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ENVIRONMENTAL PERFORMANCE REVIEWS

GEORGIA

Third Review
Synopsis



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Preface

In 1993, the second Environment for Europe Ministerial Conference (Lucerne, Switzerland) mandated ECE to carry out Environmental Performance Reviews (EPRs) for those ECE member States that are not members of the Organisation for Economic Co-operation and Development (OECD). Subsequently, the ECE Committee on Environmental Policy decided to make them part of its regular programme. Since then, the environment ministers reaffirmed their support for the EPR Programme, deciding in 2003 that the Programme should continue with a second cycle of reviews, and formally endorsing the third cycle of reviews in 2011. The third cycle places a stronger emphasis on environmental mainstreaming in priority sectors and on the enhancement of international environmental cooperation. The third cycle EPRs also address policy frameworks for greening the economy and describe specific green economy initiatives.

Through the peer review process, EPRs promote dialogue among ECE member States and the harmonization of environmental conditions and policies throughout the region. As a voluntary exercise, an EPR is undertaken only at the request of the country concerned. The studies are carried out by international teams of experts from the region working closely with national experts from the reviewed country. The teams also benefit from close cooperation with other organizations in the United Nations system and outside.

The third EPR of Georgia began in March 2014 with a preparatory mission where the structure of the report was agreed upon and the time schedule established. A team of international experts took part in the review mission from 16 to 24 September 2014 with an update mission in May 2015. The draft report was submitted to Georgia for comment and to the ECE Expert Group on Environmental Performance Reviews for consideration in September 2015. During its meeting from 13 to 14 October 2015, the Expert Group discussed the report with expert representatives of the Government of Georgia, focusing on the conclusions and recommendations made by the international experts. The recommendations, with suggested amendments from the Expert Group, were then submitted for peer review to the twenty-first session of the Committee on Environmental Policy on 29 October 2015. A high-level delegation from Georgia participated in the peer review and the Committee adopted the recommendations within this report.

The Committee and the ECE secretariat are grateful to the Government of Georgia and its experts who worked with the international experts and contributed their knowledge and assistance. ECE would like to express its appreciation to the German Federal Ministry for Environment, Nature Conservation, Building and Nuclear Safety and the German Federal Environment Agency for their support with funds from the Advisory Assistance Programme (AAP) and to Switzerland for their financial contribution. Sincere thanks are also due to France, the Netherlands, Portugal, UNEP and the Joint UNEP/OCHA (Office for the Coordination of Humanitarian Affairs) Environment Unit for having provided their experts, and to UNDP for their support to this review.

ECE also takes the opportunity to thank Austria and the Netherlands for their general financial support to the EPR Programme and expresses its deep appreciation to Belarus, Estonia, Germany, Hungary, Sweden and Switzerland for having provided their experts for the ECE Expert Group on Environmental Performance Reviews.

Executive summary

The second Environmental Performance Review (EPR) of Georgia was carried out in 2009. This third review intends to assess the progress made by Georgia in managing its environment since the second EPR and in addressing new environmental challenges.

Environmental conditions and pressures

Since 2008 the general trend of emissions of air pollution substances has been negative – almost all emissions have been on the rise. Nitrogen oxides emissions (NO_x), converted to NO₂, increased by 120.59 per cent from 18,534 tons in 2008 to 40,886 tons in 2013. There was also a 35.34 per cent increase in emissions of volatile organic compounds (VOCs), from 87,131 tons in 2008 to 117,926 tons in 2013.

The development of the SO₂ and TSP diverged from the increasing pollution trend. Sulphur oxide (SO₂) emissions decreased by 3.65 per cent between 2008 and 2013, from 9,873 tons to 9,513 tons. Emissions of total suspended particles (TSP) decreased by 21.47 per cent from 33,220 tons in 2008 to 26,080 tons in 2013.

In 2013, annual total freshwater abstraction was 30.2 billion m³. In 2013, 57 per cent of the drinking water came from groundwater sources and the rest was surface water. Although about 70 per cent of the urban population is connected to the sewerage system, only 26 per cent of their wastewater was treated in 2013. The rural population is not connected to wastewater systems and there are no wastewater data available.

Soil erosion is the critical threat to Georgian soils. Nearly 35 per cent of agricultural land is degraded as a result of water and wind erosion, which are affecting particularly the mountainous areas and crop fields, especially in eastern Georgia. Modern farming techniques for cultivating steep areas such as terraces and buffer strips are not commonly applied. Wind erosion and desertification have become a critical issue in eastern Georgia due to overgrazing and the recent decline in rainfall in the region.

Soil salinization is another big threat affecting the soils of eastern Georgia. Large-scale secondary soil salinization is due to the non-observance of irrigation rules and dates. In addition to soil salinization, Soil pollution also takes place in some industrial areas. Especially in the vicinity of metal mining sites, soils are affected by pollution with heavy metals through irrigation water and atmospheric deposition.

In Georgia, the use of fertilizers has fluctuated over the past 15 years. Due to sharp price increases, fertilizer use diminished to 2,500 tons a year in 2006, which translated to about eight kg per sown hectare. Since then, fertilizer use has increased massively. In 2013, total fertilizer use was 35,300 tons – about 136 kg per sown hectare.

Legal, policy and institutional framework

The country's environmental sector underwent a profound reorganization in 2011, which was then reversed in 2013. This reorganization was the origin of a massive decrease of capacity at all levels of environmental governance. Institutional instability compounded with the Government's focus on maximum deregulation affected the pace of planned environmental policy reforms and hindered implementation.

After a two-year period of functioning with a narrowed mandate, in 2013 the Ministry regained its former functions almost entirely, and re-established or established several key units. However, the previous depth and breadth of the Ministry's presence at the subnational level was not re-established.

The process of EU association added more clarity in environmental policy objectives in Georgia. The Government put efforts into reconciling economic and environmental goals, though the former remain clearly predominant.

Environmental planning has progressed along several lines. After an aborted NEAP for 2008–2012, the development and adoption of the NEAP for 2012–2016 (NEAP-2) was an important landmark in environmental

policymaking in Georgia. Overall, both in terms of process organization and its outcome, NEAP-2 development has been well aligned with good international practice. The development of NEAP-3 has started in 2014.

There was no progress on developing a national sustainable development strategy. National action on the MDGs was monitored irregularly. The second MDG progress monitoring report was issued in September 2014, almost a decade after the first progress monitoring report. The assessment report is rather descriptive and does not review achievements in relation to national targets.

There has been little progress on revising environmental standards since 2010. Ambient standards are Soviet standards transposed into the Georgian law. Computer models used to derive emission standards for individual stationary sources are outdated. The development of general binding rules (technical regulations that may indicate emission standards for a specific sector) have stagnated.

There were some changes in product standards, in particular fuel quality regulation. Despite a gradual improvement, fuel quality standards continue to be below the international benchmarks (especially for sulphur), while the number of cars has been growing exponentially and their technical state has been degrading.

Georgia's spatial planning system has significant gaps, especially in terms of implementation. Legislation is vague or incomplete. Mandates are not well defined in both a vertical and horizontal perspective. Land use categories are not sufficiently specific. Community tenure of land is not part of the legislation although it concerns most of the country's pasture land. Information for planning remains scarce, especially data on land privatized prior to 2006 and its use category. Data sharing is limited and information management infrastructure obsolete.

In Georgia, an assessment of impacts is necessary for both new and existing facilities and infrastructure projects. EIA is performed on the basis of design documentation, while the acceptability of the proposed site for the planned development is not evaluated and an alternatives analysis is not undertaken.

The quality of EIA reports tends to be poor; some reports are missing essential elements. In its current design and functioning, the EIA procedure is far from compliance with international benchmarks. Its flaws concern the coverage of projects (i.e. EIA scope), organization and transparency of the procedure, clarity and enforceability of EIA conditions, and compliance with them. Public participation in this procedure is limited.

