

UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE

ENVIRONMENTAL PERFORMANCE REVIEWS

TAJIKISTAN

Second Review Synopsis



UNITED NATIONS
New York and Geneva, 2012

NOTE

Symbols of United Nations documents are composed of capital letters combined with figures. Mention of such a symbol indicates a reference to a United Nations document.

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries. In particular, the boundaries shown on the maps do not imply official endorsement or acceptance by the United Nations.

..

CONTENTS

Preface	4
Executive summary	5
Conclusions and recommendations	14
Implementation of the recommendations in the 1st review	35

Preface

The second Environmental Performance Review (EPR) of Tajikistan began in June 2010 with a preparatory mission. During the mission, the final structure of the report was discussed and established. A review mission took place from 27 September to 6 October 2010. The team of international experts taking part included experts from Bulgaria, Germany, Italy, Kazakhstan, Portugal, Slovakia and Ukraine, as well as from the secretariats of the ECE and the World Health Organization (WHO).

The draft EPR report was submitted to Tajikistan for comments and to the Expert Group on Environmental Performance for consideration in May 2011. During its meeting on 3-4 May 2011, the Expert Group discussed the report in detail with expert representatives of the Government of Tajikistan, focusing in particular on the conclusions and recommendations made by the international experts.

The EPR recommendations, with suggested amendments from the Expert Group, were submitted for peer review to the Committee on Environmental Policy on 24 May 2011. A delegation from Tajikistan participated in the peer review. The Committee adopted the recommendations as set out in this report.

The Committee on Environmental Policy and the ECE review team would like to thank the Government of Tajikistan and its experts who worked with the international experts and contributed their knowledge and assistance. ECE wishes the Government of Tajikistan further success in carrying out the tasks involved in meeting its environmental objectives, including the implementation of the recommendations contained in this second review.

The United Nations Economic Commission for Europe would also like to express its deep appreciation to the Governments of the Netherlands and Switzerland for their financial contributions; to the Governments of Germany, Italy and Portugal for having delegated their experts for the review; and to WHO and the United Nations Development Programme for their support of the EPR Programme and this review.

Executive summary

The first Environmental Performance Review (EPR) of Tajikistan was carried out in 2004. This second review intends to measure the progress made by Tajikistan in managing its environment since the first EPR, and in addressing environmental challenges.

Since the last EPR Tajikistan has had a 17 per cent population increase. Tajikistan is not a densely populated country, but the population density varies significantly due to the mountainous geography, making the lowlands of northern and western Tajikistan the most densely populated areas. Apart from the growth of the total population, the demographic indicators have been stable during the past 10 years.

Lack of diversification and reliance on a few export products make Tajikistan vulnerable to fluctuations in global commodity prices and terms of trade. Tajikistan's economy is based on cotton, aluminium and electricity, from which Tajikistan derives three quarters of its total export earnings. This figure has been almost constant for the past 10 years. Cotton alone, as the main agricultural export crop, contributes 90 per cent of agricultural export income, which in 2004, was 24 per cent of gross domestic product (GDP). Agriculture also provided 66 per cent of employment. The country's aluminium plant is one of the largest in the world, and accounts for about 40 per cent of Tajikistan's total industrial output.

The economy of Tajikistan has developed steadily since the last EPR and the country's economic situation has improved markedly. Careful fiscal management has kept the budget deficit low, and the exchange rate has been very stable. Foreign debt is at a reasonable, low level compared to the earlier period. Rising GDP since the first EPR has improved the living standards of the population, while the level of poverty has diminished notably. However, the international economic crisis that began in 2008 has had an effect on Tajikistan's economy, causing its GDP growth to drop from the previous 8.2 per cent per annum average to 3.4 per cent in 2009. The unemployment figure remains low because much of Tajikistan's labour force is living and working abroad.

By exporting cheap labour Tajikistan has been achieving a transition from a planned to a market economy with a considerably lower level of international official development assistance per capita than other post-communist countries. The migration of workers from Tajikistan and their consequent remittances are unprecedented in their magnitude and economic impact. They have played an important role as one of the drivers of Tajikistan's robust economic growth during the past several years; they have increased incomes and, as a result, have helped significantly reduce poverty.

Policy-making framework for environmental protection and sustainable development

The policy framework for environmental protection changed significantly during the reviewed period. A number of new policy documents on environmental protection and sustainable development have been adopted, as well as several sectoral policy documents that include environment-related provisions.

In general, Tajikistan has already developed an environmental legal framework and some new environment-related laws have been adopted since the first EPR. Several international environmental agreements ratified by Tajikistan have also been incorporated in its legal system.

Environmentally related provisions can also be found in several sectoral laws, including in energy, tourism, transport and urban planning and construction.

There have also been a number of institutional changes. In January 2004, the Ministry of Nature Protection was abolished and replaced by the Committee on Environmental Protection and Forestry. Following reorganization, the Ministry of Agriculture and Nature Protection was given functions of integrated environmental management until further reorganization. The functions of the national environmental authority were designated to the newly established Committee on Environmental Protection under the Government.

Although a great number of environmental protection and sustainable development strategies, programmes and plans have been adopted in Tajikistan, for many of them financing has not been secured, and therefore they have not been implemented. Providing sufficient State funding for environmental protection measures remains a key challenge for Tajikistan. Also, some programmes do not provide any indicators or measurable results and the accomplishment of planned actions is difficult to assess. Some actions are therefore duplicated in different programmes.

Compliance and enforcement

The sectoral monitoring of compliance of organizations and enterprises is carried out by a number of ministries and other public authorities. However, the scope of application of monitoring is shrinking due to the process of privatization. Economic legal entities are also required to undertake self-monitoring. Most enterprises may be inspected not more than once every two years, with the exception of the enterprises that are defined as entities with high risk.

The 2007 Rules on Conducting of Inspections of Economic Legal Entities defines a range of enforcement tools available to the environmental inspectors. The common range of enforcement tools available and used is similar to those in many other countries. However, there is no clear sequence of application of enforcement tools such as inspector's written directions, warnings and administrative fines. Monetary sanctions are the most important enforcement tool but, although very high for forest protection, in the case of industrial pollution Tajikistan avoids the application of high monetary sanctions on operators of industrial activities.

Data on inspections and enforcement of the legislation and standards in various environmental domains are not consolidated, analysed or published. Statistical information on inspections and law enforcement activities is kept separately by various units and agencies of the Committee on Environmental Protection. Also, it seems that this information is not considered at all in the planning of inspections.

There have not been any significant changes in emission standards since the first EPR. Most standards are still the same as were used in the Soviet era. They are one of the main bases for establishing emission level values and issuing environmental permits. In practice, emission limits for a given facility are calculated taking into account the background pollution and the ambient quality standards. The exceeding of limits results in administrative action, including financial sanctions.

Information, public participation and education

Compared with the situation during the first EPR of Tajikistan, the environmental monitoring set-up has not undergone the needed changes. The current monitoring system does not provide sufficient and reliable data on background ambient air and water pollution. There are, so far, no

significant investments for the restoration of the environmental monitoring system through expanding the existing network; for modernizing equipment for air and water monitoring, sampling and testing; or for communication equipment. Owing to insufficient funding, the surface water pollution monitoring network continues to shrink, the system of monitoring of background pollution of ambient air has been drastically reduced, and the hydrometeorological observation network has not been substantially improved.

A positive step towards dissemination of statistical information is the Statistical Agency's website, which provides access to some statistical data in various areas. However, the statistical yearbook on environmental protection does not contain statistical information on industrial waste, inspections and law enforcement on protection of the environment and natural resources. In particular, information on the use of water resources is excluded due to inconsistencies in the statistical data in that area.

The Aarhus Centres play an important role in terms of planned and regular work to improve access to environmental information. However, since the beginning of 2010, due to the lack of funding both the Aarhus Centre in Dushanbe and its website are not operational. The Aarhus Centres in Khujand and Qurghonteppa focus more on increasing the awareness of the local population on environmental matters, through the publication of booklets, brochures, videos on environmental topics, as well as posting information on bulletin boards in public areas. The adoption of the Law on Citizens' Appeals in 2006 has changed the legal framework for obtaining environmental information from public authorities upon written request.

The 2006 Procedure of Environmental Impact Assessment (EIA) sets the public participation requirements for decision-making on specific activities, which are subject to the EIA procedure. The EIA regulation is not fully consistent with the public participation requirements of the Aarhus Convention.

The 1996 State Programme on Environmental Education is not yet implemented. The Programme focused on environmental education in the formal education system, i.e. in kindergartens, schools, colleges and universities. However, its implementation was not effective due to lack of funding and recognition of environmental education as a priority area. Currently, a new programme on environmental education is under development. The most problematic area of environmental education is the lack of training and retraining for the staff of public authorities.

Implementation of international agreements and commitments

So far, Tajikistan has acceded to several international environmental agreements. However, out of the five UNECE environmental conventions, it is only Party to the Aarhus Convention on Access to Information, Public Participation on Decision-making and Access to Justice. Because of Tajikistan's limited human and financial resources, the implementation of multilateral environmental agreements mostly depends on external cooperation and support. Foreign investments are also essential for allowing the country to face and deal with environmental challenges.

As a member of the Interstate Commission on Sustainable Development, Tajikistan has taken the lead among Central Asia countries for addressing the issue of mountain ecosystems degradation. This is one of five priorities, which include water resources and water pollution; air pollution; land degradation; waste management; and degradation of mountain ecosystems.

Additionally, in 2007, a transboundary water agreement on the use of water and energy resource of the Syr Darya River basin was signed between riparian countries. Although Parties tried to

find a mutually beneficial solution, problems and disputes concerning the use of common basins remain unresolved. A major concern is the need for access to water and sharing of water use among the upstream and downstream countries.

Tajikistan is not yet a Party to the Basel Convention, the most comprehensive global environmental agreement on hazardous and other wastes. Given the large amount of accumulated hazardous waste in the country, and the lack of means to properly dispose of it, acceding to this Convention could be considered as a priority for the near future.

Economic instruments and expenditures for environmental protection

Tajikistan is facing major environmental problems, such as air and water pollution, and land erosion, with attendant severe adverse impacts on human health. Environmental damages are estimated to have a considerable economic cost, including the costs of adverse health impacts, corresponding to some 5 per cent of GDP.

In general, revenues from water supply and sanitation services are not sufficient to recover operational costs, let alone the preventive maintenance costs, of water companies. This is reflected in the progressive deterioration of the water sector infrastructure and a decline in the quantity and quality of water supply and sanitation services provided. The pervasive financial losses of water companies are owing to the basic tariffs, which are below unit production costs, but also the considerable volume of water revenue lost due to leakages in the infrastructure and inefficient billing mechanisms.

The existing energy sector infrastructure is very old and in poor condition, following two decades of low investment and considerable damage resulting from the civil war. While virtually all the urban and rural population has access to electricity, most of the rural population is faced with frequent power outages. One of the major priorities of the Government has therefore been the rehabilitation, modernization and expansion of the electricity generation facilities, as well as of the transmission lines and substations. Part of the energy sector development strategy is a reform of electricity tariffs and improvement of collection rates to ensure financial sustainability of energy utilities and thereby also attracting external investment funds.

The social affordability issue has become more acute in view of the more or less simultaneous increase in tariffs for water supply and sewerage, electricity and waste collection in recent years. The increased costs of these services fall disproportionately on low-income households, given that they account for a larger share of their income. Social assistance is considered to be insufficiently targeted at the poorest parts of the population, and the Government therefore intends to develop a new social targeting mechanism within the framework of a shift to a unified social benefit system, which will also integrate assistance needs for purposes other than electricity and gas bills.

Achieving sustained economic growth is the main preoccupation of the Government, given that it is an essential condition for making progress in creating jobs and reducing the still high levels of poverty. Environmental protection does not really figure among the main policy priorities. The very limited mobilization of financial resources for environmental protection in the State budget and in environmental (special) funds points to a clear marginalization of environmental protection in public sector spending.

There is a lack of transparency concerning the strategies, if any exist, and operations of environmental funds. Their number appears to be excessively large, amplifying management costs and diluting the already very limited resources available. In a more general way, this points to the

importance of ensuring the effective management of very limited financial resources based on transparent policies for priority settings.

Climate change

Tajikistan joined the UNFCCC in 1998 as a non-Annex I Party and ratified the Kyoto Protocol in 2008 and established a Designated National Authority in 2009 for the implementation of the Clean Development Mechanism under the Kyoto Protocol. It has developed several policies, strategies and action plans that address climate change issues. Their implementation is in general hampered by lack of financial resources and insufficient institutional capacity. The action plans also often lack quantifiable objectives, and mid-term and final evaluations are often not carried out before new plans are elaborated.

