendation 9.1:

*The Committee on Environmental Protection should improve the policy, legal and institutional basis as well as increase human and financial capacity for the joint management of forest and other natural resources, and encourage the establishment of positive economic incentives and long-term user rights for sustainable natural resource use among traditional resource users.*

The implementation of this recommendation is ongoing. The joint forest management approach, previously tested under several pilot projects implemented with the support of international donors, is now reflected in the 2011 Forest Code. Little information is available on the progress achieved so far; however, enhancing the joint management of forests is planned for the coming years. According to the draft strategy for the development of the forestry sector for the period 2016–2030, the increase in the number of households contracted for "joint forest management" from the current 721 to 3,500 shall be one of the Strategy's indicators, and the corresponding draft action plan for 2016–2020 includes action No. 5 on involvement of the local population in the Joint Forest Management schemes (with a budget accounting for 2 per cent of the total).

### Recommendation 9.2:

*The Committee on Environmental Protection should establish a participatory monitoring system for priority elements of biodiversity and forest resources involving State agencies, the Academy of Sciences, NGOs, other experts and international organizations, building on the multi-stakeholder collaboration during the ongoing revision of the Red List of Tajikistan.*

The recommendation was not implemented. An effective participatory biodiversity monitoring system, as well as carrying out the complex forest resources inventory, was not established. Therefore, no reliable, updated and accurate data or information are available for biodiversity and forest management planning, quota-setting and prioritization of measures to be taken.

### Recommendation 9.3:

*The Government should:*

- (a) *Develop the management and monitoring of all types of protected areas in a coordinated way;*
  - (b) *Support the Committee on Environmental Protection to develop and implement management and financing plans for all Protected Areas;*
  - (c) *Build the necessary capacity for their implementation among individual protected area administrations.*
- (a) This part of the recommendation was not implemented.
  - (b) This part of the recommendation has been partially implemented. For some protected areas, five-year management plans were developed. However, due to budgetary constraints, progress in the development of management plans (together with financial plans for their implementation) for all protected areas is very slow, being to a large extent dependant on the availability of external financial support.
  - (c) This part of the recommendation has been partially implemented. In the absence of adequate budgetary resources, capacity-building programmes are not carried out systematically. Some individual protected area administrations received training as part of the country's participation in international projects.

**Recommendation 9.4:**

*The Committee on Environmental Protection in cooperation jointly with forest resource users and businesses, should develop, seek financial resources for implementation and implement, a nationwide reforestation programme that aims at biologically viable forests and a better fuel wood supply to rural communities, while addressing the key pressures on the country's forest resources.*

The recommendation was partially implemented. A draft strategy for the development of the forestry sector for the period 2016–2030 and corresponding draft action plan for its implementation in the first five years (2016–2020) were drafted. Both documents were developed with the participation of the various agencies and ministries concerned, international organizations and NGOs. The reforestation programme is an important component of the Strategy, while expenditures on reforestation-related activities account for some 25 per cent of the planned budget necessary for the implementation of the action plan for the period 2016–2020. However, according to the available draft documents, the state budget and other sources are currently in a position to ensure only 14.8 per cent of the required funds, while the source of the remaining 85.2 per cent of the desired budget remains unknown.

**Recommendation 9.5:**

*The Government should take all measures to assess and conserve the biodiversity typical of Central Asian mountains, bearing in mind that the country has been recognized as a global hotspot of Central Asian mountain biodiversity.*

The recommendation has been partially implemented. A number of new legal acts have been adopted, establishing the legal basis for future activities. A considerable number of policies, strategies and state programmes have been adopted, and new ones for the subsequent period commencing in 2016 have recently been drafted and submitted for adoption. At the same time, the influence of the above laws, strategies and programmes on the sustainability of resource use, conservation status of biodiversity and condition of forests might be disputable, as the country is still lacking capacities to ensure their adequate implementation. In general, no significant progress towards mitigating pressures on biodiversity and forest resources has been achieved within the reporting period.