There is no mandatory environmental insurance in Georgia, despite the stipulation in the 1996 Law on Environmental Protection that activities that can cause severe environmental damage should be subject to it. Relevant normative acts, which would enact the mentioned requirement, have not been adopted.

The NEA has succeeded in improving environmental and hydrometeorological monitoring networks. Advancements have been most significant in relation to surface water monitoring, which was extended and comprises 69 monitoring points on 40 water bodies. In 2012–2013, seven automated stations measuring the degree of γ -radiation exposure were installed. Real time data received from the stations are gathered daily in the central office and published on the official website of the NEA. Soil and geological surveillance remain very limited. New forms for statistical reporting on water have been developed.

Economic instruments, environmental expenditures and investments for greening the economy

Since 2010 no new environmentally related economic instruments have been introduced. Although the Law on Environmental Protection provides for the establishment of eco-labels, there is as yet no legal framework for eco-labelling of products in Georgia.

The Law on Public Procurement does not consider environmental criteria in public sector procurement of goods and services. There is no information on the extent to which such considerations have been made on a voluntary basis during the past few years.

Georgia has made progress in improving its public sector budgetary and financial management framework pertaining to strategic budget planning, budget formulation and execution. As from 2010, the Basic Data and Directions document provides a medium-term budget framework.

The management of environmental pollution does not rely on pollution charges to create economic incentives for reducing emissions of air and water pollutants to acceptable standards. The excise duties applied in Georgia appear, however, to be rather low for creating such incentives. In a similar vein, the excise duty levied on imports of motor vehicles creates wrong incentives by favouring the purchase of older vehicles, which are, in general, more polluting than newer cars.

Both the polluter-pays and user-pays principles are not followed in the water sector. There are no payments of fees for surface water abstraction. Fees for groundwater abstraction are low. Water supply and sewerage tariffs for households are quite low. Water supply tariffs are not cost reflective. A large proportion of households have no water meters and pay a flat fee per person.

Air protection

Currently, no information on critical loads from agriculture is available in Georgia. The most important pollutant released into the air by agricultural activities is ammonia (NH₃). Until 2009, emissions from industrial sources have decreased. This was due to the termination of operations at several installations and the application of emission abatement measures at other installations.

National air quality standards are still based on maximum allowable concentrations and cannot be directly compared to the standards used by the World Health Organization or the EU. The air quality measurements are performed according to Georgian standards. Air quality monitoring is based on seven manual and one automatic monitoring stations that are operated by the NEA. Except of Tbilisi there is only one monitoring station in other four cities. The monitoring stations are mostly located in places with high levels of air pollution, near industrial blackspots or near traffic hotspots.

In 2004 Georgia abandoned a yearly, mandatory test of safety and roadworthiness for light duty vehicles. Without appropriate regulations and a mandatory annual test of safety, roadworthiness and exhaust emissions, it is not possible to ban the most polluting vehicles from the road.

Georgia has phased out the use of chlorofluorocarbons and halons. Georgia acceded to the Beijing Amendment in 2010. The country is in full compliance with control measures under the Montreal Protocol. The main ODSs (annex A and B of the Protocol) have been phased out two years prior to the requirement (2010).

Water management

Between 55 and 75 per cent of the water consumed by the total population has a groundwater origin. For rural communities the situation is different: in 2013, groundwater represented the major source (90 per cent) of drinking water. It is estimated that the population coverage of water supply systems (WSSs) was around 65 per cent in 2013.

While Georgia is rich in water resources, access to safe drinking water is still a problem in almost all regions. The water supply infrastructure in Georgia is in poor condition. The unsatisfactory sanitary and technical conditions existing in the water supply systems often lead to breakdowns, leading to losses of 40–60 per cent.

Municipal wastewater remains a major polluter of surface waters in Georgia: on average, 70 per cent of the urban population is served by collection systems but only 26 per cent of wastewater is treated. Currently, sewage collection systems exist in only 41 towns and urban centres but most of the municipal wastewater treatment plants (WWTPs) are inoperable. The exceptions are Gardabani WWTP, built in 1988, which only has mechanical pre-treatment, and the Sachkhere and Batumi WWTPs (operating since 2013), which have biological treatment.

In the last few years, the drinking water quality monitoring system has worsened substantially, due to the abolition, in 2006, of the Sanitary Supervision Service within the Health Ministry. The Service used to analyse more than 50,000 samples annually. However, since 2012, the situation has been gradually improving as the National Food Agency is strengthening its presence in the country with three regional laboratories. There has been an increase in the number of analyses performed since 2012.

Currently, 19 automated hydrological stations and 12 manual stations are operational. The monitoring network for surface water quality has improved from 41 points in 2009 to 69 points in 2014, and at 32 rivers and 8 lakes. The number of monitored parameters was increased to 33.

The coverage rate of water supply in Tbilisi was already 100 per cent by 2008, but only 70 per cent of the population was served 24 h/day; 30 per cent of the population covered by the supply system had water for only three to four hours per day.

Waste management

Collection of municipal waste is provided only in urban areas, while rural areas remain unserved. It is estimated that about 70 per cent of generated municipal waste is collected by regular services and delivered to local disposal sites. Practically all collected waste is transported directly to disposal sites. Material recovery from municipal waste is not performed except in the sorting plant at Rustavi city landfill. Separate collection has not yet been introduced in Georgia.

Regular reporting on industrial waste was not required by legislation in Georgia before 2015. A more or less broad inventory was conducted only once, in 2007, with the help of UNDP, and included household, industrial, medical and biological waste. But the inventory is compromised by the non-existence of a waste classification system, which would allow identification of options for the treatment of identified waste. There is no comprehensive record of the amount of industrial solid wastes generated in Georgia, and thus, information on the exact amount produced is not available.

Management of health-care waste in Georgia is undergoing a transformation. Old practices, when waste from hospitals was dumped together with municipal waste, are being abandoned and a network of specialized incinerators for medical waste is emerging. The old system of health-care waste management, which is still used, is based on disposal of non-infectious waste in municipal landfills; infectious waste is sterilized and then disposed of, and anatomical waste is buried in cemeteries. The new system, which has been developed with the assistance of international donors, uses incinerators for the destruction of health-care waste.

The environment is affected by air, ground and surface water pollution from improperly constructed official municipal landfills. Most of the 63 official municipal landfills operational today do not have a groundwater protection barrier and a leachate collection/treatment system. Spontaneous, low-temperature combustion of waste occurs in landfills, emitting harmful substances including dioxins and furans into the air. These persistent organic pollutants (POPs) degrade slowly in the environment and are transported long distances by atmospheric flows.

An integrated waste management framework law did not exist in Georgia until 2015, despite there having been several attempts to adopt a waste law, in 2003, 2005 and 2010. A new legal act on waste management, the Waste Management Code, was adopted on 26 December 2014 and entered into force on 15th of January 2015.

Georgia has neither a waste management strategy nor a waste management policy. Targets and measures for waste management and for management of radioactive waste were defined in the National Environmental Action Programme 2012–2016 (NEAP-2).

Biodiversity and protected areas

Within Georgian flora, 4,130 species of vascular plants have been recorded. In 2014, the Caucasus plants Red List has been published and the assessment resulted in the first comprehensive list of plants endemic to the Caucasus region (about 2,950 species/subspecies).

The rich nature of Georgian flora is evident from its high level of endemism, with around 21 per cent of Georgian flora (up to 900 species) being endemic. Among these, around 600 (14 per cent of all species) are Caucasus endemics and 300 (9 per cent of all species) are endemic to Georgia.

There have been improvements in the management of protected areas since 2010. New protected areas have been established and the initiation of the Emerald Network was a step forward. As a result, the area of protected

areas increased from 494 050 ha (7.09 per cent of Georgia's territory) to 600,668 ha (8.62 per cent of Georgia's territory). In respect of geographical coverage of the country and representativeness of Georgian biomes, critical gaps still exist, in particular in the Central Caucasus Mountain Range.