Being a small country, Tajikistan's contribution to global greenhouse gas (GHG) emissions is quite limited. It has the lowest carbon dioxide (CO₂) emissions per capita among the Central Asian countries, and contributes only some 2–3 per cent of total CO₂ emissions in the region. The structure of GHG emissions has changed significantly over the past 15 years. The peak emissions of CO₂ and total GHG occurred in 1990, but since 2000 GHG emissions appear to have been again on an upward trend.

The Committee for Emergency Situations and Civil Defence, established in 2006, aims at increasing the resilience of the economic infrastructure to global warming and ensuring that the State institutions and authorities at all levels are prepared to take immediate action and provide support in case of a natural or man-made emergency. It is responsible for management and coordination of all disaster-related activities for prevention, preparedness and mitigation.

In the last decade several initiatives have addressed land degradation, across a number of sectors and geographical regions of the country, to promote sustainable land management in the face of climate change. Climate change is expected to worsen current problems, and to increase the need for effective approaches to sustainable land management. Useful lessons from current initiatives can be shared at the country level among practitioners and the donor community, as well as concepts and practices to help rural communities respond to climate change. It is noteworthy that Tajikistan has been selected, together with eight other countries and two regions, to participate in the Pilot Programme for Climate Resilience within the framework of the Strategic Climate Fund.

To ensure that the country's distant regions receive power at a low price, the Government has initiated a long-term construction programme for small hydroelectric power stations from 2009 to 2020. This programme represents the beginning of hydropower adaptation to climate change, including appropriate design and setting up, and mixing, where possible, with other renewable energy sources to reduce the climate vulnerability of the energy sector. In 2007 and 2008, the hydropower system faced major shortfalls in winter generation due to low water supply. Significant increases in the next few decades, from enhanced melting of glaciers and accumulated snow, will be followed by drastic reductions in supplies as the mass of glacial ice and accumulated snow shrinks due to climate change.

Sustainable management of water resources

Tajikistan has abundant water resources, but its water sector infrastructure is in a poor state. Only some 60 per cent of the population has access to safe drinking water. The functioning of the water supply and sewerage systems is, moreover, frequently interrupted by power outages, which are also a source of water contamination. There is considerable scope for the improvement of national water governance, which is currently split between a number of bodies. None of these

various Government bodies involved in water management has sufficient competences and strong enough responsibility to design and execute a countrywide water sector strategy.

Water use in Tajikistan is dominated by irrigated agriculture, which now accounts for over 90 per cent of total water use. Water losses in irrigation are high, with estimates exceeding 40 per cent. Industrial water consumption has declined significantly during the 2000s, despite a significant increase of around 50 per cent in industrial activity. The decline, by 87 per cent compared with 2002, likely reflects the process of structural change in the industrial sector and a more economical use of water resources. Tajikistan generates nearly all its electricity (98 per cent) from hydropower, which corresponds to some 94 per cent of total annual energy supply.

Since the first EPR, the 2000 Water Code has been subject to important amendments in 2006, 2008 and 2009. The 2006 amendment allows for water supply systems to be owned not only by the State but also by legal entities, such as municipalities. Newly built water supply infrastructure can also be owned by private sector entities, which financed the construction. The Water Code now also incorporates flood prevention and the associated need for State and local flood prevention programmes for each river, as well as protective measures for strategic objects.

The 2009 Draft Water Sector Development Programme aims at relaunching the reform of the water sector and the rehabilitation of the water sector infrastructure during the period up to 2020. Besides the traditional problem areas of water supply and sanitation in urban and rural areas, there are new areas that require attention, such as the improvement of the irrigation and drainage infrastructure, the planned increase of hydropower capacity, water disaster management and the improvement of the water resources protection systems, and the adaptation needs that will be caused by climate change. The Poverty Reduction Strategy for the period 2010–2012 has so far not provided a significant additional stimulus for progress in water sector development.

The Government supports the concept of integrated water resources management (IWRM), and in 2008 included the basic IWRM principles in the 2000 Water Code. Plans have been drafted to incorporate IWRM in the strategic water sector development plans. Projects have in general taken into account the IWRM principles and increasingly appear to ensure better involvement of water users and other local stakeholders in project design and implementation. At the State level the split responsibilities among various ministries and other bodies, the bureaucratic structures and a lack of communication and cooperation continue, however, to adversely impact on the effectiveness of IWRM.

Waste management

Waste management in Tajikistan is receiving more attention than at the time of the first EPR. Key drivers for this change include aspirations of the Government and municipal representatives to improve living standards in towns, in combination with foreign donor activities in municipal solid waste management and privatization of key industries, which opens up the possibility for new approaches to solving industrial waste problems.

The key problems of waste management include: lack of information; lack of regulations and methodologies for proper treatment and disposal of waste; and insufficient legislation regulating waste management. Although the legislative framework is quite extensive, it is not sufficiently supported by implementing secondary legislation and does not reflect the key problems. Concrete activities were identified in various strategic documents.

The system of municipal solid waste collection, transportation and disposal is improving in the capital, Dushanbe, as are the disposal practices, by concentrating waste to a single disposal site.

The campaign in 2001 to reduce dumping in Dushanbe to just one site had a positive impact: most municipal solid waste is now delivered to this site and the number of illegal disposal sites has decreased. However, the existing landfill does not meet international sanitary norms and standards. Moreover, rural areas, which represent some 75 per cent of the population, are mostly not covered by municipal waste collection services.

There is little information on industrial waste available, because regular reporting is not carried out. Industrial enterprises and organizations transport their waste to the municipal disposal site, where it is disposed of together with municipal waste. Significant amounts of waste are stored inside industrial premises. Enterprises also sell some of their waste to other companies or to individuals for recycling, but no data are available. Experience from other countries shows that the amount of waste reported in the inventory of industrial waste should be significantly larger.

Storage of toxic waste is a key issue in Tajikistan, where there appears to be some progress. Based on prepared plans, Tajikistan is ready to start concrete investment projects aimed at improvement of long-term storage of obsolete pesticides. The country may benefit from experience gained in Eastern European countries, in particular the Republic of Moldova, the Russian Federation and Ukraine. However, the state of radioactive waste storage remains one of the main problems of Tajikistan. Due to the size of the problem it is hard to envisage that it will be solved in the foreseeable future.

Biodiversity, forestry and protected areas

Tajikistan's diversity of ecosystems is much higher than that of most other countries of similar area. The exceptional diversity of ecosystems is also reflected by the country's inclusion in the Global Biodiversity Hotspot "Mountains of Central Asia", one of Conservation International's 34 global biodiversity hotspots, and in the Global 200 of the World Wide Fund for Nature (WWF), a list of priority ecoregions for global conservation. The wide range of ecosystems that are represented in the country offers habitats to an equally rich diversity of flora and fauna.

However, the conservation status of most recognized biodiversity values is poor, with a deteriorating trend. The main current pressure on the country's biodiversity and natural resources is their unsustainable use, while additional threats such as climate change, desertification and alien and invasive species may also be increasing. Unsustainable natural resource use is occurring in various ways, including fuel wood collection, hunting, fishing and collection of animals, grazing and wild plant collection. A major root cause is rural poverty and the lack of livelihood alternatives to natural resource use.

Hunting and collection of wild animals for international trade threatens the fauna of Tajikistan, while the potential for sustainable management of wildlife resources to contribute to rural livelihoods and economic development remains underused. Tajikistan has not acceded to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), although this would allow an extended international marketing of sustainably sourced wild products from Tajikistan. The Committee on Environmental Protection and local State forestry enterprises have only limited capacity to regulate hunting and do not generate significant income from hunting permits.

Grazing pressure throughout the country is increasing significantly. Excessive grazing precludes successful forest rejuvenation and afforestation. It also contributes to erosion and land degradation. Domestic animals that graze in areas inhabited by mountain ungulates or other wild herbivores compete with them and thereby compromise efforts to conserve these wild species. Sustainable pasture management is currently not included in policies, strategies and plans for natural resource

use and forest management. Economic incentives to exclude livestock from forests and afforestation areas are generally lacking.

There is currently no national biodiversity monitoring system, no national forest monitoring system and no active database or monitoring system of protected areas and their biodiversity in Tajikistan. Insufficient monitoring has been implicated as a contributing factor to several management constraints affecting biodiversity management in Tajikistan. The generally cited reasons for the lack of monitoring systems in Tajikistan are the insufficiency of human resources able to maintain a monitoring system, the absence of reliable primary information, a dearth of agreed criteria and indicators for monitoring, and inadequate funds, infrastructure and facilities for monitoring.

The protected areas (PA) of Tajikistan are not managed effectively. Although there are currently no protected area management plans being implemented, a management planning guideline for PAs has recently been developed and approved. This guideline generally reflects international best practice and International Union for Conservation of Nature (IUCN) standards for PA management planning.

The legislation for biodiversity conservation and natural resources management is currently undergoing a phase of rapid development. The State Programme on Protected Areas Development for the period 2005–2015 sets out general objectives for the development of the PA system, with a particular focus on infrastructure and capacity development. The authorities responsible for PAs are currently underfinanced, under-resourced, and often understaffed, and their staff often lack relevant qualifications. However, two major adjustments to the institutional framework of the natural resources and biodiversity sector have improved its performance since the last EPR: the formation of a dedicated agency for PAs in 2008, and the establishment of the National Biodiversity and Biosafety Centre in 2010.

Human health and the environment

In the past decade improvements have been made in public health in Tajikistan, including in the areas of maternal and child mortality, the spread of communicable diseases, child nutrition and the overall health of the population. Overall trends in life expectancy have also been improving over the past decade. However, the health-care system in Tajikistan still experiences the burden of problems experienced in transition periods. Malnutrition is still a concern in Tajikistan, although there have been some overall improvements over the last few years.

The occurrence of waterborne diseases in Tajikistan remains high although there are some improvements. Analysis of the major infections reveals a notable incidence of viral hepatitis in the period from 2003 to 2009. In contrast, morbidity by bacterial dysentery declined, as did the incidence of typhoid fever. The most important among all problems related to the water resources is the problem of poor water quality and a lack of safe drinking water.

Since the 1960s, a rise in air temperature has been observed in Tajikistan and precipitation levels have changed and become more variable, with more irregular precipitation occurring. These changes, the effects of climate change, have health impacts now and for the future. These include: increased waterborne infections related to increased floods and mudslides; risk of increasing malnutrition as food production is affected from extreme weather events; increased cardiovascular and respiratory disease during heat and cold waves; and increases in other infectious diseases.

Stockpiles of obsolete chemicals and other stored waste remain a big problem. Populations are exposed to unprotected stockpiles of obsolete pesticides. Uranium tailings also remain an environmental and ecological risk. Located near the Syr Darya River, uranium tailings are not rehabilitated. There is still no established body for monitoring and controlling exposure to radiation. In addition, new sanitary norms for medical waste are not yet fully implemented, so the problems of safe disposal still exist.

The 2000 National Environmental Health Action Plan for the period 2000–2010 was never implemented. There are also no plans to extend the plan or to develop a new one in the future. In addition, Tajikistan has not developed a children's environmental health action plan. However, since the first EPR, new legal acts were adopted in this area.

Conclusions and recommendations

Chapter 1 Policymaking framework for environmental protection and sustainable development

A number of environmental protection and sustainable development strategies, programmes and plans have been adopted in Tajikistan; for many, however, financing has not been secured, so they are not implemented. Providing sufficient State funding for environmental protection measures remains a key challenge for Tajikistan. Also, some programmes do not provide any indicators or measurable results and the accomplishment of planned actions can hardly be assessed.

Some actions are simply repeated in different programmes (e.g. the State Environmental Programme of Tajikistan for the period 1998-2008 and the State Environmental Programme for the period 2009-2019). It is important that each new or renewed programme or action plan is adopted only after an evaluation of the results for the implementation of similar programmes and plans in previous periods.

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.*

Most environmentally related laws in recent years have been amended and updated several times. To be implemented, they also need to be reinforced by a more detailed secondary legislation to be developed by relevant authorities. Rather often, international donors and experts assist with the drafting of laws and policies, but this is not sufficient.

Sometimes, there is a lack of coordination between different initiators of the legislative or policy initiatives. This sometimes leads to a contradiction between different laws, regulations and policy documents, and to problems with terminology and intersectoral misunderstanding that mostly prevents improvement of environment sector and sustainable development. For example the Ministry of Land Reclamation and Water Resources interferes in ecological inspection and other works of hydrometeorology sector. It is also important to improve the capacity of national authorities for environmental law-making. Inclusion of environmental law courses in the curriculum of law schools or legal departments of universities (most of them do not provide such courses yet) may also contribute to capacity-building.

It is difficult to assess the effectiveness of existing environmental legislation, as in many cases its implementation depends on secondary legislation to be drafted. The lack of a systematic approach in law-making as well as the slow process for the development of relevant secondary legislation causes problems with the implementation of environmental legislation and compliance.

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.*

During the process of past institutional change, the status of the national environmental authority has been changed several times and upgraded from a committee to a ministry and then downgraded from a ministry to a committee.