**Chapter 10: Human health and the environment****Recommendation 10.1:**

*The Ministry of Health, in cooperation with other relevant Government bodies, should promote the establishment of cross-governmental groups to identify and address risks from climate change for the health priorities of water safety and food security.*

The recommendation has been partly implemented. In the framework of the seven-country initiative "Protecting health from climate change" (2009–2013), assessment of the vulnerability of and climate change health impacts on the population of Tajikistan was conducted. It served as a basis for the development of a cross-cutting draft national climate change and health adaptation strategy and action plan of Tajikistan that was submitted to the Ministry of Health and Social Protection of the Population in 2012 but has not yet been endorsed. Overall, some progress has been made in the development of the basis for action. There is no mechanism in place for the implementation of specific activities of an intersectoral nature to benefit both public health and the environment.

**Recommendation 10.2:**

*The Ministry of Health, in cooperation with other relevant Government bodies should:*

- (a) *Ensure the quality of the disease surveillance system;*
- (b) *Identify areas of different diagnostic procedures and data collection to improve surveillance and engage in training of health professionals;*
- (c) *Improve monitoring for drinking water quality, including in rural areas.*

The recommendation has been partly implemented. Overall, very limited progress has been made in monitoring health and the environment despite the legally binding requirements for monitoring and evaluation of policy implementation. Current monitoring does not provide an indication of the magnitude of environmental health risks or the size of the population affected or potentially "at risk". Neither does it provide information about changes in the risks as a result of interventions.



**Recommendation 10.3:**

*The Ministry of Health should:*

- (a) *Develop a national water safety strategy and implement the WHO Water Safety Plan nationwide;*
- (b) *Undertake a nationwide review of water supply and safety and the sanitation sector in rural and district hospitals, and develop a national plan to improve the quality of water and sanitation in hospitals;*
- (c) *Revise national water quality standards according to WHO guidelines;*
- (d) *Ensure comprehensive coverage of microbiological sampling, to increase coverage of water treatment and supply;*
- (e) *Develop and implement integrated Water Safety Plans in accordance with the international norms for water services;*
- (f) *Proceed with a resilience assessment of water supply and sanitation services in line with the methodology developed by WHO, and drawing on the Guidance on Water Supply and Sanitation in Extreme Weather Events.*

This recommendation has not yet been fully implemented. Overall, progress has been made: modern approaches to water management and water safety ensuring health protection have been introduced through a number of strategic and regulatory documents:

- (a) The country has set targets on water quality and implementation of good practices to water resource management, but a national water safety strategy that puts population health at the centre of the policy agenda has not been developed. The Programme on Improving Access of the Population to Clean Drinking Water for the period 2008–2020 (2006 Resolution of the Government No. 514) targets the increase of water supply coverage in urban and rural areas. The Programme of Water Sector Reform for the period 2016–2025 (2015 Resolution of the Government No. 791) introduces IWRM and the river basin management approach and sets out the necessary measures and inter- and intrasectoral mechanisms and institutional arrangements to address topic-specific and cross-cutting issues.

Several initiatives are emerging to support uptake of the Water Safety Plan (WSP) in Tajikistan, particularly in rural and small town areas. Targets for development of the WSP in small towns and rural communities were set but progress towards achieving them has been slow, due to the lack of a legally binding framework to foster national policy dialogue and, until very recently, the lack of a national coordination mechanism on water resource management.

- (b) Assessment of water supply and sanitation was conducted in a sample of rural health centres, and these remain key issues for healthcare facilities. The rural hospital sites revealed a deteriorating infrastructure of water treatment and supply systems, as well as sanitation services, which potentially put patients at risk. From 2013 until 2015, the green hospital project has been implemented in four of Tajikistan's hospitals with the objective of introducing an efficient, environmentally friendly and hygienic hospital management system. There are no targets on water supply and sanitation in healthcare facilities, and a national plan to improve the quality of water and sanitation in those facilities was not developed.
- (c) The national drinking water quality standards are currently being revised in accordance with the WHO guidelines and the revision is expected to come out in 2017.
- (d) Coverage of microbiological sampling of water treatment and supply is not reported and it is very likely that comprehensive coverage of the sampling, i.e. up to 100 per cent, has not been achieved. The situation in rural areas is particularly unsatisfactory.
- (e) Development and implementation of integrated water safety management systems in accordance with international norms for water safety services has seen limited progress, in particular in relation to the use of the few performance indicators for service operators (ISO 24510-10:2007). The components on water quality sampling (ISO 5667-5:2006) and management of drinking water utilities under crisis conditions (IWA 6:2008) have not been introduced. During 2012–2013, intensive activities have taken place on setting targets and target dates in the context of the Protocol on Water and Health (chapter 14).