No protected area network is yet developed in Georgia, and neither is there a spatial development plan in order to strengthen the existing protected areas and transform them into a network. Protected areas appear isolated and no actions are taken for establishing an interconnected protected area network. Nevertheless, a plan and steps to set up a protected area network exist.

Until 2010, hunting was allowed only on hunting farms and in certain areas of strict nature reserves, except for hunting of migratory birds, which was allowed everywhere except in settlements and some categories of protected areas. Today, there are 18 hunting farms (four more licenses have been issued to fishing farms) but they do not operate effectively and only some of them have approved extraction quotas.

The existing monitoring system in protected areas is insufficient. Biodiversity monitoring studies in protected areas are mainly conducted by university research departments and NGOs in the frameworks of projects.

Energy and environment

Georgia has very small proven oil and natural gas reserves. More than 70 per cent of primary energy supply is imported; fossil fuels make up more than 70 per cent of this. Current crude oil production is not high and most of the fields are heavily depleted. Plans call for boosting oil production to three million tons per year by 2020, and gas production to two billion m³ by the same date.

Georgia's energy sector has experienced significant growth in recent years, from having annual electricity generation of 7,061 GWh in 2005 to reaching 10,059 GWh in 2013; it became a net exporter of electricity in 2007. Exports reached its peak in 2010 and then decreased sharply in the period 2011–2013, from 1,524 GWh in 2010 to 450 GWh in 2013. In 2013, electricity generated from HPPs amounted to 8,271 GWh (83 per cent of total generation) and from TPPs, 1,788 GWh (17 per cent).

Despite installed hydropower capacity of around 2,700 MW, only 1,600 MW (60 per cent) of hydropower capacity actually generates electricity. The rehabilitation of the remaining 1,100 MW installed capacity could bring around 2.2–2.5 TWh of additional hydroelectricity. This is the least costly way to expand generation capacity and is given priority by the Government. Many of these rehabilitations are already under way.

Local biofuels (mainly in the form of firewood) play an important role in primary energy supply. Its share in total energy consumption is about 20 per cent. Firewood is mainly consumed in rural areas for cooking and heating purposes. For these purposes, the average rural household consumes 5–15 m³ of firewood annually. Annual consumption of firewood has been estimated at 1 million m³. The consumption of firewood is very inefficient due to the widespread practice of using woodstoves of very low efficiency (35–40 per cent). Georgia has considerable potential for biomass utilization (3–4 TWh), given the share of forests and agriculture in the national estate.

The energy intensity of the Georgian economy is high and the amount of specific energy needed to produce goods and services in Georgia is 2–2.5 times higher than in Western countries. It is estimated that energy efficiency measures can provide up to 20 per cent of energy saving in the country, in particular up to 1 TWh of electricity, up to 250 m³ of natural gas and up to a million m³ of firewood.

Georgia uses 40–50 per cent more energy for heating per m² of floor space than EU countries with the same climate. As a result, 80–90 per cent of the energy consumed in Georgia's residential sector is used for space heating. In general, buildings in Georgia consume about 40–45 per cent of all energy for heating purposes. The problem is equally acute for residential, office and industrial buildings. In Tbilisi, the thermal resistance of buildings to heat losses is three to four times less than recommended for energy efficiency for the Tbilisi climate zone. Currently, there are no effective mandatory or indicative energy efficiency standards in the Building Code. The residential sector in Georgia has a huge energy efficiency potential, due to the high share of the residential sector in the energy balance.

Geothermal achievable potential is 3 TWh per year. Geothermal waters are currently used in Georgia for district heating, fishpond heating, agricultural drying, industrial applications and greenhouse heating. The nation's geothermal resources are of the highest quality, containing minimal amounts of dissolved salts, which consequently reduces scaling during utilization.

The climatic conditions of Georgia are favourable for utilizing solar energy. The achievable potential of solar energy in Georgia is estimated at 60–120 GWh annually. Most regions of the country have 250–280 days of sunshine per year. Direct and global radiation reaches daily values of 3.5–5.3 kW/m² and an annual average of 1,550 kW/m². The potential of solar energy, however, is strongly seasonal and varies by a factor of more than four from mid-summer to mid-winter.

The technical potential of the major biomass sources in Georgia amounts to 12.5 TWh. The achievable potential is estimated at 3–4 TWh. This estimate does not incorporate the potential of farming energy crops. Apart from firewood, which is used for cooking and heating, and a few donor-supported biogas initiatives, the biofuel potential remains untapped.

Industry and environment

Pollution flows from industry are difficult to assess in terms of volume and composition, since only a few industrial enterprises carry out self-monitoring and self-reporting. Nevertheless, the data available indicate that air emissions and pollution of surface water, groundwater and soil due to industrial activities remain important issues in regions where manufacturing and mining enterprises are located (e.g., Bolnisi, Chiatura, Rustavi and Tbilisi).

Total air emissions from the industrial sector have increased remarkably, to 35,627 tons in 2012, after a drastic decrease in 2009 to 14,363 tons. This increase is mainly due to higher amounts of TSPs, but emissions of VOCs, NO_x, CO and SO_x have also shown a moderate increase in the same period.

The regions that rank as the most polluted due to air emissions from industry are Imereti, with its manganese and coal mining, metallurgical and ferroalloys industries, followed by Kvemo Kartli, with its copper/gold mining, metallurgical, chemical and cement production industries.

In 2013, industry water use accounted for 35 per cent of total water use, excluding hydropower generation. Industrial wastewater discharges have increased by a factor of 1.6 from 2011 to 2013. In 2013, 48 per cent of total industrial wastewater was not treated before discharge into surface water bodies.

There are no landfills for industrial waste in the country. Industrial wastes are disposed of at municipal waste landfills or, more often, at the site of the facility producing the waste. In general, environmental requirements are not observed, resulting in diffuse pollution of surface water and groundwater and soil. Industrial hazardous wastes and mining wastes, including old and present tailings containing heavy metals and other toxic substances, can be found in several regions of Georgia, but are mainly concentrated in the Imereti region (85 per cent) and Racha-Lechkhumi and Kvemo Svaneti regions (11 per cent).

Environmental management systems, such as the ISO 14001 series and EU Eco-Management and Audit Scheme (EMAS), are not common in Georgia. At present, only eight industrial enterprises in the country are ISO 14001 certified. Capacities on environmental management (mainly environmental economics, eco-innovation, assessment of environmental technologies) are lacking, as are incentives to improve performance. This is reflected in the low level of environmental compliance by the industrial and mining sectors.

Agriculture and environment

In 2013 agriculture share in GDP was 9.4 per cent, and 9.2 per cent in 2014. From an employment perspective, agriculture still remains a mainstay, as the population classified as employed in agriculture has remained fairly constant from 2000 (52.1 per cent) to 2013 (52 per cent).

Agricultural productivity of Georgia is low: between 2006 and 2012, the average wheat yield was 1.5 tons/ha and that of maize 2.2 tons/ha. The reasons for this are very small family farms, a low degree of

entrepreneurship, the lack of cooperative development, limited educational opportunities (19 per cent of the agricultural labour force have training in agriculture) and the low use of agricultural inputs.

Large-scale breeding facilities (cattle and poultry) have closed down, resulting in the establishment of many small-scale facilities, and this has redistributed the emissions from a small number of large sources to a large number of small sources. The impacts of localized large emissions have been reduced. The cattle and pigs are held exclusively on private small farms and dispersed throughout the territory: in 2012, there was an average of about 1.5 cows and 0.25 pigs per farm, so that there is no manure management at the farm level.