At the same time, performance of some of its functions, e.g. ensuring environmental protection or promoting sustainable development in various sectors, requires an appropriate status, one that grants broader capability for initiating and facilitating inter-ministerial and intersectoral cooperation.

However, the current status of the national environmental authority is too low to allow this. The low status of the environmental authorities, as a committee, weakens the management of environmental issues at national level, especially the enforcement of environmental legislation.

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.*

Upon proposal by the Committee on Environmental Protection, approve internal restructuring of the Committee in order to establish a department on airprotection, 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.

Chapter 2 Compliance and enforcement mechanisms

There is a lack of priority with regard to monitoring compliance and enforcement of the environmental legislation and standards by industrial entities. On the political level, it is mainly viewed as an administrative barrier hindering the economic development of the country. Possibilities for conducting inspections of economic legal entities were reduced in 2006 by the adoption of the 2006 Law on Inspections of Economic Legal Entities, the establishment by the Committee on Environmental Protection of the new procedural rules on inspections in 2007, and the significant reduction in the number of inspectors in 2008.

As one of the consequences, environmental inspectorates have switched their attention to monitoring and law enforcement with regard to environmental violations by individuals. On the

whole, there is no clear environmental enforcement strategy at all, and inspection and enforcement activities serve as a mere tool for collecting fiscal revenues.

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.

Data on inspections and enforcement of the legislation and standards in various environmental domains are not consolidated, analysed and published. Statistical information on the inspections and law enforcement activities is kept separately by various CEP units and agencies (ambient air, water, soil and waste treatment, protected areas, and forests).

Even the CEP does not aggregate data on various areas of law enforcement within its competence. Moreover, it would appear that this information is not considered at all when inspections are planned.

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 Procedure of Environmental Impact Assessment (OVOS) defines the key elements for environmental impact assessment, which in general correspond to international practice and define functions of the actors participating in the OVOS Procedure. However, they do not contain clear implementation mechanisms. In most cases, the Procedure defines “what” shall be done and by “whom” and also defines the content of OVOS documentation. However, it is not always clear “how” the OVOS should be conducted. The absence of clearly established provisions regulating the entire OVOS Procedure and its separate stages, and first of all, a well-defined time frame for their execution, does not allow full assessment of the efficiency of the implementation procedure.

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).

Despite the adoption of the Procedure of Environmental Impact Assessment in 2006, the practice of public participation in the decision-making processes on specific activities in Tajikistan still remains limited to a few projects funded by international financial institutions. Moreover, many officials, non-governmental organizations and experts are not aware of the existence of this document.

In addition, even the Committee on Environmental Protection (the national authority responsible for implementation of the Aarhus Convention) is not very open to involving the public in discussions of environmental aspects of proposed specific activities and strategic decisions on policies, programmes and plans relating to the environment.

In this regard, by developing such a practice whereby citizens, NGOs, and experts can exercise their rights to participation in environmental decision-making processes, Tajikistan can achieve two goals simultaneously; improving the ability of public authorities to carry out their

responsibilities, and providing the necessary conditions for the public to enjoy their environmental rights.

Recommendation 2.4:

The Committee on Environmental Protection should promote the practice of involvement 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.

Chapter 3 Monitoring, information, public participation and education

Despite the adoption of the Programme for the Restoration of Hydrometeorological Stations and Hydrometeorological Posts for the period 2007–2016 in 2006, there has not been any significant investment to restore the environmental monitoring system by expanding the existing network as well as modernizing equipment for air and water monitoring, sampling and testing, and communication equipment so far. The current systems do not provide sufficient and reliable data on background ambient air and water pollution.

For instance, in the case of background ambient air pollution, Tajikistan analyses three to five parameters, while the World Health Organization (WHO) advises monitoring at least six most important pollutants: lead; particulate matter (PM₁₀, PM_{2.5}); carbon monoxide; sulphur dioxide; nitrogen dioxide and ground-level ozone. Currently, some major air pollutants are not measured by the existing manual monitoring stations. The scarcity of measurements precludes a comprehensive comparison with data provided by enterprises from their stationary sources.

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.*

The CEP has limited funds and staff to process, analyse and disseminate environmental information. But even the available resources are used for some other purposes, e.g. staff of the CEP and the Control and Analysis of Management of Environmental Monitoring and Policy Unit are actively used to deal with routine CEP business. This situation leads to an obvious lack of information on CEP implementation of its policy, programmes and plans and its activity on compliance with and enforcement of national environmental legislation and standards. It also results in ineffective implementation of the requirements on public access to environmental information of the Aarhus Convention. The last state of the environment report was published in 2005.

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.

Tajikistan has no official programme or plan on environmental education and education for sustainable development. The 1996 State Programme on Environmental Education was adopted for

the period until 2010 but it was not funded properly and thus it has not been implemented. Currently, the draft State Programme on Environmental Education is being developed with the assistance of GEF/UNDP “Environmental Learning and Stakeholder Involvement as a Tool for Global Environmental Benefits and Poverty Reduction”, while the Regional Environmental Centre for Central Asia is promoting the draft National Plan on Implementation of Education for Sustainable Development. However, the critical issue is not when any of the above documents will be approved by the Government but whether their adoption can solve the problem of the lack of financing of planned measures on environmental education and education for sustainable development from the central budget.

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.

* * * * *

The following recommendation from the first EPR of Tajikistan that is still applicable and its preceding conclusions are listed below.

Tajikistan’s legislation on access to environmental information, public participation in environmental matters and access to justice in environmental matters consists of several laws, one of which is the framework Law on Nature Protection. The laws provide some general rules, definitions and principles, but few procedural rules.

Provisions on public participation seem to be the most insufficiently implemented. The legislation on ecological expertise provides public associations with the possibility of carrying out a public ecological expertise in parallel to the State ecological expertise, but it makes “public experts” liable for the results. While the State ecological expertise is at the expense of the programme or project proponent, the law obliges the interested public association to finance its own expertise. There is no obligation on the State ecological expertise authorities to involve the population in any discussion of the documentation that is subject to expertise. Programme or project proponents are not obliged to enter into discussion with the public. These restrictions on public participation are in breach of the Aarhus Convention, to which Tajikistan is a Party.

The State Ecological Expertise of the State Committee for Environmental Protection and Forestry is not transparent. Ecological expertise authorities in the *oblasts* (administrative districts) seem to be more open to dialogue with the public and enjoy greater trust and support from the local population. They have initiated innovative (albeit informal) ways of obliging project proponents to ensure support from the residents. There are also cases of local residents pressing *oblast* and local authorities to undertake State ecological expertise of projects that have been launched without it (Recommendation 2.3).

Recommendation 4.5:

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.

Chapter 4 Implementation of international agreements and commitments

Several environmental agreements are relevant for the environmental challenges which the country faces, but in order to elaborate plans of action and put into practice the provisions of these international environmental agreements, Tajikistan is still dependent on technical assistance and financial support from international organizations, foreign donors or, often NGOs.

There is a risk that this apparent dependence might impede, inter alia, the development of the country's own national capacity in terms of problem-solving and institutional development. It is essential to avoid a perverse mechanism which might lead to international assistance serving to discourage and divert from an autonomous decision-making process or the adoption of concrete actions owned and executed by the country.

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.

International cooperation has played and continues to play a critical role in supporting environmental protection efforts in Tajikistan. Although cooperation through multilateral environmental agreements (MEAs) has informed its environmental policies and legislation, Tajikistan has yet to become a party to key global and regional MEAs, several of which have been developed under the aegis of UNECE.

The Helsinki Convention on the Protection and Use of Transboundary Watercourses and International Lakes, one of the five UNECE environmental treaties, is the basic international legal instrument on transboundary water cooperation. Based on equality and reciprocity, the Convention creates a balanced framework for cooperation by laying down principles, obligations and mechanisms for transboundary water cooperation, applicable to both upstream and downstream countries.

Nowadays, the misunderstanding that the accession to the Helsinki Convention could prejudice and limit the Government's rights to use water largely dominates the public opinion and political thinking in Tajikistan and is one of the main obstacles to accession.

There is a need to promulgate the correct interpretation of the Helsinki Convention in Tajikistan and other countries of Central Asia, in order to show how it can act as a framework for preventing and addressing differences and disputes among Central Asia States, drawing on examples from its effective application in other countries.

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.*

Although the Law on Ratification of the Espoo Convention on Environmental Impact Assessment in a Transboundary Context went through the whole parliamentary procedure in 2005, no instrument of ratification was deposited. However, Tajikistan has demonstrated its intention to introduce and implement provisions of the Espoo Convention in a Government Resolution (No. 161-p/2004) approving creation of the Working Group for the Preparation of the Rules and Procedures for the Espoo Convention Implementation and, through provisions on transboundary impact in the Law on Ecological Expertise and within the Procedure of Environmental Impact Assessment.

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 Depositary;*
- (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.*

Although not a Party to the Convention on the Transboundary Effects of Industrial Accidents, Tajikistan is participating in the Assistance Programme under the Convention. In 2005, it committed to implementing the Convention. Successful implementation will require a coherent and flexible legal framework that conforms to international standards.

Tajikistan's awareness of the need to solidify its legal framework is clear from its accession to some UNECE Conventions and to the Kyoto Protocol. However, a number of MEAs that have been signed still await ratification.

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.*

Chapter 5 Economic instruments and expenditures for environmental protection

Tajikistan is facing major environmental problems, such as air and water pollution; and land erosion, with attendant severe adverse impacts on human health. It is therefore a matter of urgency to address these problems with effective policy measures. These include application of stringent environmental standards in combination with economic instruments that provide effective incentives for polluters to change their behaviour and for rational use of natural resources. It also requires the real integration of environmental protection into development strategies for major economic sectors as well as adequate support for environmental protection in Government medium-term expenditure programmes. In spite of the importance and urgency of all these issues, there has been hardly been any noteworthy progress.

There is a need to reform all the various payments for pollution, including fines, and charges for use of natural resources in order to improve their incentive function and revenue-raising function. In particular, pollution charges have remained an ineffective instrument for implementing the polluter-pays principle, given that rates are generally far too low for inducing pollution abatement measures. Any potential incentive effect has, moreover, been eroded by the failure to properly adjust rates to the considerable cumulative inflation.

Furthermore, the overall system of pollution charges targets an excessively large number of pollutants. This is neither meaningful from an environmental perspective nor feasible from an economic, technical and administrative viewpoint.

The system, as designed, simply cannot be implemented. The hypothetical costs of full enforcement would, moreover, exceed the associated environmental benefits by a large margin. Rather, pollution charges should be applied to major pollutants only and be complemented by the implementation of effective environmental standards.

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.*

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.

See Recommendation 9.1.

Tariffs for utility services (drinking water supply and sewage; electricity), as well as for municipal waste collection and disposal, and irrigation water for agriculture, have been raised, partly considerably, in recent years. In general, however, they are still below cost recovery levels. This has been reflected in persistent financial losses of service providers, with a consequential lack of funds for adequate investments in repair and maintenance and modernization of the underlying

sector infrastructure, which is therefore in a dilapidated state. It is therefore important to ensure the financial viability of utility companies and waste management firms which have to rely on user charges for financing their activities and maintaining the infrastructure intact.

Tariffs at cost-recovery levels should, in principle, also create stronger incentives for more rational use of water and electricity as well as for reducing waste production by household and enterprises. Notwithstanding, tariff adjustments for water and power supply need to be accompanied by further progress as regards the installation of meters to allow consumers to control their water and power consumption.

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.*

Achieving sustained economic growth is the main preoccupation of the Government, given that it is an essential condition for making progress in creating jobs and reducing the still high levels of poverty. This is reflected in the strong emphasis that the authorities put on improving the energy and transport sector infrastructure, which is still a bottleneck for faster economic growth.

Environmental protection does not really figure among the main policy priorities. The very limited mobilization of financial resources for environmental protection in the State budget and in environmental (special) funds points to a clear marginalization of environmental protection in public sector spending.

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.*

There is a lack of transparency concerning the strategies, if any exist, and operations of environmental funds. Their number appears to be excessively large, amplifying management costs and diluting the already very limited resources available. It is therefore very likely that nothing meaningful can be achieved. In a more general way, this points to the importance of ensuring the effective management of very limited financial resources based on transparent policies for priority settings.

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.*

Chapter 6 Climate Change

The Government has demonstrated its interest and commitment to moving forward on adaptation to climate change. Tajikistan has ratified UNFCCC and its Kyoto Protocol, aligned key strategic documents, and established a Centre for Study of Climate Change and Ozone and a CDM Centre. Given Tajikistan's high occurrence of natural disasters, disaster risk reduction needs to be a major part of long-term climate change adaptation planning. The Government has just adopted a Disaster Risk Management Strategy, and the country is making progress in terms of adaptation to climate change and mitigation, which it is starting to address in different strategies. The appropriate conditions exist for climate change considerations to be mainstreamed into policy and programmes at all levels of Government, across all ministries, particularly at the departmental and municipal level.