- (f) Assessment of the resilience of water supply and sanitation services to extreme weather events was conducted in the framework of the seven-country initiative "Protecting health from climate change" (2009–2013). Measures have been put forward as a part of the draft national climate change and health adaptation strategy and draft action plan, which focus on protecting health from extreme weather events, improving and strengthening the public health system infrastructure, enhancing surveillance and early-warning systems and raising awareness among the population. The draft national climate change and health adaptation strategy is still awaiting endorsement by the Ministry of Health and Social Protection of the Population.

Recommendation 10.4:

*The Government should:*

- (a) *Establish a centre of food safety education and training for professionals and the general public;*  
 (b) *Strengthen monitoring of food contamination in the food chain and surveillance of food-borne disease.*

Some progress has been made. Implementation of international food quality and safety standards and harmonization of the legislation is still under way:

- (a) A centre of food safety education and training for professionals and the general public has not been established;  
 (b) Strengthening the monitoring of contamination in the food chain has been partially implemented. As a consequence of WTO membership and related requirements, some of the national standards for food contaminants have been revised. Official controls are still weak and can compromise food quality and safety; the hazard analysis and critical control points (HACCP) system has not yet been introduced in the country. Surveillance of some food-borne diseases of zoonotic origin, such as brucellosis, has been strengthened.

Recommendation 10.5:

*The Government should:*

- (a) *Promote the establishment of a Department for Monitoring and Evaluating Health Outcomes within the Nuclear and Radiation Safety Agency;*  
 (b) *Align legislation on radiation with international safety standards;*  
 (c) *Ensure the proper disposal of radioactive medical waste.*

- (a) The recommendation has, to a large extent, been implemented. Within the Technical Service Department of the Agency for Nuclear and Radiation Safety there are two sections dealing with health: the Occupational Exposure Control Service and the Patient Exposure Control Service. No department deals with monitoring and evaluating health outcomes.  
 (b) The implementation of this recommendation is ongoing. The regulatory framework in the area of radiation is being improved and harmonized with international safety standards. The regulatory framework in the area of the handling of waste from former uranium mining is also being strengthened. Overall, good progress has been made with respect to the regulatory and institutional framework.  
 (c) The recommendation has not yet been implemented. Disposal of radioactive medical waste has not improved: it continues to be disposed of through the main sewerage system.

Recommendation 10.6:

*The Ministry of Health, in cooperation with other relevant Government bodies, should undertake an implementation analysis of the current National Environmental Health Action Plan and develop a new one, which will include inter alia a chapter on children's environmental health to reflect the priorities identified by CEHAPE.*

The recommendation has not been implemented. At present there is no integrated strategy on environment and health. The overarching goal of the National Health Strategy for the period 2010–2020 is improvement of the population's health and creation of healthier environments through health system reform and modernization. The National Strategy on Child and Adolescent Health for the period until 2015 focuses on maternal and child health protection and addresses socio-economic and other determinants, leaving environmental matters beyond its scope. The State Environmental Programme for the period 2009–2019 is taking social and economic imperatives into

consideration by defining specific measures to improve environmental status, with the aim to safeguard the population's health and recognizing the need for coordinated environmental sanitary-epidemiological monitoring. An implementation analysis of the National Environmental Health Action Plan, which ended in 2010, has not been conducted.

*Recommendation 10.7:*

*The Ministry of Health, in cooperation with other relevant Government bodies, should establish and improve occupational health services and the registration of occupational diseases.*

Partial implementation has taken place, with limited progress, in particular in redefining the scope of inspections and their implementation mode between the Service of State Sanitary and Epidemiological Surveillance (SSSES) and the Service of State Control on Labour, Employment and Social Protection. In 2012, Tajikistan ratified the ILO Labour Statistics Convention, 1985 (No. 160). There is no information system on work-related accidents and injuries, nor on occupational diseases; such statistics have not been systematically produced. There is underreporting of occupational health issues, reflecting the lack of a strengthened occupational health service.