Of the 3 million ha of agricultural land, 35 per cent is degraded because of erosion. Due to the climate and the topography, natural soil erosion takes place on quite a large scale in Georgia. Water erosion takes place in the western part of the country and is accelerated by overgrazing and the ploughing of steep slopes. Wind erosion takes place in the eastern part and is due to the destruction of the wind shelter belts (out of a total of 2,000 km, 1,800 km were logged for firewood) and overgrazing by large sheep flocks.

Irrigation and drainage systems deteriorated seriously in the past two decades, because there was no funding for their maintenance and rehabilitation. As a result, water losses lowered water availability, negatively affecting crop yields.

Transport and environment

The development of Georgia's transport sector is determined to a large extent by its strategic position for energy imports by the EU from neighbouring Azerbaijan, and for east–west and north–south trade flows. In response to its strategic position as a transit country, Georgia has invested in important infrastructure projects to increase the effectiveness of its transport system.

Since 2004, the number of wheeled vehicles has increased three times, from 319,461 in 2004 to 1,021,261 in 2014. The steep increase is primarily due to the increase in road passenger transport with eight seats; which increased by 220 per cent from 256,153 in 2004 to 820,819 in 2014. About 531,000 vehicles, i.e. 70 per cent of the vehicle fleet, are older than 15 years.

Georgia has invested heavily in modernizing and upgrading its rail network since 2004. The rail network in 2004 was 1,565 km, 4 per cent of which was included in the Trans-Caucasian Corridor (TRACECA) rail corridor. Today, the network has reached 2,344 km.

The transport sector accounts for 87 per cent of CO₂, 70 per cent of NO_x, 50 per cent of SO₂ and 40 per cent of VOCs emissions in the country. According to NEAP-2, factors exacerbating the emission of air pollutants by the sector include the age, poor quality and high number of the vehicle fleet. Furthermore, even though most cars are imported from Europe, the catalytic converters are outdated, thus dramatically increasing the amount of emitted harmful substances.

In recent years, efforts have been made to promote public transport in Georgia. In recent years, it has received considerable investments. The underground system extends to a total of 57 km, corresponding to two lines and 22 stations. In 2012, aerial tram/cable car from Rike Park to Narikala Fortress was built. The funicular railway that runs up to Mtatsminda Mountain was opened in 1905 and was recently reconstructed.

From 1 January 2014, regulations and standards on fuel quality in force have become more strict. In particular, those concerning lead content standards in Georgia are as stringent as those in the EU. However, there is no inspection system in place to control the quality of fuel at the distribution points.

Despite the fact that the new standards for sulphur content are considerably more stringent than their predecessors, they remain a clear outlier from equivalent standards in the EU. In petrol, maximum sulphur concentrations in Georgia are 15 times higher than those allowed in the EU. In diesel, the same concentrations are 20 times higher than those allowed in the EU. Given the adverse environmental and health effects of sulphur emissions, this is an area of concern with considerable room for improvement.

Forestry and environment

Forests occupy about 40 per cent of the territory of Georgia, a total of 2,822,500 ha, with an unequal distribution across the regions. Approximately 97 per cent are located on the slopes of the Greater and Smaller Caucasus Mountain ranges; the rest are found in the valleys of east Georgia and the Kolkheti lowlands.

The assessment of the total growing stock of Georgian forests is 455 million m³, of which 124 million m³ are coniferous and 312 million m³ broadleaved. The average growing stock per ha is 170 m³ and continues to be higher than the EU average of 150 m³ per ha. Regarding its net annual natural increment, this amounts to 1.8 m³ per ha per year.

In combination with unsustainable logging, excessive grazing is causing severe damage to forest ecosystems in the country. Overgrazing by livestock is a serious threat in certain locations near settlements, in winter pastures. Grazing is often shifted to nearby forests. Limited control from the state authorities, rural poverty, limited alternative livelihood opportunities, improper range management, and a lack of awareness of shepherds and livestock owners are considered to be main causes of overgrazing in the country. At present, there are no data on forest areas affected by overgrazing.

About 87.1 per cent of households in rural areas and 17.4 per cent of households in urban areas depend heavily on wood for cooking and heating. Most of the wood harvested in Georgia is used directly for fuelwood and comes from forests; however, trees from fruit orchards, gardens, windbreaks, etc. complement the supply. Fuelwood is mainly traded in informal markets and official recorded data do not properly reflect the fuelwood situation in the country.

Data and assessments on the status of Georgian forests are incomplete and based on a sample of inventory or satellite images over limited periods of time. A complete forest inventory dates back to 1997, and partial updates have only recently been initiated through temporary ground plots.

Tourism and environment

In the period 2005–2013, the tourism industry in Georgia demonstrated impressive growth. The number of international arrivals grew more than ninefold, from 560,021 in 2005 to 5,515,559 in 2014. In 2012, 2013 and 2014 the number of international arrivals was higher than the total population of the country.

The statistics for 2011–2014 demonstrate that the most popular season among international travellers is summer (35 per cent of all international arrivals). Eighty-eight per cent of all arrivals are from four neighbouring countries: Turkey, Azerbaijan, Armenia and the Russian Federation, in that order. An increasing trend is observed in the number of tourists from the Russian Federation. This was made possible by the visa liberalization process and the reintroduction of direct flights.

Tourism is an important sector in the Georgian economy. Approximately 59 per cent of Georgia's service export revenue comes from tourism. Revenues consisting of international tourism receipts demonstrated an increasing trend, reaching US\$1.79 billion in 2014. Tourism's gross value added, as a proportion of GDP, increased to 6 per cent.

The number of hotels has more than doubled since 2008, from 353 to 836 in 2013. This growth was achieved thanks to private investments in the hotel industry. During the same period, the number of state-owned hotels decreased sixfold, from 30 in 2008 to 5 in 2013.

There is little information available on pressures from tourism and tourist infrastructure on the environment in Georgia. There are neither estimates of energy and resource use in tourism, no estimates of pressures from tourism on water resources in Georgia. Data on water consumption by tourists are not collected and consequently are not published in any reports such as statistical yearbooks.

Health and environment

The under-five mortality rate per 1,000 live births has been declining since 2000. It was estimated at 28.7 (per 1,000 live births) in the period 1990–1994, 24.9 in 2000 and 13.0 in 2013. This is still higher than that in the EU (5 per 1,000 live births) and the European region (9 per 1,000 live births).

During the last decade, the incidence of respiratory system diseases increased. The incidence rate is much higher in children (35,000 per 100,000 children in 2012) compared with the general population (12,000 per 100,000 population in 2012). The most widespread chronic respiratory diseases are asthma, respiratory allergic diseases and chronic obstructive pulmonary diseases. Tobacco smoke is the main cause of chronic pulmonary diseases. Air contamination in buildings, atmospheric air pollution, occupational dust and chemicals also constitute risk factors.

Each year from 9,000 to 11,000 people are dying in Georgia from diseases associated with tobacco use; among them, 3,000 are passive smokers. The prevalence of smoking in Georgia is one of the highest among countries in Europe.

In Georgia, there is a strong contrast between urban and rural areas in terms of the proportion of households with piped water supply (97 per cent in urban areas, 66 per cent in rural areas). In big cities, water supply performances increased due to the construction and optimization of water networks by companies.

In 2007 the surveillance, control and majority of services involved in sanitary surveillance were abolished without an alternative structure or new legislation. Legislation related to environmental health was also cancelled or suspended. There is a lack of legislation and control of the authorities in several environmental health domains, for example, safe use of chemicals, waste management, industrial emissions, and outdoor and indoor air quality.

There is no plan or programme on environmental health. In 2003, a national environmental health action plan was elaborated but was never adopted. There is no children's environment and health action plan in Georgia.

Risk management of natural and technological/anthropogenic hazards

Georgia is exposed to a wide variety of natural hazards, however they do not cause as many fatalities as technological disasters. Floods and debris- and mudflows contribute to most natural-disaster-related fatalities. The economic losses stemming from disasters are not consistently assessed and collected.