Most line ministries understand that climate change is a threat and recognize the need to enhance their understanding of the possible impacts on their policy area. In 2007, the Government adopted a series of strategies and laws on State Ecology, Agriculture, Renewable Energies, Transport, and Disaster Risk Management. The ministries are used to addressing issues together and to being consulted on their respective strategies.

Different studies, strategies, reports, international cooperation partners, etc. have identified the major needs of the country for climate change adaptation. These are water quantity and quality, land management and food security, energy security, disaster risk management and the need for improving environmental migration efforts, health and climate change, air quality, waste management and livestock management. The international community is supportive and is helping the Government in a number of initiatives, sectors, and geographic regions. A major recommendation is that the Government coordinates all these activities, with a broad overview in order to increase the efficiency and effectiveness of the actions; this can be achieved through the establishment of a unit or an office dedicated to these issues.

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.*

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.*

Stakeholder consultations conducted by PPCR processes since 2009 indicate that the notion of climate change and the risks and challenges it poses are relatively new and unfamiliar for the Government and population. There is a basic understanding of the associated risks, but understanding of even the broad implications for different communities, sectors of the economy, ecosystems and development is low. Raising the awareness of the press media could help in diffusing information and reaching remote areas. Awareness on climate change risks and the need for adaptation might have also to be raised among local government. Improving public awareness could increase the climate resilience of particularly vulnerable groups, such as the rural poor, women, children and the chronically ill. Efforts aimed at increasing awareness on climate change in Tajikistan must be sustained for the long term.

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.*

Regional studies confirm that water storage and management should be a major priority in Central Asia. Snowpack and glaciers are the major source of water supply for all water-dependent sectors in Tajikistan. Key river basins, such as the Pyanj, Vakhsh, Amu Darya, and Sir Darya, are vulnerable to glacial melt and extreme events, affecting livelihoods and economy in Tajikistan as well as downstream neighbouring countries, for which they are vital. Hydrometeorological information is also key in a prominently rural country like Tajikistan, for ensuring sustainable agriculture; determining the appropriate time for crop sowing and harvesting; protecting harvests from hail; designing buildings, bridges, roads, and canals; providing safe cargo and passenger traffic, etc. The monitoring and forecasting of severe hydrometeorological phenomena reduce the scale of their adverse impacts and allow the prevention of damage.

As stated throughout this EPR and in different national documents, Tajikhydromet and scientific institutions have very limited capacity to conduct meteorological and hydrological monitoring and forecasting, environmental monitoring as well as monitoring of snowpack and glacial retreat. Under these circumstances, the country is making significant efforts to try and produce results such as the GHG inventory and running models of climate change impacts like PRECIS. Nevertheless, current global circulation models have limited value for Tajikistan because of coarse grid resolution and the topography of the country. Downscaling of models to finer grid is hampered by lack of data, and it is very difficult to understand what to adapt to. Lack of data, and of remote sensing capacities and funds for field trips do not help to overcome the deficiency in understanding the geomorphic stability of local glacial lakes and subregional glacial dynamics. Some field trips are run from time to time, but not on a systematic basis. There are ongoing initiatives involving the development of climate impact modelling in high mountain fragile ecosystems, in impact projections modelling for river basins, on glacial retreat and adaptation project, etc. Tajikistan could benefit a great deal from these initiatives, but for the time being national institutions like Tajikhydromet have no staff or resources to do so.

The lack of proper hydrometeorological and glacier data production also poses difficulties in terms of the country's integration into the Global Observing System, which would significantly boost international cooperation. The Government adopted the Programme for the Recovery of

Meteorological and Hydrological Stations Posts for the period 2007-2016 (2006 Resolution No. 408) and more recently the Programme for Studying and Preserving Glaciers for the period 2010-2030 (2010 Order No. 209). However, these depend heavily on foreign assistance, and little progress has been made on the former.

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.*

See also recommendation 3.1.

Despite the significant efforts undertaken by Tajikistan to draw up a GHG inventory, there are uncertainties. This is one of the consequences of the overall weakness of environmental monitoring, in particular on air quality. There is a need to improve capacity and know-how in terms of environmental monitoring. More regular monitoring is needed to acquire a more accurate picture of developments on the ground, namely, efforts to limit air emissions by industry, but also to account for the increase of emissions in road transport, which has grown rapidly in recent years. This monitoring would also help to improve the focus of actions on transport already underway, and to draw attention to areas in need of improvement such as the quality of fuels and monitoring of vehicles, with a view to addressing the high GHG emissions. Given the ongoing reforestation efforts, it is possible as well that carbon absorption will increase, as will the impacts of renewable energy efforts. The lack of a proper system for monitoring GHG may hinder the computation of CERs on which CDM projects are based.

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.*

Chapter 7 Sustainable management of water resources

The Government has included water resources issues in its key policy targets, and integrated water resources management (IWRM) is the key to the sustainable development of the water sector. For every newly planned, water-related construction or settlement or industrial activity, an assessment of environmental impact is necessary. In the case of energy-oriented reservoir-management, agricultural food production is often affected, leaving a questionable effect on sustainability. All concerned parties, such as MoEI, Barkitotjik, MoLRWR, local Governments and WUAs, are to work in an integrated way in strategic planning and forecasting. The strategic direction of water sector reform is development of a clear and robust institutional and legal basis for managing water.

In the short term, therefore, implementation of the guiding principles of the water sector reform supported by FAO will be the priority. To ensure development of the longer-term vision for water management based on the IWRM principles, the EU Water Initiative National Policy Dialogue on IWRM should be launched. This will also support the intersectoral dialogue (with ministries and agencies responsible for energy, and other sectors) as well as provide a forum for better donor coordination.

The strong impacts of agriculture, forestry, infrastructure and settlement development on water quantity and quality must be better considered. Although the Water Code has provisions for flood prevention, the country is still under threat of flooding. Floods cannot be forecasted, but at least their associated risks can be prevented. A disaster protection programme exists for Lake Sarez, but this experience could be scaled up to the whole country. Specific activities to ensure dam safety are among priority actions in terms of water management.

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.*

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.

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.

The high water demand of Tajikistan's agriculture largely reflects the predominance of cotton production and the traditional system of furrow irrigation. All ongoing and planned projects for the improvement of IDN offer an opportunity to implement sustainable and organic farming rules. Those would for example, prevent dangerous land erosion and minimize water run-off, which carries soil, manure, fertilizer and pesticides into the rivers. There are some plans to change cotton proceeding. Should these plans be implemented, modern technologies in wastewater treatment would have to be considered in the development.

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.

Education is one of the keys to changing peoples' behaviour, to making them part of economic development based on ecological criteria. The people of Tajikistan display various types of behaviour towards drinking water. Those who live in rural areas and have no safe drinking water are well aware of the value of this precious source of life and health, whereas those who live in the main cities do not really suffer from a lack or insufficient supply. Most people have little knowledge of and sensitivity to the damage they can cause on water resources. Technical vocational training on water issues is almost non-existent in Tajikistan. There is, however, a strong potential demand for qualified staff. Moreover, there are a few opportunities for exchange of experiences and capacity-building for internal water sector staff.

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.*

Recommendation 7.6:

The Ministry of Land Reclamation and Water Resources, the Khojagii Manziliyu-- Kommunali, 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).

Chapter 8 Waste management

Tajikistan could be on the verge of significant changes in the management of all types of waste. If the Government's attention remains on this issue, it can benefit from the changes recently made in this sector and can also expect and prepare for an increasing number of waste management projects financed by international donors.

The management of municipal waste is garnering increasing attention, and concrete steps are being taken to improve the current situation by the Municipality of Dushanbe and by international donors. The results of the EBRD project in Dushanbe will provide an example of the application of the principles of modern waste management in the context of Tajikistan and can be used as an example for other cities in Tajikistan.

The State Unitary Enterprise Khojagii Manziliyu Komunali could develop a nationwide municipal waste management company and help with the implementation of the waste legislation via the development of regional disposal sites. The firm could gain additional experience through cooperation with international donors in future investment projects in the field of 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 changes in the management of industrial waste are mainly driven by the privatization of State-owned properties. Privatization has been extensive and some 90 per cent of enterprises have been transferred to private hands. This change has an impact on waste management. Privatization has both positive and negative impacts on industrial waste management.

The negative impact is that the State is no longer able to apply the traditional directive approach to control management of waste. In several cases, new owners have ignored hazards related to improper waste management. However, the positive impact is that new owners try to get rid of waste accumulated on industrial properties. Foreign investors also invest in improvement of waste disposal facilities and introduce stricter in-company control of wastes.

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.

The state of radioactive waste storage is one of the main problems of Tajikistan. The activities of the International Atomic Energy Agency are an important element towards improvement of the situation. Results which have been achieved through IAEA projects should be implemented and supported on a long-term basis. However, due to the magnitude of the problem, it is hard to envisage that this issue will be solved in the foreseeable future.

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.

Considering the prepared plans and information collected, Tajikistan is prepared to start concrete investment projects aimed at improvement of long-term storage of obsolete pesticides. The country may benefit from experience gained in Eastern European countries and the Russian Federation, the Republic of Moldova and Ukraine, which have already successfully implemented projects in this area.

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 situation in medical waste management needs improvement but no changes in practice have been identified in Tajikistan. Equipment provided to hospital by foreign donors is not used due to a lack of funding.

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.*

Participation in the Basel Convention on Transboundary Movements of Hazardous Wastes and Their Disposal could increase the protection of Tajikistan from illegal imports of hazardous waste, but the more important dimension is that the country would improve its access to information on hazardous waste management and to facilities for disposal of hazardous waste abroad. Moreover, cooperation with neighbouring countries, Parties to the Convention, might improve. See also recommendation 4.2.

Chapter 9 Biodiversity, forestry and protected areas

If long-term user rights for the sustainable use of natural resources are granted to local resource users (e.g. through long-term leases), this will create incentives for their sustainable management and local stewardship of biodiversity values and ensure full utilization of the livelihood benefits of natural resource use by the rural poor. This applies to wood, wildlife resources and wild plants. It will require policy adjustments and changes to the sector's legal (e.g. realistic use fees, term of leases) and institutional framework (e.g. devolution of decision-making). These adjustments could draw inspiration from pilot projects that have recently tested this approach in Tajikistan and neighboring countries.

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 lack of reliable data and information to inform management planning, quota-setting, and prioritization of measures has been highlighted as a major constraint in national reports, including the recent Fourth National Report of Tajikistan to CBD. The lack of a functional monitoring system is partly due to the dearth of specific monitoring expertise within CEP and its local branches.

Therefore, development of a monitoring system will require the support and participation of all relevant experts and stakeholders, including those based at academic institutions such as the Institute of Zoology and Parasitology of the Academy of Sciences of Tajikistan, NGOs and international development cooperation. The establishment of a participatory monitoring system for biodiversity and forest resources could rely on experience with the ongoing revision of the Red List of Tajikistan.

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 protected areas (PAs) of Tajikistan are currently not managed effectively. Most of them are not under the authority of the State Agency of Protected Areas. The State Agency of Protected Areas should be given responsibility for managing the entire system of State PAs, including State-owned managed reserves (*zakazniks*), and should develop its own management planning (as well as

PA finance planning) and implementation capacity, based on the recently approved national guidelines and further international best practice approaches.

This should go hand in hand with the training and empowerment of site managers to implement PA management plans. Improvement of the management regime of existing PA should have priority over the designation of new areas.

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.*

Current reforestation rates are far from offsetting deforestation rates in Tajikistan, and there is a strong demand for fuel wood among rural communities. There is a need for a nationwide reforestation programme that also addresses the pressures from unsustainable grazing and other forms of forest degradation. In order to result in locally adapted and resilient forests, it should utilize indigenous seeds and seedlings and the natural reforestation potential where possible. This programme will need to include dedicated fuel wood plantations to meet the large fuel wood requirements of rural communities. It should be implemented jointly with local forest resource users and businesses, and prioritized for international donor support by the Government.

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.

See Recommendation 1.4

In spite of its very limited forest area, Tajikistan's biodiversity is disproportionately rich compared to the country's size and of outstanding global importance. However, the conservation status of most recognized biodiversity values is poor, with a deteriorating trend.

The main current pressure on the country's biodiversity and natural resources is their unsustainable use, while additional threats such as climate change, desertification and alien and invasive species may also be increasing. Unsustainable natural resource use is occurring in various ways, including fuel wood collection, hunting, fishing and collection of animals, grazing and wild plant collection. A major root cause is rural poverty and the lack of livelihood alternatives to natural resource use.

Since the approval of the Strategy and Action Plan on the Conservation and Sustainable Use of Biodiversity (NBSAP) in 2003 and the establishment of CEP in 2008, Tajikistan has made significant progress towards developing a policy, legislative and institutional framework for biodiversity and natural resources governance, but has not succeeded in reversing the negative trends that affect its biodiversity and forest resources.