The 2014 Law on Civil Safety prescribes responsibilities for the Ministry of Internal Affairs, while many activities described in the Law are also mandated to the Ministry of Environment and Natural Resources Protection, such as monitoring, sampling and analysis following emergencies. However, the capacities within the Ministry of Environment and Natural Resources Protection are very limited to undertake these tasks. The Law requires the development of some 50 by-laws to harmonize existing legislation with that of the EU.

No national strategy for disaster risk management has been developed, although a thorough assessment of capacities for disaster risk reduction (DRR) has been undertaken on which a capacity-development plan could be based.

In 2014, Georgia undertook a DRR Capacity Assessment. It revealed that there is a high level of government willingness and potential to move from a reactive approach of disaster response to a more proactive DRR approach. It stated that technical, human and financial capacities exist; however, coordination, prioritization and systematization across all relevant sectors, governance levels and institutions are insufficient.

The response component of the disaster management system is well developed in Georgia. However, its engagement in international fora, including the United Nations Disaster Assessment and Coordination (UNDAC) teams, Environmental Emergency Response Network and International Search and Rescue Advisory Group (INSARAG) is limited.

CONCLUSIONS AND RECOMMENDATIONS

Chapter 1: Legal, policy and institutional framework

The Ministry of Environment and Natural Resources Protection's presence at the subnational level is limited to forest management and compliance assurance. Local self-governance authorities do not yet have the capacity to take over. A lack of clarity about their environmental responsibilities may be a factor. At the same time, there are municipalities actively involved in environment-related activities. The challenge is thus upscaling local-level engagement from a few pioneer municipalities to the entire country.

Even with a Ministry of Economy and Sustainable Development in place, the sustainable development agenda remains imperceptible on the government agenda and in terms of a wider policy dialogue with non-governmental stakeholders. With international processes on SDGs development entering their final phase, action on sustainability governance at the national level becomes urgent. Protracted efforts in the past to establish a National Council on Sustainable Development show that work on national SDGs requires a mechanism able to pull in all governmental and non-governmental stakeholders.

Recommendation 1.1:

The Government should clarify mandates regarding environmental governance and strengthen relevant cooperation mechanisms and capacity both horizontally and vertically by:

- (a) *Making sure that environmental and sustainable development issues are discussed by such coordination bodies as the Economic Council and the European Union Integration Commission;*
- (b) *Strengthening the Ministry of Economy and Sustainable Development to enable it to facilitate effective dialogue on green economy and sustainable development goals;*
- (c) *Assessing gaps in multi-level environmental governance and defining a clear action plan for enhancing the environmental management capacity of self-governance units;*
- (d) *Encouraging the Ministry of Environment and Natural Resources Protection to continue regular communication with subnational authorities and provide training.*

Recommendation 1.2:

The Ministry of Environment and Natural Resources Protection should continue its efforts under the association process with the European Union, by further implementation of the Road Map for the implementation of the European Union-Georgia Association Agreement in the fields of environment and climate action.

Modern environmental planning is taking root in Georgia. The second National Environmental Action Programme 2012–2016 outlines well the country's policy goals. The National Biodiversity Strategy and Action Plan of Georgia 2014–2020 can be used as a benchmark for exemplary environmental planning. The next milestone in the area of environmental management is making all aspects of public planning more environmentally friendly and integrated, and translating the principle of sustainable development into specific goals.

Recommendation 1.3

The Government should:

- (a) *Finalize nationalization of sustainable development goals, and make sure that future national development strategies put adequate focus on them as well as other environmental policy objectives;*
- (b) *Make strategic environmental assessment mandatory at all levels;*
- (c) *Integrate environmental and disaster risk management elements into spatial planning;*
- (d) *Enhance involvement of the Ministry of Environment and Natural Resources Protection in the development of sectoral policies and law-making.*

There is no single instrument of pollution prevention and control that works properly in Georgia, and there are persistent problems in EIA, permitting, compliance monitoring and enforcement. From the perspective of human health costs, but also of economic costs and opportunities more generally, this situation requires a comprehensive plan of action.

Recommendation 1.4:

The Government should improve the prevention and control of environmental degradation and pollution by:

- (a) *Fully aligning the scope and procedure of EIA and permitting with international practices;*
- (b) *Ensuring that the system of mandatory environmental insurance is effective, and reorienting the environmental liability regime towards rehabilitation of the environment;*
- (c) *Enhancing non-compliance detection through mandatory and more strictly enforced self-monitoring and self-reporting requirements, as well as more risk-based, technically focused inspections of facilities.*

Incentives for business actors to achieve compliance are meagre in Georgia. Environmental compliance is poor, voluntary action is asthenic, and understanding of gains related to cleaner production and resource efficiency is low. Dialogue with private sector actors on environmental matters has started.

Recommendation 1.5:

The Ministry of Environment and Natural Resources Protection should promote resource efficiency and cleaner production, green business development and voluntary environmental initiatives by:

- (a) *More systematically seeking the private sector's input into the development of environmental policies and the legal framework;*
- (b) *Promoting knowledge of environmental requirements and raising awareness among the private sector;*
- (c) *Encouraging companies to participate in international initiatives, e.g., Green Industry or the Global Reporting Initiative.*

Georgia has improved its capacity to collect, analyse and present data. Problems remain, though. They include insufficiently developed monitoring networks; limited data management infrastructure, especially a lack of relational databases that are critical for the future use of “big data”; and the modest degree of information disclosure and availability online. Thus, legislation, policy and practice regarding access to environmental information does not meet requirements of the country's obligations under the Aarhus Convention.

Recommendation 1.6:

The Ministry of Environment and Natural Resources Protection should improve environmental data analysis and disclosure and increase transparency of environmental decision-making more generally by:

- (a) *Continue making administrative information, such as environmental impact assessment reports, permits and licences, more transparent, clear and integrated;*
- (b) *Providing access to information on environmental regulation and compliance assurance activities, including penalties imposed by the courts;*
- (c) *Making inspection reports and annual reports publicly available;*
- (d) *Continuing efforts to optimize the monitoring network and further enhance capacity for data analysis;*
- (e) *Enhancing the use of environmental information in decision-making;*
- (f) *Fully aligning the legislation, policy and practice regarding access to environmental information with the international obligations of the country.*

Recommendation 1.7:

The National Statistics Office, together with the Ministry of Environment and Natural Resources Protection, should further improve environmental statistics, in particular through the application of the international System of Environmental-Economic Accounting and the revised United Nations Framework for the Development of Environment Statistics.

The Ministry of Environment and Natural Resources Protection established a NEAP 2012–2016, but there was no proper costing of the various envisaged measures, and there is hardly any information on its implementation. Overall government expenditures on environmental protection are low and insufficient to adequately address the major environmental problems in the country..

Recommendation 1.8:

The Ministry of Environment and Natural Resources Protection should prepare a draft national environmental action plan (NEAP) for 2017–2020 based on an assessment of the implementation of the NEAP 2012–2016, including the major obstacles encountered and the benefits realized.

Chapter 2: Economic instruments, environmental expenditures and investments for greening the economy

In Georgia, the management of environmental pollution does not rely on pollution charges to create economic incentives for reducing emissions of air and water pollutants to acceptable standards. Given the structural changes in the economy, the main preoccupation as regards air pollution is now the urban road transport sector. Excise duties on motor fuels, in combination with technical regulations, can be regarded as an instrument not only for reducing pollution associated with the use of motor vehicles but also to generate government revenue for financing the operation and maintenance of the road network. The excise duties applied in Georgia appear, however, to be rather low for creating such incentives. In a similar vein, the excise duty levied on imports of motor vehicles creates wrong incentives by favouring the purchase of older vehicles, which are, in general, more polluting than newer cars.

Recommendation 2.1:

The Government should:

- (a) *Consider reforming the system of excise duties on imported motor vehicles to eliminate the financial incentives for purchasing older vehicles;*
- (b) *Increase excise duty rates on motor fuels, including a surcharge to support improvement and maintenance of the road network.*

In the water sector, the control of water contamination remains a major challenge, which could be effectively and efficiently addressed by combining the use of pollution charges with stringent water pollution standards. Moreover, charges for use of water are not creating incentives for rational use of water resources. In fact, there are no payments of fees for surface water abstraction, which notably benefits the HPPs. The fees applied for groundwater abstraction are very low. Tariffs for irrigation water are not volumetric but per ha of irrigated land and even irrespective of the crops. Water supply and sewerage tariffs for households are quite low, reflecting a considerable cross-subsidy from the business sector. Water supply tariffs are not cost reflective and revenues allow only partial recovery of operating and maintenance costs. A very large proportion of households have no water meters installed and pay a flat fee per person, i.e. there are no incentives at all for water savings. The upshot of all of the above is that both the polluter-pays and user-pays principles are not satisfied in the water sector.

Recommendation 2.2:

The Government, or, where appropriate, GNERC, should take measures designed to ensure the effective and (environmentally and financially) sustainable management of water resources, including:

- (a) *Reintroduction of water pollution charges as part of a more effective policy mix for achieving stringent water quality standards;*
- (b) *Taking the necessary legal steps to introduce a system of payments for surface water abstraction for all user groups;*
- (c) *Ensuring that charge rates for groundwater and irrigation water provide incentives for the rational use of water resources;*
- (d) *Raising water supply and sewerage tariffs to levels that are cost reflective, taking into account issues of affordability for vulnerable persons;*
- (e) *Extending the water meter installation programme to all households.*

Recommendation 2.3:

The Government should implement a general metering programme for the use of irrigation water when upgrading the infrastructure of the irrigation sector.

Major efforts are under way for the upgrading of the municipal waste management sector. Charges for municipal waste services are regulated by local self-governments subject to maximum charge rates established in the 1998 Law on Local Fees, which is outdated. All households benefit from very low tariffs, given that local self-governments treat waste management as a kind of social policy. Waste charges are not cost reflective. Revenues from collection of waste bills are not retained by the municipal waste companies but allocated to the general municipal budget. This provides little incentive for waste companies to improve the efficiency of their operations and for households to minimize waste. Modern instruments for waste management such as a deposit-refund system, extended producer responsibility or a tax on plastic bags have not been applied yet.

Recommendation 2.4:

The Government, in cooperation with local authorities, should:

- (a) Gradually optimize waste tariffs to cost-reflective levels, taking into account affordability, while at the same time eliminating existing cross-subsidies between legal entities and private households;*
- (b) Improve collection rates for waste bills;*
- (c) Provide municipal waste companies with greater operational and financial autonomy based on annual performance contracts;*
- (d) Introduce modern waste management tools, e.g., deposit-refund systems.*

Use of natural resources requires a licence, which is sold in auctions organized by the Government. The corresponding revenue is tantamount to a natural resource use tax. This instrument is supplemented by a system of user charges – tantamount to a royalty – for the effective extraction of a given volume of natural resources. The question, however, is to what extent these instruments have allowed the Government to have a fair share in the natural resource rent accruing to the firms that are exploiting the natural resources. This depends on the degree of effective competition among bidders for licences and, notably in the case of a single auction participant, the setting of the starting price for such auctions.

There is, moreover, a risk of collusion among firms given that the “losers” are not restituted the financial deposit they had to make. Auctions for licences have notably been used for transferring long-term forest use rights to private investors in the assumption that this would ensure adequate forest management and forest use. But experience in Georgia shows that this is not automatic and, instead, an adequate governance and regulatory framework is required.

Recommendation 2.5:

The Government should:

- (a) Consider reviewing the system of auctions for the right to extract natural resources to ensure that competitive conditions maximize revenues for the State budget;*
- (b) Ensure that due account is taken of economic valuation criteria in the setting of opening prices for such auctions and the determination of user fees (royalties) for natural resource extraction;*
- (c) Support resource-exploiting enterprises in taking adequate measures to ensure that the external environmental costs of natural resource extraction are taken into consideration by the enterprise in its decision-making;*
- (d) Create an overall adequate governance and regulatory framework for natural resource extracting activities and ensure its enforcement.*

Chapter 3: Air protection

Transportation is the most important source of air pollution in Tbilisi. Due to heavy traffic, transportation causes local hotspots near busy roads. In several places, air quality standards are exceeded. Georgia used to have a system of yearly, mandatory technical inspection of all road-going vehicles. This system was abandoned

in 2004. Without a mandatory annual test of safety, roadworthiness and exhaust emissions, supported by relevant regulations, it is not possible to identify and then ban the most polluting vehicles from the road.

The most cost-effective measure to reduce emissions from transport is to prevent the use of vehicles with high emissions – the super polluters. In general, these are old vehicles, vehicles that need maintenance or vehicles that are operated in an improper way. Banning old vehicles would improve public health in densely populated areas such as city centres. Often the population is not aware of the relationship between pollution from road traffic and human health.

Recommendation 3.1:

The Government should:

- (a) *Reintroduce the mandatory annual test of the safety, roadworthiness and exhaust emissions of all vehicles, including an assessment of the emissions of each vehicle tested;*
- (b) *Introduce and enforce regulations to restrict the use of the most polluting vehicles in urban areas;*
- (c) *Regularly inform the population of the health effects of road transport pollution.*

To develop and implement environmental policy, especially on air protection, requires knowledge of environmental sciences and a lot of information. This knowledge base for air quality management is lacking but can be organized inside or outside the governmental structures.

Recommendation 3.2:

The Ministry of Environment and Natural Resources Protection should:

- (a) *Establish a mechanism for governmental institutions, academia and NGOs to share knowledge and information about air quality management;*
- (b) *Produce a yearly assessment report based on data on traffic, the vehicle fleet, fuel consumption, air quality monitoring and meteorology, as well as calculations from the air quality models used for Tbilisi and other cities in Georgia.*

The legislative framework is outdated and does not reflect modern approaches, such as BAT. The laws dealing with air protection provide only general legal norms and often are not sufficiently developed. Metallurgical plants, mines and quarries, chemical plants, cement plants and power stations can have a severe impact on public health and occupational health. The implementation of BAT might be combined with other activities to overhaul or upgrade the existing installations to reduce costs for the operators.

Recommendation 3.3:

The Ministry of Environment and Natural Resources Protection should encourage the implementation of best available techniques (BAT) for emission abatement.

Traffic data and data about the vehicle fleet would allow the development of effective and efficient measures to reduce air pollution levels in cities. The Ministry of Internal Affairs has information on registered vehicles (number, age and model). In addition, the Ministry of Economy and Sustainable Development maintains data on transport volumes and modalities. These data, however, are not combined to make calculations or estimates of emissions by road transport. However, detailed information, such as fuel type and engine size, is available only for vehicles that have been imported since 2008. More detailed information on traffic and vehicles can be used to calculate emissions from mobile sources based on datasets about different aspects of mobile transport.

Recommendation 3.4:

The Ministry of Internal Affairs, in cooperation with the Ministry of Environment and Natural Resources Protection, the Ministry of Economy and Sustainable Development, the Ministry of Infrastructure and the municipality of Tbilisi, should develop a shared information system for providing data on traffic, infrastructure, vehicle emissions and air quality, and should make those data available to all stakeholders.

The Department of Environment Impact Permit of the Ministry of Environment and Natural Resources Protection issues environmental permits for stationary sources, but without receiving feedback from the

Environmental Inspectorate, which is also a part of the Ministry. Although the Inspectorate does not have a formal position in the permitting process, it has relevant knowledge on enforcement of permits and on the use of environmental standards by industry. This knowledge would be useful when drafting, and ultimately issuing, permits.