Accession to CITES was recommended in the first EPR back in 2004. There is still illegal trade in threatened species from Tajikistan. CITES accession would assist the relevant State institutions in stopping illegal trade and would provide incentives for export-oriented sustainable natural resource

exploitation. Technical assistance to CITES accession is available from international organizations, such as GIZ, the CITES Secretariat and Traffic International.

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.

See also recommendation 4.2.

The lacking capacity of CEP and particularly its subordinate institutions for policy implementation and law enforcement needs to be improved through a targeted capacity-building programme that starts from a systematic capacity needs assessment, as well as the decentralization of decision-making and other necessary adjustments to the institutional framework. Since institutional capacity-building requires considerable funds over considerable periods, the inclusion of such activities in long-term international development cooperation programmes should be explored, building on existing involvement in this field by organizations and initiatives such as CACILM, UNDP and GIZ.

See Recommendation 1.4.

Chapter 10 Human health and the environment

Climate change impacts are already being experienced in Tajikistan in the form of increasing heatwaves, floods and mudslides. Health impacts from these events include increased illnesses and deaths from water-borne and other infections, as well as cardiovascular and respiratory diseases. Additionally, there is damage to the health care infrastructure, and in the longer term there is a risk of increasing malnutrition as food security is affected by increasing extreme weather events. A National Climate Change Health Adaptation Plan is currently being developed by the Ministry of Health, spearheaded by a national Steering Committee. However, health is not routinely incorporated into mainstream climate change plans.

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 Ministry of Health needs to develop comprehensive environmental health information systems, including databases and GIS. Additionally, it needs to organize inter-sectoral cooperation in providing data for receiving reports from monitoring systems. Since the last EPR, some improvements have been made in monitoring and surveillance, with increased albeit incomplete monitoring of water quality, especially in rural areas. Data for many diseases and environmental risk factors are still incomplete. Despite this progress, further recommendations are:

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.*

Although there are many donor-driven programmes for improving water quality, there is a need for an overarching national plan or strategy. Improvements have been made, and monitoring has increased. Future progress is likely, if particular attention is provided to water and sanitation, as outlined below.

There is a need to develop a system of specialized training for doctors and medical assistants, as well as specialized training for economic experts to enable them to analyze and solve environmental health and hygiene problems, especially those relating to water. Besides training of members of the medical professions, there is an urgent need to invest in vocational training of plumbers.

In many health services, including in district hospitals, plumbing systems are of poor and deteriorating quality due to lack of finances, training and regulation, are creating health hazards, and require qualified plumbing staff.

Moreover, the impacts of current climate change, including heatwaves, flooding and mudslides, pose a threat to improvements. Infrastructure, treatment and monitoring require further strengthening, and must be adapted to the impacts of current and future climate change. Additionally, visits to rural hospital sites revealed a deteriorating infrastructure of water treatment and supply systems as well as sanitation systems that potentially put patients at risk.

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.*

Some progress has been made in the training of food handlers and the adoption of the Codex Alimentarius, but little progress has been made towards the development of a national food safety strategy or a responsible State body. Additionally, there are concerns about levels of malnutrition in Tajikistan, which could be worsened by the impact of climate change on food security.

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.*

In Tajikistan, uranium mining began in the late 1940s. It stopped in the 1980s, since which time uranium mines have not been in operation. Uranium tailings in Tajikistan remain as an environmental and ecological risk. An agency for nuclear and radiation safety was expected to be

established. However, there is still no established body for monitoring the population's exposure and occupational exposure to radiation.

Over the last 6-7 years, a number of laws and regulatory norms in the area of radioactive waste management have been developed, which form the regulatory basis for radioactive waste management as well as regulating the handling of ionizing radiation sources.

However, despite the number of regulatory acts, the regulatory framework of Tajikistan in the area of handling of waste from former uranium mining is insufficiently developed, and requires improvement and harmonization with international safety standards. As a result, it is very important to continue improving regulatory frameworks for activities relating to mining, reprocessing and uranium waste management.

The disposal of radioactive medical materials was described as being through the main sewage system. Many countries now have guidelines on safe disposal of radioactive waste from medical research owing to the impact of such waste of contamination of the water cycle. Further work is needed to understand current practices and improve guidelines.

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.*

There is little strategic activity in the environmental health policy, and specifically no extension of the previously adopted National Environmental Health Action Plan (NEHAP) (2000 – 2010) currently planned. Nor has Tajikistan developed a CEHAPE (Children's Environmental Health Action Plan).

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.

At present, there is little by way of routine occupational health monitoring or services within Tajikistan. Current monitoring under-reports occupational health issues and reflects the lack of a systematic occupational health service.

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.

Implementation of the recommendations in the 1st review

PART I: THE FRAMEWORK FOR ENVIRONMENTAL POLICY AND MANAGEMENT

Chapter 1: Poverty, environment and economy

Recommendation 1.1:

- (a) *The PRSP Monitoring Department should take the lead role in setting priorities for implementation of the poverty reduction strategy and for developing an action plan based on these priorities;*
- (b) *The PRSP Monitoring Department should make sure that the measures included in the State Environment Programme, in the National Environment Action Plan (NEAP) which still has to be adopted and the recommendations of the National Sustainable Development Report Rio+10 are taken into account and that cooperation with the respective Committees is taking place. A National Sustainability Strategy, which might be developed, should integrate the different plans and programmes.*

The Ministry of Economic Development and Trade, through the PRSP Monitoring Department, has the leading role with regard to implementation. During the period since the first EPR, Tajikistan developed the Poverty Reduction Strategy (PRS) for the period 2004-2006, the period 2007-2009 and the most recent – the PRS for the period 2010-2012. In all PRS papers, environmental matters are always taken into consideration. The last PRS also featured a part on climate change impact. Tajikistan has adopted the 2007 Concept of Transition to Sustainable Development (CTSD) for the period 2007-2030. The CTSD aim is to promote sustainable socio-economic development combined with the preservation of a congenial environment and rational use of natural resources aimed at meeting the needs of both current and future generations.

Recommendation 1.2:

Given the importance of the agricultural sector in Tajikistan, the measures in the poverty reduction strategy related to agricultural production and rural development should be addressed urgently. The Ministry of Agriculture, the Ministry of Land Reclamation and Water Resources and the State Committee for Land Administration should work closely with the regional and district governments in the implementation of these measures, with priority given to:

- (a) *Implementing, in cooperation with community-based organizations, programmes to inform farmers about their legal rights to acquire and use land. This includes informing farmers about the full implications of futures contracts, particularly in the cotton sector;*
- (b) *Monitoring strictly the implementation of the land reform, in particular the distribution of land among workers of agricultural production entities;*
- (c) *Providing farmers with training opportunities in agricultural production techniques, including the use of fertilizers and pesticides. The training should include awareness-raising on the consequences of unsustainable agricultural practices, especially with regard to land degradation and erosion;*
- (d) *Encouraging the establishment of rural lending and savings associations;*
- (e) *Promoting a wider range of employment options in rural areas;*
- (f) *Ensuring metering of water use in irrigation agriculture.*

The whole recommendation has not been implemented. However, the Government is dealing with various issues mentioned in the recommendation. Farmers are to a certain extent involved in various mechanisms leading to sustainable agriculture, in the cotton sector as well. Land reform was fully monitored. Training is provided to farmers but there is a need for continuous training.

The Government is promoting new technologies and new practices. However, the majority of farmers are still not able to really implement them due to the lack of mostly financial resources. There are some programmes carried out by NGOs to promote employment in rural areas. Once again, due to low income, there is still migration from rural areas to urban areas. In addition, the irrigation infrastructure still needs to be either replaced or rebuilt.

Recommendation 1.3:

The PRSP Monitoring Department, in the execution of its tasks, should strengthen the involvement of governmental and non-governmental stakeholders, both in the setting of priorities for implementation and in the monitoring process.

All stakeholders, Government, NGO, the business community, the international community and civil society, are involved in setting priorities and the monitoring process.

Chapter 2: Policy, legal and institutional framework

Recommendation 2.1:

(a) The Government should establish an inter-ministerial commission, including representatives of all relevant ministries and State committees, chaired by the State Committee for Environmental Protection and Forestry, to facilitate and strengthen cooperation and coordination of policies, plans and actions related to environmental protection, the sustainable use of natural resources and forestry;

(b) The State Committee for Environmental Protection and Forestry should review its new structure internally and establish a department on air protection, water and waste management in order to promote environmental permit issuing properly and to avoid conflicts of interest in issuing permits and checking their enforcement by one and the same structure (the inspectorates).

- (a) This recommendation has not been implemented.
- (b) This recommendation has not been implemented. In the current structure of the Committee for Environmental Protection it is still an issue that the units responsible for issuing environmental permits are at the same time checking their enforcement.

Recommendation 2.2:

The State Committee for Environmental Protection and Forestry should:

- *Establish clear and precise rules of procedure for carrying out and reporting on inspections, including establishing the respective responsibilities of central and local inspectors;*
- *Provide the necessary means for the inspectorates to ensure compliance with the relevant laws;*
- *Ensure sharing of information among the inspectorates;*
- *Provide intensive training to inspectors and consider setting a national standardized and mandatory recruitment exam for all inspectors.*

This recommendation has been partly implemented. The conditions and procedure of inspections are subject to Law No. 223 of 2006 on Inspections of Economic Legal Entities. Also, each enforcement authority establishes its rules and checklist of questions for conducting inspections. In the case of the CEP, the rules were approved on 24 December 2007, while the checklist of questions was approved on 7 July 2008. There are annual and medium-term plans of inspections for up to three years. However, even annual inspections plans are not strictly followed by inspectors due to various reasons. One of them is that even a scheduled inspection, as a rule, has to be approved by the CEP Chairperson, a factor which leads quite often to failures in following plans of inspections. As a result, non-scheduled inspections at the decision of the Government are not as exceptional as they should be according to the 2006 Law.

Recommendation 2.3:

The State Committee for Environmental Protection and Forestry should redesign the principles and procedures of ecological expertise with environmental impact assessment legislation based on international experience and practices. In doing so, it should as a minimum:

(a) Clearly define all important steps of the environmental impact assessment process, including: screening, scoping, consultations, public hearings, access to information, decision-making and access to justice;

(b) Define procedures for public participation that facilitate a meaningful dialogue with non-governmental organizations and other appropriate entities and are consistent with the Aarhus Convention (Recommendation 4.5).

(a) This recommendation has been partly implemented. Requirements for the environmental impact assessment procedure and documentation as well as the list of facilities and types of activities which require mandatory elaboration of the environmental impact assessment documentation are defined by the Procedure of Environmental Impact Assessment (OVOS) that was adopted via Government Resolution No. 464/2006.

(b) This recommendation has not been implemented.

Chapter 3: Economic instruments, environmental expenditures and privatization**Recommendation 3.1:**

The State Committee for Environmental Protection and Forestry, in cooperation with the Ministry of Economy and Trade and the Ministry of Finance, should develop proposals to amend the Tax Code and other legislation so that the provisions of the Law on Nature Protection related to tax breaks and preferential loan terms for companies making environmental investments can be applied. The banking community should be involved in developing these proposals.

Although in theory the use of these instruments could promote environmentally friendly investments in the private sector, the question is whether these instruments could have been effectively applied given the existing limited administrative and financial capacities in the country. Even in developed countries, these schemes are open to misuse (tax avoidance by enterprises; creation of a window for corruption in tax collection).

Recommendation 3.2:

The State Committee for Environmental Protection and Forestry, in cooperation with the Ministry of Economy and Trade and the Ministry of Finance, should develop proposals to the Government for reassessing the fees, charges and fines, taking into account the priority objectives of environmental planning and feasibility of measurements of pollution charge base. Such proposals should be designed for better application of the “polluter pays” and “user pays” principles, so that the rates provide incentives to reduce pollution and take environmentally sound measures.

There has not been any real follow-up to this recommendation concerning the reassessment of fees, charges and fines in order to achieve better application of the ‘polluter-pays’ principle. But there has been a noteworthy countrywide increase in tariffs for electricity that significantly improved the extent of cost recovery. In a similar vein, there have been significant increases in water tariffs in Dushanbe and Khujand and, to a lesser extent, in other parts of the country, which have improved cost recovery. In Dushanbe, cost recovery of municipal waste disposal services has also been boosted by increases in tariffs.

Recommendation 3.3:

(a) *The State Committee for Environmental Protection and Forestry, in cooperation with the Ministry of Economy and Trade and the Ministry of Finance, should assess the financial needs based on environmental priorities with a view to elaborating a State Environmental Investment Programme. The Programme should clearly show the respective amounts coming from environmental funds, the State budget and other resources, including loans.*

(b) *The State Committee for Environmental Protection and Forestry, in consultation with the local environmental protection committees, the Ministry of Finance and other stakeholders, should establish a mechanism to coordinate the use of environmental funds and ensure both transparent decision-making and the allocation of money to environmental projects of highest priority.*

(a) The recommendation has been implemented in a broad sense. The 2006 National Environmental Action Plan identified detailed priority projects across major environmental domains and associated financing needs and financing sources. Environmental projects are also part of Public Investment Programs, which rely predominantly on foreign funding. The new “Environmental Protection Concept” includes a draft action plan (November 2009) with a list of environmental projects and financing sources. Tajikistan continues, however, to rely very strongly on foreign funding for financing of environmental projects.