Recommendation 3.5:

The Ministry of Environment and Natural Resources Protection should ensure that the Department of Environmental Supervision provides feedback to the Department of Environment Impact Permit on the enforcement of permits and the use of environmental standards by industry.

Chapter 4: Water management

Current water-related legislation practically does not provide for comprehensive and clear regulation of the water resources management. The absence of effective pollution prevention and water extraction control mechanisms is one of the major problems related to water resources in Georgia. There are no special permits for surface water abstraction and wastewater discharge. At present the Ministry of Environment and Natural Resources Protection is in the process of harmonization and approximation of the water legislation with that of EU. The draft of the new framework law on water resources was finalized by the end of 2014 and forwarded for inter-ministerial consultation.

Recommendation 4.1:

The Ministry of Environment and Natural Resources Protection should:

- (a) *Finalize the drafting of a new law on water resources management, taking into account the country's commitments to introducing European Union-relevant regulations, and submit the draft for adoption;*
- (b) *Develop by-laws regarding the quality criteria for surface water abstraction and wastewater discharge and re-establish the permit for these activities;*
- (c) *Strengthen capacity of the existing units responsible for water resources management and administrative supervision;*
- (d) *Establish basin management structures for defined river basin districts and ensure the coordination of actions for the development of river basin management plans.*

With government support and funding from donors, the monitoring network for surface water quality has improved from 41 points in 2009 to 69 points in 2014. The number of monitored parameters was increased to 33.

However all three existing laboratories of the National Environment Agency of the Ministry of Environment and Natural Resources Protection lack capacity and human resources. The scarcity of basic hydrological and surface and groundwater pollution data in Georgia does not allow drawing of a comprehensive picture of status of water bodies.

Recommendation 4.2:

The Ministry of Environment and Natural Resources Protection should:

- (a) *Continue expansion of the surface water and groundwater monitoring networks;*
- (b) *Strengthen the capacity of the National Environment Agency, providing it with adequate funding, training and equipment and a sufficient number of professional staff.*

Municipal wastewater remains a major polluter of surface waters in Georgia: on average, 70 per cent of the urban population is served by collection systems but only 26 per cent of wastewater is treated. Currently, sewage collection systems exist in only 41 towns and urban centers, most of the municipal wastewater treatment plants (WWTPs) constructed in 1990-s are inoperable.

Recommendation 4.3:

The Ministry of Infrastructure and Regional Development should:

- (a) *Assess the status of urban wastewater collection and treatment;*

- (b) *Prepare technical and investment programmes for the implementation of the urban wastewater treatment regulations, compatible with the relevant European Union directive, and allocate corresponding funds for that work in the budget.*

There are no contamination problems with phosphates and pesticides from agricultural activities. However, nitrogen compounds levels in the surface water bodies are above the norms set by the national legislation.

Recommendation 4.4:

The Ministry of Agriculture should develop action plans and codes of good agricultural practice for nitrate-vulnerable zones in accordance with the requirements of European Union Directive 91/676/EEC concerning the protection of waters against pollution caused by nitrates from agricultural sources.

Chapter 5: Waste management

Georgia has achieved progress in the management of municipal and radioactive waste. Management of industrial waste and investigation of historical waste did not improve since 2009. The critical step for further improvement of waste management is implementation of adopted waste legislation. Delays in adoption of these documents may cause a loss of the momentum gained through involvement of foreign donors in investing in waste infrastructure.

Recommendation 5.1:

The Ministry of Environment and Natural Resources Protection should continue implementation of the Waste Code through the adoption of by-laws on waste management, a national waste strategy and an action plan.

The lack of reliable information on waste generation and methods of treatment and disposal is a drawback in efforts to improve waste management in Georgia. Measures, decisions and national priorities cannot be defined unless quantitative information on waste management is available.

Recommendation 5.2:

The Ministry of Environment and Natural Resources Protection should implement a waste data information system based on the internationally recognized waste classification system.

The involvement of enterprises active in Georgia in improvement of their waste management practice is not sufficiently investigated. They may fear an increase in operation costs and international companies may benefit from lower waste management standards. There is no discussion with them to identify problems in the introduction of higher waste management standards.

Recommendation 5.3:

The Ministry of Economy and Sustainable Development in cooperation with the Ministry of Environment and Natural Resources Protection should develop a system of extended producer responsibility and enforce it on enterprises, associations of entrepreneurs and other key players.

The transformation of Georgian industries has resulted in deep structural changes and their impact on the environment is not known. Only a few hotspots have been identified. In addition, production practice may have resulted in environmental threats. Investigation and remediation of these sites will improve the quality of the environment in Georgia.

Recommendation 5.4:

The Ministry of Environment and Natural Resources Protection should:

- (a) *Conduct an inventory of hazardous waste hotspots and provide systematic monitoring and control of those hotspots;*
 (b) *Carry out a feasibility study for a hazardous waste depository.*

Chapter 6: Biodiversity and protected areas

A unified, well-equipped monitoring system using modern methodologies is lacking. By this is implied not only biodiversity monitoring, but monitoring of resource use by local communities in protected areas (e.g. wood-cutting, use of pasturelands), tourism development, cases of poaching and staff statistics. No regular monitoring of management efficiency of protected areas is carried out individually and at system level using an internationally practised evaluation approach.

Recommendation 6.1:

The Ministry of Environment and Natural Resources Protection should develop and maintain a unified, well-equipped biodiversity monitoring system that is in line with international practise with regard to evaluation approaches and indicators.

There is no protected area network yet developed in Georgia, and no spatial development plan in order to strengthen the existing protected areas and transform them into a network. With the establishment of an Emerald network, together with the designation of Ramsar sites, the identification and nomination of potential areas for inscription into the UNESCO World Heritage List and the Caucasus Ecoregional Conservation Plan, all elements are in place for establishing an interconnected protected area network, by applying national categories (I-VI) of PAs in order to have proper management body in place.

Recommendation 6.2:

The Ministry of Environment and Natural Resources Protection should develop and maintain a protected areas network.

Although Georgia is a party to all of the major legally binding agreements relevant to biodiversity conservation, it is not a Party of the Nagoya Protocol on Access and Benefit Sharing to the Convention on Biological Diversity, International Treaty on Plant Genetic Resources for Food and Agriculture.

Recommendation 6.3:

As soon as appropriate capacities for implementation are available, the Government should ratify:

- (a) *The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity,*
- (b) *The International Treaty on Plant Genetic Resources for Food and Agriculture.*

Chapter 7: Energy and environment

The Government is committed to the further development of renewable energy resources. The country has been developing HPP sites on a case-by-case basis, focusing on the benefits and costs of each site, rather than an optimal development framework. In the absence of a national energy strategy and strategic site allocation policy, serving as a long-term vision for the energy sector, it is difficult to verify why projects are needed from a national energy demand and supply point of view, why hydropower is selected as the source of energy and where the HPP dams are to be located.

A number of shortcomings in the national legal and institutional framework for environmental management weakens the soundness and sustainability of decisions being made with regard to enhancing the country's power generation infrastructure. Currently, national law in Georgia does not carry provisions for conducting SEA of national and regional development plans for different sectors of the economy, including the energy sector.

Recommendation 7.1:

The Government should finalize a national energy strategy in accordance with national priorities and carry out a strategic environmental assessment of the strategy.

Recommendation 7.2:

The Ministry of Energy should apply hydropower plant site selection criteria based on international best practices.

Recommendation 7.2:

The Ministry of Environment and Natural Resources Protection should consider application of the principles of the Hydropower Sustainability Assessment Protocol developed by the International Hydropower Association.

There are no national rules on the methodology for determining an acceptable minimal water flow (“environmental flow”) that shall remain in a river after water obstruction as a result of HPP development in order to sustain aquatic life and downstream ecosystems. In terms of resettlement, contracts and memoranda do not provide sufficient safeguards for citizens. The legislation does not address the issue of involuntary resettlement caused by infrastructure projects.