(b) The activities of environmental funds have remained opaque. There has not been any follow-up to the recommendation to establish a coordinating mechanism for the various environmental funds and to ensure transparent decision-making and allocation of revenues to environmental projects in line with priority rankings.

Recommendation 3.4:

The State Committee for State Property Management should jointly with the State Committee for Environmental Protection and Forestry be involved in decision-making in the privatization process to promote environmental investments by new owners by:

- *Developing and introducing clauses on past environmental liabilities into the privatization agreements;*
- *Requiring enterprises and industries put up for privatization to carry out environmental audits; and*
- *Including compliance plans, prepared by the new owner, in the privatization agreements.*

These plans should specify the measures that enterprises and industries have to take to comply with environmental standards and regulations.

There has not been any CEP involvement in decision-making concerning the privatization process to promote environmental investments by new owners. There is no information on possible inclusion of clauses on past environmental liabilities in privatization agreements. The same holds for environmental audits for companies to be privatized and possible compliance plans to be prepared by the new owners.

Chapter 4: Information, public participation and educationRecommendation 4.1:

The State Committee for Environmental Protection and Forestry should:

(a) *Develop, as a matter of urgency, an integrated programme for the rehabilitation of all its monitoring networks and the introduction of an effective computerized data management system. In preparing the integrated programme, the State Committee should follow the format of the draft programme of hydrological monitoring that was prepared by the Hydrometeorological Agency;*

(b) Explore with the oblast, city and raion authorities, business and industry and the donor community all possibilities for cofinancing their implementation of the above-mentioned programme before requesting funds from the State budget;

(c) Design the requirements for self-monitoring by enterprises as a complementary system to the State monitoring networks.

This recommendation has been partly implemented. The Programme for the rehabilitation of hydrometeorological stations and hydrological points for 2007-2016 was approved by Government Resolution No. 408 of 7 September 2006. It includes measures on rehabilitation of its monitoring networks (funding earmarked – 18.6 million somoni) and improvement of the data management system (funding earmarked – 1.57 million somoni). In fact, according to the head of Tajikhydromet, it covers only operational costs of the organization and does not include investments for new monitoring equipment.

According to the staff of the central office and regional office of Tajikhydromet in Khudjand, local authorities and industry do not participate actively in cofinancing the programme. Available resources from donor organizations are concentrated in the central office of Tajikhydromet in Dushanbe. Donor funds have made it possible to improve the information services by Tajikhydromet to some extent, e.g. to establish and maintain a web site (www.meteo.tj), while the monitoring network has not been improved in comparison with the first EPR.

There are still no clear requirements for self-monitoring by enterprises and Tajikhydromet, and the Centre of Analytical Control can only access these data on the basis of requests signed by the CEP Chairperson. Thus, it is difficult to consider self-monitoring by enterprises in Tajikistan as a complement to the State monitoring networks.

Recommendation 4.2:

The Inter-ministerial Coordination Committee for Environmental Statistics should improve coordination of environmental monitoring and assessment by reaching an agreement on the following:

- *Priorities for monitoring and assessment;*
- *Indicators to be measured;*
- *Unified sampling and analytical methods;*
- *Work-sharing arrangements between institutions involved in monitoring the same media;*
- *The step-by-step development of integrated assessment systems;*
- *The revision or the development of new environmental standards that are compatible with international ones;*
- *Coordinated or unified data reporting formats, protocols and procedures;*
- *The creation of a harmonized national environmental database using modern information technologies.*

This recommendation has not been implemented. There is no evidence that such an agreement exists in Tajikistan.

Recommendation 4.3:

The State Committee for Environmental Protection and Forestry should:

(a) Prepare and publish biennial state-of-the-environment reports and ensure their wide availability;

(b) Establish, with the involvement of other ministries and agencies, a working group of officials and experts responsible for specific environmental data flows to contribute to and to revise draft state-of-the-environment reports;

(c) Consider nominating the working group as the national focal point for cooperation with the UNECE Working Group on Environmental Monitoring and Assessment, the preparation of the pan-European assessment report for the sixth "Environment for Europe" Conference in Belgrade in 2007, and other relevant international initiatives.

This recommendation has not been implemented. The most recent state-of-the-environment report was published in Tajikistan in 2005.

Recommendation 4.4:

The State Committee for Environmental Protection and Forestry, jointly with the Ministry of Education, should establish a centre to develop and support environmental education for sustainable development as stipulated in the State Programme on Environmental Education. To guide the work of the centre, they should consider establishing an advisory board of officials from the State Committee for Environmental Protection and Forestry and all relevant Ministries, prominent environmental educators, researchers and NGO researchers and NGO representatives, among others. It could, as a priority, develop practical proposals for training professionals, training teachers and trainers and preparing educational and methodological manuals for use in educational programmes at schools, technical colleges and universities.

This recommendation has not been implemented. The above-mentioned centre has not been established in Tajikistan.

Recommendation 4.5:

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.

The recommendation has been partly implemented. The provisions of the Law on Ecological Expertise have not been streamlined with regard to the accessibility of environmental information and public participation in the procedure of State ecological expertise. However, on 3 October 2006 the Government of Tajikistan approved via Resolution No. 464 the procedure for environmental impact assessment (EIA), which is applicable to the stage of environmental decision-making preceding the State ecological expertise for certain new projects and activities with significant environmental impacts. Section IX of the above document concerns public participation in the environmental impact assessment (EIA) procedure. It requires developers to inform the public about new projects and activities that are deemed to be subject to EIA by means of mass media and through Internet; provide public access to EIA documentation; consider and make records of written submissions by representatives of the public; hold public hearings; and record public opinion in its minutes. However, the above Government resolution of 3 October 2006

neither sets timeframes for access to information and public participation in the EIA procedure nor clarifies the definition of the public concerned.

In 2010, a review of Tajik legislation on EIA in the context of the application of the Espoo Convention was carried out. It was designed to identify gaps in the national legislation with a view to the improvement of national legislation and transboundary EIA procedure in Tajikistan. The review was conducted within the framework of the UNECE-GTZ programme “Regional Dialogue and Cooperation on Water Resources Management”, financed by the Government of Germany with the involvement of the representative of the Committee for Environmental Protection, the Ministry of Land Reclamation and Water Resources, and the Ministry of Justice. So far, the review has not been followed by relevant amendments to the 2003 Law on Ecological Expertise and the 2006 Procedure for Environmental Impact Assessment.

Chapter 5: International cooperation

Recommendation 5.1:

The State Committee for Environmental Protection and Forestry should promote:

- *The ratification of the Convention on the Protection and Use of Transboundary Watercourses and International Lakes; and*
- *The further development, adoption and implementation of a regional water strategy that would provide a common perspective on the allocation and the rational use and conservation of water resources.*

The Cooperation Strategy to Promote the Rational and Efficient Use of Water and Energy Resources in Central Asia (SPECA) may provide the basis for the development of this strategy (Recommendations 6.1, 7.1 and 9.3).

The recommendation has not yet been implemented.

Recommendation 5.2:

The State Committee for Environmental Protection and Forestry should:

- *Finalize the National Environmental Action Programme (NEAP) as soon as possible;*
- *Ensure that the NEAP provides a framework for understanding the linkages among existing strategies and plans at both national and regional levels and that it sets a limited number of priorities for short-term, medium-term and long-term action;*
- *Establish a regular dialogue with the donor community (Recommendation 1.1).*

The National Environmental Action Plan (NEAP) was adopted by the Government in 2006. Its main goal is to create a basis for optimal use of natural resources; preservation of the most fragile and valuable ecosystems; and harmonized environmental and economic development. The Committee on Environmental Protection is dealing on a regular basis with the international community. On the donors' side, there are some attempts to coordinate their activities. A donor council was established in 2007.

The Donor Coordination Council (the Council) is being established with the purpose of improving the multi-way flow of relevant information among donors, government agencies and civil society institutions. This should facilitate networking and broader collaboration within the donor community as well as a more constructive dialogue and shared vision with the Government on the country's priorities; and serve to strengthen overall aid coordination and management.

Recommendation 5.3:

The State Committee for Environmental Protection and Forestry and, where relevant, other ministries should:

- *Develop comprehensive legislation for the implementation of the multilateral environmental agreements to which Tajikistan is already a Party;*
- *In the future, ensure that the need to develop new or modify existing legislation is analyzed prior to accession or ratification.*

It is planned to develop a coherent and flexible legal framework that conforms to international standards in order to ensure implementation of international environmental agreements policies consistent with the national policy.

PART II: MANAGEMENT OF POLLUTION AND OF NATURAL RESOURCES

Chapter 6: Air quality management

Recommendation 6.1:

The State Committee for Environmental Protection and Forestry should develop and enforce:

- *implementing regulations for the Law on Air Protection*
- *national legislation that contains all necessary provisions for implementation of the Stockholm Convention on Persistent Organic Pollutants, the United Nations Framework Convention on Climate Change and its Kyoto Protocol. The State Committee should also promote accession to the Kyoto Protocol.*

The Air Protection Law has been amended three times in recent years (2007, 2009, and 2010). In practice, the CEP Control Unit for Air Use and Protection uses a manual dating back to 2006, which provides the procedure for issuing permits for discharges of pollutants into the atmosphere, as well as instructions governing the review and approval by State control of the location and design of new enterprises or buildings or the expansion and reconstruction of existing enterprises, buildings and other objects as far as ambient air pollution is concerned.

In 2007, a National Implementation Plan on Persistent Organic Pollutants (POP) was adopted. In October 2008, a project concept was agreed between CEP, GEF and World Bank. In April 2009, a project worth USD 4.02 million in grant funding was endorsed by CEP and by GEF CEO. The project will strengthen POP-related legislation and enforcement, as well as reduce risks posed by POP pesticide stockpiles and wastes in priority areas; reduce farmer reliance on POP pesticides; and promote regional information dissemination.

The Kyoto Protocol was ratified on 29 December 2008. A Designated National Authority has been established in the Ministry of Industry and Energy via Government Resolution No. 393 of 2009, and a regulation has been approved regarding the procedure for selection and approval of CDM projects in Tajikistan, through Government Resolution No. 654 of 2009.

Recommendation 6.2:

- In order to reduce emissions from mobile sources, the Ministry of Transport, in cooperation with the Ministry of Health, the State Committee for Environmental Protection and Forestry and the Ministry of Internal Affairs, should develop a sustainable transport strategy. The strategy should, inter alia, address the growing traffic problem; phase out completely the use of leaded petrol and poor quality fuel; develop public transport; establish differential taxes on transport fuels based on their quality; and establish an effective system of vehicle inspection.*
- The Ministry of Health, in cooperation with the Ministry of Transport, the State Committee on Standardization and the State Committee for Environmental Protection and Forestry, should develop, adopt and implement:*

- *New fuel quality standards, which should, above all, establish limits on: benzene and polyaromatic hydrocarbons; the sulphur content in diesel fuel; and lead in petrol, preliminary to phasing out lead completely;*
- *New emissions standards for mobile sources according to international standards.*

- (a) The State Programme on Transport 2008-2025 has been adopted by Tajikistan. One of its goals is to reduce emissions from transportation by means of regulation. A legal diploma (15/10/2008) has been adopted to regulate the number of old cars. The aim is to reduce gradually by 2015 the number of cars older than 10 years, and of buses older than 15 years. Currently, the diploma is only applied to municipal public transport (public and private), but from 2013 it will be applied across the board. The Programme also provides for the introduction of a tax on fuels (for end users), which does not exist at present. Only import taxes are used. The programme also includes the development of a regulation on liquefied petroleum gas and natural gas.

Regarding fuel quality, leaded fuel is still allowed. The importers take samples of the fuel to the Standards Agency Laboratory, to get the official certificate.

At present, there are car inspections. Car owners pay for a technical check and an environmental check. The ecological police request the certification of inspection from private cars, trucks and buses.

- (b) This recommendation has not been implemented. The standards used are GOST Russian, and the last update for fuels adopted nationally dates back to 2002. Requests for new standards are in general submitted by the ministries to the Standards Agency. In order to be adopted nationally, the standards need to be accepted by the Euro-Asian Council for Standardization, Metrology and Certification.

Recommendation 6.3:

The State Committee for Environmental Protection and Forestry should review the issues related to accession to the Convention on Long-range Transboundary Air Pollution and its EMEP Protocol with the purpose of:

- *Broadening air emission monitoring to include additional substances and emissions sources;*
- *Assessing the transboundary movement of pollutants in accordance with the CORINAIR methodology and EMEP guidelines.*

• This recommendation has not been implemented. There continues to be only three monitoring stations in the country, two in Dushanbe and one only in Kurgan-Tube. The chemicals monitored are: sulphur dioxide, nitrogen dioxide, formaldehyde, sulphur hydrogen, carbon and ammonia oxide. According to Tajikhydromet, the stations are quite old and outdated and data are not very reliable. Some major industries as the aluminium factory, the fertilizers factory, the cement factory and the rare metals mines monitor their emissions, and the Laboratory of the Centre for Analytical Control of CEP takes samples.

- This recommendation has not been implemented.

Recommendation 6.4:

The State Committee for Environmental Protection and Forestry should:

- *Draw up an inventory of persistent organic pollutant sources; and*
- *Promote accession to the Stockholm Convention on Persistent Organic Pollutants.*

• This recommendation has been partly implemented. The inventory was done for some POPs, particularly resulting from agro-chemical waste, but not for the POP air emission sources.

- The recommendation has been implemented. The Stockholm Convention was ratified in 2007.

Chapter 7: Waste management

Recommendation 7.1:

(a) *The State Committee for Environmental Protection and Forestry, in cooperation with the Ministry of Industry, municipalities and other relevant institutions, should:*

- *Develop and promote the adoption of a strategy and action programme for waste management;*
- *Facilitate the implementation of the Law on Production and Consumption Waste by developing the necessary secondary legislation.*

(b) *The Ministry of Emergencies and Civil Defence, in cooperation with the Nuclear and Radiation Safety Agency, should facilitate the implementation of the Law on Radiation Safety by developing the necessary secondary legislation.*

- (a)
 - This part of the recommendation has been partly implemented. The waste management strategy and action programme have been drafted, but have not yet been approved as the official document.
 - This part of the recommendation has not been implemented. The secondary legislation has not been developed to enable full implementation of the Law.
- (b) This recommendation has not been implemented. The secondary legislation has not been developed to enable full implementation of the Law.

Recommendation 7.2:

The Ministry of Industry and the Ministry of Economy and Trade should:

(a) *Study the feasibility of industrial processes for the recycling and reuse of industrial waste, especially mining waste, as secondary raw material;*

(b) *Introduce environmentally friendly processes for disposal of industrial waste that cannot be recycled;*

(c) *Speed up the establishment of a cleaner production centre, as stipulated in the State Programme on Environmental Education, taking into account international experience.*

(a) and (b) The recommendations no longer apply. Conditions have changed due to the privatization of key industries.

(c) This recommendation has not been implemented.

Recommendation 7.3:

The State Committee for Environmental Protection and Forestry, in cooperation with the Ministry of Industry, municipalities and other relevant institutions, should:

(a) *Set up an information system on the generation, recycling and disposal of all types of waste and update the system of waste codes and classification, taking into account internationally accepted standards;*

(b) *Introduce a waste monitoring system at industrial and municipal landfills;*

(c) *Set up an inventory of all industrial and municipal waste disposal sites, including illegal ones.*

- (a) This recommendation has been partly implemented. The statistics for MSW in Dushanbe are published by the Statistical Agency, using European Waste Classification. There is a need to expand this system to other towns;
- (b) This recommendation has been partly implemented. Waste monitoring is organized only in Dushanbe. There is a need to expand this system to other towns;
- (c) This recommendation has not been implemented. No inventory of disposal sites was available during EPR II.

Recommendation 7.4:

(a) *The State Committee for Environmental Protection and Forestry, in cooperation with municipalities and other relevant bodies, should urgently:*

- *Start developing project(s) for the construction of sanitary landfills for municipal waste disposal according to international standards;*
- *Begin rehabilitating those landfills that are overstretched and pose a threat to the population and the environment.*

(b) *The State Committee for Environmental Protection and Forestry, in cooperation with municipalities and other relevant bodies, should study the economic feasibility of:*

- *Introducing the separate collection of municipal waste (paper, glass, metal, aluminium) and teaching the population how to use the system; and*
- *Setting up facilities for recycling and processing valuable components separated from municipal waste.*

- (a) The implementation of this part of the recommendation has started. There are ongoing WB and EBRD initiatives that are targeting the problem.
- (b) This recommendation has not been implemented. However, there are unofficial separation systems, which are effective. There are WB and EBRD initiatives that are targeting this problem.

Recommendation 7.5:

The Ministry of Emergencies and Civil Defence and the Academy of Sciences, through the Nuclear and Radiation Safety Agency and in cooperation with the State Committee for Environmental Protection and Forestry, should:

- (a) *Start the rehabilitation of mining tailings sites and landfills of radioactive waste, taking into account international experience in this field;*
- (b) *Update and speed up the completion of the inventory of all radioactive waste, tailings and sources in the country;*
- (c) *Monitor radioactive waste deposits and tailings by replacing or updating obsolete equipment and devices for measuring radiation.*

- (a) This recommendation has not been implemented;
- (b) This recommendation has been partly implemented. The information base on tailing sites has improved, but the available information does not fully describe the environmental situation on all sites. IAEA projects are targeting this problem;
- (c) This recommendation is in process of implementation. The IAEA projects aimed at improved management of radioactive materials and radioactive waste are targeting this problem.

Recommendation 7.6:

The State Committee for Environmental Protection and Forestry should prepare all necessary documentation for accession to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal and submit it to Parliament so that Tajikistan can participate actively in and benefit from international cooperation on hazardous waste management.

This recommendation has not been implemented. Tajikistan has not yet acceded to the Basel Convention.

Chapter 8: Water resources management

Recommendation 8.1:

The Government should as soon as possible:

- *Set up an inter-ministerial commission on water to develop a strategy and action plan for the Concept on the Rational Use and Protection of Water;*
- *Entrust the State Committee for Environmental Protection and Forestry with the coordination of this commission, which should bring together all main bodies involved in water management, as well as local authorities;*
- *Make the State Committee for Environmental Protection and Forestry responsible for implementing the water action plan.*

- This part of the recommendation has been partly implemented. An inter-ministerial commission on water has not been established. The Water Sector Development Strategy was adopted in 2006. A Draft Water Sector Development Programme was developed in 2009 and is awaiting approval.
- This part of the recommendation has not been implemented.
- This part of the recommendation has not been implemented. However, the expertise and knowledge in water management is under the responsibility of the Ministry of Land Reclamation and Water Resources.

Recommendation 8.2:

The Government should strengthen the capacity of the State Committee for Environmental Protection and Forestry in water management. It should set up a water department to this effect, staffed with experts trained in modern water planning and management approaches. Assistance for staff training should be sought from the international partners developing water projects in Tajikistan.

The recommendation has been partly implemented. A water department was established under CEP. This department mainly deals with issuing permits. However, water management is under the responsibility of the Ministry of Land Reclamation and Water Resources.

Recommendation 8.3:

The State Committee for Environmental Protection and Forestry, in cooperation with all relevant ministries and bodies, should:

- (a) Draw up an inventory of all water infrastructures (water supply and sanitation, irrigation and drainage, flood protection, including dams) and assess their status;*
- (b) Set national priorities for investment in water infrastructures, taking into account the needs and projects of the various sectors involved in water management. These priorities should follow the strategic lines expressed in the Concept on the Rational Use and Protection of Water, once these have been more concretely specified, and other sub-strategies of the water sector (e.g. strategy on water supply and sanitation, strategy on flood management). These priorities should also be weighed in the overall context of the country's economic and social priorities and investment projects, with due regard to their affordability;*
- (c) Make all information regarding priorities and investment needs in the water sector widely known, in particular to all potential donors; and regularly organize meetings and improve cooperation with donors to keep them informed of the situation;*
- (d) Assess regularly the situation and readjust priorities accordingly, including keeping records of the projects in the water sector.*

- (a) This recommendation has not yet been implemented. The State Unitary Enterprise (SUE) “Khojagii Manziliyu-- Kommunalii” and the Ministry of Land Reclamation and Water Resources have started to draw up inventories of water related facilities and installations.
- (b) The 2009 Water Supply and Sanitation Sector Note highlights the most urgent measures within the programme for the improvement of clean drinking water supply during 2008-2020, and provides the required investment. This strategy refers to urban water supply, but not yet for rural water supply and sanitation in general. Flood management policy is being developed.

(c) The State Unitary Enterprise (SUE) “Khojagii Manziliyu-- Kommunali” and the Ministry of Land Reclamation and Water Resources are active in organizing regular meetings with donors.

(d) This recommendation has not been implemented.

Recommendation 8.4:

(a) *The State Committee for Environmental Protection and Forestry should prepare and submit to the Majlisi Oli, through the normal channels, a revision of the Water Code so that it fully incorporates integrated water management by hydrographic river basin;*

(b) *In drafting this revision, the State Committee should work closely with the Ministry of Land Reclamation and Water Resources, Tajikgeologia, the Government Committee for State Control over Industrial Safety and Mining, the Ministry of Energy and local authorities. It should also consider inviting foreign experts to participate in an advisory capacity;*

(c) *The Government should start implementing integrated water resource management step by step, in particular through pilot projects involving local communities. These can be implemented in limited geographic areas, i.e. sub-basins, to test decentralized management. These pilot experiences should also be used to start building capacity in this new approach.*

The whole recommendation has not yet been implemented. However, some activities in this field are ongoing, such as the Fergana Valley Water Resource Management Project (IWRM pilot project). These activities depend on financial support from the international community.

Recommendation 8.5:

The Authority responsible for river basin management, in close cooperation with all other concerned authorities and competent international organizations, should develop and implement flood risk management plans for each main river basin. These plans would include prevention, protection and mitigation actions and would be coordinated.

This recommendation has not been implemented.

Recommendation 8.6:

The respective competent authorities should draft the regulations called for in the Concept on the Rational Use and Protection of Water, including, inter alia, regulations on:

- *The water tariff structure;*
- *Monitoring water resources;*
- *Drinking-water supply and protection; and*
- *A system of permits for groundwater abstraction and use.*

This recommendation has not been implemented.

Recommendation 8.7:

The Government should accelerate finalization and approval of the national programme for clean water and sanitation and start implementing it as soon as possible.

This recommendation has not been implemented.

Chapter 9: Biodiversity and forest management

Recommendation 9.1:

The State Committee for Environmental Protection and Forestry should prepare a plan for reforestation. The ongoing reforestation should make use mainly of endemic species and should be increased to cover the deficit between the loss of forest and the current rate of reforestation.

Recommendation 9.1 of the first EPR stated that “the SCEP and Forestry should prepare a plan for reforestation. The ongoing reforestation should make use mainly of endemic species and should be increased to cover the deficit between the loss of forest and the current rate of reforestation.”

No dedicated reforestation plan has been developed since 2004, but several documents including the new Forestry Code and Forestry Program (both in preparation) refer to reforestation. The Green Initiative for Tajikistan, which is supported by organizations of the international development cooperation, has also promoted reforestation using autochthonous species.

Apart from the limited extent of reforestation programs – as compared to deforestation rates - and the still widespread use of allochthonous species, major challenges to effective large-scale reforestation in Tajikistan are inappropriate tree-planting techniques; losses of seedlings to grazing by domestic livestock; and underutilization of the natural reforestation potential. Grazing losses are generally related to the growing livestock numbers throughout the country, but are also due to the limited support that reforestation efforts receive from local resource users. An exception to this general trend are existing donor-funded pilot programs using the Joint Forestry Management approach, which provide incentives to local resource users to support reforestation.

Recommendation 9.2:

- (a) The State Committee for Environmental Protection and Forestry, with the support of the Academy of Sciences, should revise the Red Data Book in line with IUCN recommendations;*
- (b) For the most endangered species and habitats, the State Committee for Environmental Protection and Forestry should develop and implement protection and conservation programmes.*

There has been no revision of the national Red List of Tajikistan since 2004. Nor have species conservation plans for particularly endangered species been elaborated to date, with the exception of the National Action Plan for the Conservation of the Snow Leopard (2010), which was developed with support from FFI. Experts from Tajikistan participated in a regional training on the IUCN Red List assessment methodology that was conducted by the IUCN Red List Unit within the framework of a project of the International Association for the Promotion of Cooperation with Scientists from the Independent States of the former Soviet Union (INTAS), but there was no immediate follow-up at the national level.

Efforts to revise the Red List of Tajikistan were renewed recently. There was a CEP Decree in early 2010 to initiate a new edition, and technical assistance to the revision process has been included in the scope of the Tajik-German technical cooperation. A national workshop aimed at kick-starting a sustained revision process was held under CEP supervision on 28 September 2010. The process is continuing, and it is not yet clear when the new Red List will be finalized and approved.

Recommendation 9.3:

The Government of Tajikistan should accede to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

Tajikistan has not yet acceded to CITES. The general political will continues to exist, however, as illustrated by the recent inclusion of technical assistance for the preparation of accession within the scope of Tajik-German development cooperation.

In the meantime, illegal trade in species of wild fauna and flora continues to place significant pressure on biodiversity. Areas of particular concern are trade in hunting trophies, as well as trade in medicinal plants and (to a lesser extent) reptiles. It is complicated to export sustainably sourced specimens of species listed on the CITES Appendices from Tajikistan as long as the country has not acceded to the Convention, which means that potential income from international trade in sustainably sourced specimens cannot be used as a conservation incentive. At the same time, the CITES trade ban has reportedly been circumvented by illegal traders in the past. This situation highlights the need for Tajikistan to accede to CITES at the earliest opportunity.

Another issue in relation to trade in endangered species of wild flora and fauna is the capacity of law enforcement agencies. Finds of illegally traded specimens of wild fauna show that there is room for improvement of law enforcement regarding international trade in wild fauna and flora.

Recommendation 9.4:

The State Committee for Environmental Protection and Forestry should increase the protected area network and better protect the existing protected areas, particularly nature reserves and species management areas. Micro-reserves should be widely introduced whenever appropriate sites are identified.

No protected areas have been established in Tajikistan since 2004. Additional information and discussions on the current status of the protected areas system are included in Section 1.6 and in recommendation 9.4 of Chapter 9.

Recommendation 9.5:

The State Committee for Environmental Protection and Forestry, in cooperation with the National Biodiversity and Biosafety Centre, should collect and make publicly available data on fish and game stocks and establish reasonable quotas for hunting and fishing. The number of bagged game should also be provided.

No fish and game monitoring results have been published by SCEP or the Biodiversity Centre since 2004. According to current practice, hunting/fishing quotas are set centrally based on previous quota, scattered information from local state forestry enterprises and local SCEP branches and sometimes consultation with relevant institutes of the Academy of Sciences, without being informed by systematic monitoring. The National Biodiversity and Biosafety Centre has been subordinated under SCEP.

Recently, a guideline on the monitoring of mountain ungulates was drafted (SCEP 2010). At present, it is being considered by SCEP. If approved and implemented, it may form a basis for effective monitoring of mountain ungulates, which constitute a major component of the country's biodiversity riches. The NGO "Nature Protection Team", in cooperation with the Committee, recently published two surveys of mountain ungulates in the Gorno-Badakhshan Autonomous Oblast (Michel 2008, Michel et al. 2010). These publications could be used as a basis for quota-setting for the species and areas concerned and as a methodological resource, as long as there are no official monitoring data available.

PART III: ECONOMIC AND SECTORAL INTEGRATION

Chapter 10: Agriculture and land management

Recommendation 10.1:

The Ministry of Agriculture should, as a priority, support the development of extension services by continuing and expanding existing efforts. For example, the Centre for Extension Services and the Association of Water Users established within an ongoing World Bank project should be given the opportunity to continue its work after the conclusion of the project in 2006. Official support and some basic State funding is necessary and would also make it possible to attract additional donor funding. The support for extension and training should furthermore focus not only on official structures but also on organizations outside the State sector.

The recommendation has been implemented. The Centre for Extension Services is now subordinated to the Ministry of Agriculture and fully supported from the Ministry's budget. It works in cooperation with the Association of Water Users and farmers. Training and support are also provided to the farmers throughout the country. New technologies and practices are introduced when possible.

Recommendation 10.2:

The State Committee for Environmental Protection and Forestry, the Ministry of Agriculture and the State Committee for Land Administration should work jointly to implement the National Programme to Combat Desertification, inter alia by developing specific pilot projects to counteract erosion and desertification. Even if initial funding is low, it is important to establish and develop regular activities. Assistance from the international community would also be important for implementation of these projects.

The State Committee for Land Administration is the leading body on these activities. Some projects have taken place in order to improve productivity and generate income for rural communities in selected mountain watersheds, while at the same time curtailing degradation of fragile lands and ecosystems.

Recommendation 10.3:

The Ministry of Agriculture should establish a programme to promote environmentally safe cotton production in collaboration with the State Committee for Environmental Protection and Forestry. This programme should include selected activities in applied research, support to the development of integrated pest management, targeted advice and pilot application of environmentally friendly production practices. International institutions should be involved in an effort to transfer experiences from other countries. This, in turn, may attract cofunding from donors.

The Government established the Centre on Liquidation of Cotton Debt and on Development under the Ministry of Agriculture. The 2009 Environmental Programme for the period for 2009-2019 includes sections on environmentally agricultural production.

Recommendation 10.4:

The Ministry of Agriculture, together with the State Committee for Environmental Protection and Forestry, should initiate a genetic resources conservation programme based on the National Strategy and Action Plan on the Conservation and Sustainable Use of Biodiversity to safeguard the genetic resources of crop plants and domestic animals. As this is of worldwide interest, discussions should be held with donors and international organizations on the funding of different activities.

All relevant authorities work in two main directions. One is to safeguard the genetic resources of crop plants and domestic animals. The other direction is to produce new crop plants that will be more adaptable to the climate change. The Academy of Agricultural Sciences is the leading agency.

Chapter 11: Ecotourism, mountains and national parks**Recommendation 11.1:**

The Ministry of Economy and Trade, in cooperation with the State Committee for Environmental Protection and Forestry and in consultation with the National Tourist Company Sayoh, tour operators and non-governmental organizations involved in tourism, should develop and implement a national strategy and action plan for tourism, consistent with the State Programme for the Development of Tourism. The action plan should clearly set priorities and identify sources of financing.

The Government has adopted Concept No. 202/2009 for the Development of Tourism for the period 2009-2019, which the Committee for Youth Affairs, Sports and Tourism is responsible for implementing. To support the Law on Tourism and the Concept, regulations were issued such as the Government resolution on questions of State support for the development of ecotourism, mountain sports tourism and mountaineering in Tajikistan, and the Committee's Chairperson's rules on "Carrying out activities to manage subjects in the sphere of tourism".

Recommendation 11.2:

The Ministry of Economy and Trade, in cooperation with the State Committee for Environmental Protection and Forestry, and in consultation with the National Tourist Company Sayoh, tour operators and non-governmental organizations involved in tourism, should:

- *Adopt a set of standards for certification based on international standards;*
- *Develop and apply a certification scheme for ecotourism;*
- *Develop a special licence for those in the tourist industry who receive ecotourism certification. In implementing this recommendation, Tajikistan may wish to seek the support of the World Tourism Organization.*

The recommendation has not yet been implemented. The various stakeholders are working on the topics mentioned in the recommendation.

Recommendation 11.3:

The State Committee for Environmental Protection and Forestry should accelerate the process of defining zones in Tajik National Park and prepare, adopt and implement a comprehensive management plan to develop Tajik National Park (and other protected areas if used for tourist purposes). The plan should include designated zones for protection and development, requirements for any construction that may affect the environment (e.g. environmental impact assessment), restrictions concerning waste disposal or sewage and a monitoring scheme.

A management plan for Tajik National Park has been drafted but has still not been adopted. To date, it has not been submitted for adoption. It takes into consideration all international standards.

Recommendation 11.4:

(a) The Government should establish a special subprogramme for ecotourism under the existing environmental fund.

(b) The Ministry of Finance, in coordination with the State Committee for Environmental Protection and Forestry, should increase the fees related to nature-based tourism and ensure that they are used for this purpose.

This recommendation has not been implemented. The different stakeholders are expected to develop plans, programmes to support the Concept of Development of Tourism for the period 2009-2019.

Recommendation 11.5:

(a) The Ministry of Education should develop a comprehensive curriculum, leading to a degree, for managers, guides and other trades working in tourism consistent with the State Programme for the Development of Tourism for 2004-2009;

(b) In developing this curricula, the Ministry of Education should set up an advisory body made up, inter alia, of representatives from the Ministry of Economy and Trade, the State Committee for Environmental Protection and Forestry, the National Tourist Company Sayoh, tour operators and non-governmental organizations involved in tourism.

This recommendation has not been implemented. The Ministry of Education has not developed such a curriculum, and the advisory body for its development has not been established.

Chapter 12: Human health and environment***Recommendation 12.1:***

(a) The Ministry of Health should review and re-establish the disease surveillance system;

(b) The Ministry of Health should work closely with the State Committee for Environmental Protection and Forestry to re-establish and further develop comprehensive monitoring systems for air quality, drinking water quality, waste and hazardous waste disposal, ionizing radiation sources, and food safety, with a clear division of responsibilities. The monitoring data and health statistics should be the foundation for an integrated and coherent environmental health information system.

Some improvements have been made in monitoring and surveillance, with increases though incomplete monitoring on water quality, especially in rural areas. In contrast, there is no air quality monitoring. Data for many diseases and environmental risk factors are still incomplete. The following updated recommendations recognize that some progress has been made and are based on particular gaps identified.

Recommendation 12.2:

(a) The Government should modernize water treatment and distribution systems with the help of adequate investments in order to improve drinking water quality and extend the drinking water supply system to the rural areas in order to ensure access to safe drinking water to the vast majority of the population;

(b) The Ministry of Health should take all necessary measures to reduce the health risks from the microbiological contamination of drinking water;

(c) The Ministry of Health should revise national drinking water quality standards according to WHO guidelines.

Although there are many donor-driven programmes for improving water quality, there is a need for an overarching national plan or strategy. However, improvements have been made, with future progress likely; for example, WHO standards have been adopted and monitoring has increased. The most significant programme is to improve the rural supply and quality of drinking water between 2010- 2020, and improvements have been made in terms of overall quality and monitoring of water supplies. This is reflected in part by a declining trend for most water-borne diseases.

However, the impacts of current climate change, including heatwaves, flooding and mudslides, jeopardize improvements. Infrastructure, treatment and monitoring still need further strengthening, and must be adapted to the impacts of current and future climate change. Additionally, visits to rural hospital sites revealed a deteriorating infrastructure of water treatment and supply systems as well as sanitation systems that potentially puts patients at risk.

Recommendation 12.3:

The Ministry of Health, together with other institutions that have responsibility for food safety, should:

- (a) Develop a national food strategy within the framework of the organization of the Ministerial Conference on Food and Nutrition in 2006;*
- (b) Establish a State body responsible for food safety;*
- (c) Designate a national body for participation in the Codex Alimentarius;*
- (d) Implement the Hazard Analysis and Critical Control Point (HACCP) system. Food handlers should be trained in the principles of food safety and hygienic handling of food;*
- (e) Prepare and distribute a code of hygiene practices to all food industries and local authorities.*

Good progress has been made, especially with regard to the last three recommendations, which would benefit from further strengthening. However, little progress has been made in developing a national food safety strategy or a responsible State body. Additionally, there are concerns about levels of malnutrition in Tajikistan, which would be worsened by climate change impacts on food security.

Recommendation 12.4:

- (a) The Ministry of Health should establish a Centre for Radiation Safety and Protection, with responsibility not only for radiation control of the environment, but also for monitoring and controlling the population's exposure and occupational exposure;*
- (b) The Ministry of Health should monitor the health status of the population around radioactive waste depositories and in the areas with elevated background radiation.*

In Tajikistan, uranium mining has been in process since the late 1940s. It stopped in the 1980s, and since then uranium mines have not been in operation. Uranium tailings in Tajikistan pose an overall environmental situation and ecological threat.

Regarding recommendation (a) and (b), since 2001, Tajikistan has been a member of the International Atomic Energy Agency. The 2003 Law on Radiation Safety established the Nuclear and Radiation Safety Agency, within the Academy of Sciences. It functions as a State regulatory body on radiation safety and protection. However, no body has been established to date for monitoring and controlling the population's exposure and occupational exposure to radiation.

Over the last 6-7 years, a number of laws and regulatory norms in the area of radioactive waste management have been developed, which form the regulatory basis for radioactive waste management and regulate the handling of ionizing radiation sources.

However, despite the number of regulatory acts, the regulatory framework for handling waste from former uranium mining is insufficiently developed and requires improvement and harmonization with international safety standards. Therefore, it is very important to continue improving regulatory frameworks for activities concerning mining, reprocessing and uranium waste management.

Recommendation 12.5:

The Ministry of Health should reactivate the working group in order to improve intersectoral cooperation and coordination in the implementation of the National Environmental Health Action Plan.

There is little strategic activity in this area, and no extension of the National Environmental Health Action Plan (NEHAP) (2000-2010) is planned at present. Nor has Tajikistan developed a CEHAPE (Children's Environmental Health Action Plan).

Recommendation 12.6:

The Ministry of Health should implement measures for the safe disposal of hospital waste and for the separation of medical waste from municipal and industrial waste.

In the area of medical waste management, since the first EPR review in 2004, new sanitary norms have been elaborated: “Rules of collection, storage and disposal of wastes from medical establishments, SanPiN 2.1.7.020-09”. These rules describe the requirements for the management of medical waste. However, they have not been fully implemented, and the problem of safe disposal of medical waste remains.