Recommendation 7.3:

The Government should:

- (a) *Develop national rules on the methodology for determining environmental flows;*
- (b) *Develop a resettlement policy framework.*

Geothermal waters are currently used in Georgia for district heating, fishpond heating, agricultural drying, industrial applications and greenhouse heating. The climatic conditions of Georgia are favourable for utilizing solar energy. The country has considerable potential biomass resources. However, the renewable power potential is not given priority at the moment. Currently, there are no legal acts or tax benefits supporting the development of alternative renewable sources of energy use in Georgia.

Recommendation 7.5:

The Government should consider the promotion of renewable sources of energy.

Chapter 8: Industry and environment

The economic development and impressive growth of the last decade saw positive steps taken towards economic liberalization and attracting foreign investment. Government’s reforms have led to the improvement of general “business enabling conditions”, with reduction of the administrative burden. Conversely, policies to protect the environment and natural resources were driven by excessive deregulation, aggravating the existing environmental pollution and unsustainable use of natural resources. Important economic instruments for environmental protection were abolished and funds to subsidize activities related to environmental friendly/green economy (e.g. energy and water savings, incentives for green business activities, eco-innovation) became scarce.

Today, Georgia does not have an industrial and mining sector policy or strategy in place to guide developments in these areas. Policies for greening the economy and promoting sustainable production and consumption, cleaner production and eco-innovation are lacking. This important policy gap hampers the development and implementation of measures towards more efficient and green industry. Also, transfer of know-how related to green industry is in its very early stages in Georgia.

Recommendation 8.1:

The Ministry of Economy and Sustainable Development, together with the Ministry of Environment and Natural Resources Protection, should:

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

In the past years, long-term environmental protection and sustainable use of natural resources were not properly ensured. The 2007 Law on Environmental Impact Permit defines the list of activities that must undergo mandatory environmental impact assessment.

However, polluting activities such as mining and the food industry are not included in the list. Also, according to the 2006 Law on State Support to Investments, a “preliminary licence” can be issued to a project developer, which does not require EIA prior to starting operations. Carrying out an EIA at a later stage of an ongoing project is less meaningful, as measures to avoid and reduce impacts were not previously considered, as well as the “no project” option.

Recommendation 8.2:

The Ministry of Environment and Natural Resources Protection, together with the Ministry of Economy and Sustainable Development, should revise the Law on Environmental Impact Permit and the Law on State Support to Investments in order to strengthen environmental requirements for licences and permits for industry and mining facilities.

At present, governmental agencies do not carry out screening and scoping of a project’s EIA, as the law does not require these phases. The lack of scoping would partially explain the generally low quality of EIA reports and the difficulties competent authorities may have in reviewing the assessments. Moreover, the time frame for reviewing an EIA report and issuing the environmental impact permit is too short and, therefore, not adequate for reliable review.

Georgia has not yet introduced IPPC permits for large industrial installations. There is still no guidance on how to assess BAT, record information on high-risk industrial installations and report on major industrial accidents. Environmental self-monitoring and self-reporting by industry are not mandatory and, therefore, not enforced. Also, a national PRTR is not yet in place. The establishment of this register would contribute to enhancing transparency and public participation in decision-making.

Recommendation 8.3:

The Ministry of Environment and Natural Resources Protection, together with the Ministry of Economy and Sustainable Development, should:

- (a) *Develop legislation on integrated pollution prevention and control;*
- (b) *Establish a system for recording information about high-risk industrial installations and for reporting on major industrial accidents;*
- (c) *Make the system of environmental self-monitoring and self-reporting by industry and mining mandatory;*
- (d) *Establish a national pollutant release and transfer register.*

Recommendation 8.4:

The Government should ratify the Protocol on Pollutant Release and Transfer Registers to the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters.

Currently, the scope of environmental inspections in industry and mining facilities to supervise compliance with environmental permits is not risk based. High-risk installations are not always a priority for inspections. Moreover, inspectors lack capacity and training, in particular concerning technical regulations and norms for high-risk installations, BAT and IPPC.

Recommendation 8.5:

The Ministry of Environment and Natural Resources Protection, together with the Ministry of Economy and Sustainable Development, should enhance capacity for environmental and technical inspections of industry and mining facilities.

The 2015 Waste Management Code represents a step forward in improving environmental and human health conditions throughout the country. Although this code will address waste prevention measures, environmentally sound treatment of waste (like recycling and extraction of secondary raw materials, energy recovery from waste, as well as safe disposal), introduce a waste permit system and establish mandatory waste monitoring for industries, it will not regulate mining wastes. This issue will continue to require special attention, as mining wastes represent a major environmental problem in Georgia. Complete information on the location, amount and composition of mining wastes is lacking, hampering efficient decision-making on this issue. Another important

issue related to industry concerns the lack of measures to compel manufacturers to design their products in an environmentally sound manner in order to reduce waste and environmental impacts. Extended producer responsibility is an efficient tool to move towards green industry.

Recommendation 8.6:

The Government should:

- (a) *Introduce extended producer responsibility measures by implementing legal obligations (e.g., compliance schemes, product standards, economic instruments (e.g. product charges), communication tools (e.g., eco-labelling or eco-marking)) and voluntary agreements;*
- (b) *Develop and adopt national legislation on the management of waste from extractive industries;*
- (c) *Carry out an inventory of closed mining waste facilities and abandoned mining waste sites.*

Chapter 9: Agriculture and environment

All land privatized and leased by the State will from now on be submitted to regular assessments, and further information can be collected during inspections and from regular monitoring activities. Furthermore, besides those supported by the institutional donor organizations, a number of projects supported by foreign funds have been developed in Georgia. They not only bring support to the Georgian rural population but are also a source of precious field information. If ever old data are rediscovered, they have to be saved and made available.

Recommendation 9.1:

The Ministry of Environment and Natural Resources Protection in cooperation with the Ministry of Agriculture should improve land resource management legislation and strengthen the capacity of the Land Resources Protection and Mineral Resources Service.

The Ministry of Agriculture has started with the rehabilitation of irrigation schemes of up to 200,000–220,000 ha. The rehabilitation of irrigation schemes in the eastern part of the country will result in an increasing demand for irrigation water and may become problematic because of the drier conditions: it may endanger plans for rehabilitation and enlargement of surfaces equipped for irrigation and pose a challenge for more environmentally friendly agricultural practices, as regarding soil salinity management and potential impacts from water pollution.

Recommendation 9.2:

The Ministry of Agriculture should:

- (a) *Implement measures to save water, such as repairing canals or encouraging a shift to more efficient drip irrigation, the use of crop varieties needing less water, or shifting to rain-fed dry farming systems for cereal production;*
- (b) *Support rehabilitation of existing and construction of new irrigation and drainage systems, taking into account water protection criteria in accordance with national and regional priorities.*

Chapter 10: Transport and environment

There is no overarching strategic policy document governing the development of all modes of transport, to ensure that the sector, and individual modes within it, develop in a coherent, efficient and sustainable way. Experience across countries and over time shows that the existence of a national strategy for sustainable transport is a prerequisite for achieving synergies, avoiding overlaps and implementing well-assessed national priorities in the pursuit of sustainable transport.

Recommendation 10.1:

The Government should adopt a national strategy on transport, integrating all modes of transport, with the achievement of sustainable transport as its main focus.

Georgia is not yet a party to UN transport agreements on the transport of dangerous goods and special cargoes, including perishable foodstuffs. Given the impact of accidents involving such cargoes on the environment and

human health, Georgia would strengthen its position as a transit country with its accession to such legal instruments. Furthermore, Georgia has not yet ratified the ECE agreement on periodical technical inspections, although it signed it in 1997, almost 20 years ago.

Recommendation 10.2:

The Government should accede to or ratify the following United Nations transport agreements, in order to improve the environmental performance of the transport sector and the country's competitiveness as a transit country:

- (a) *The 1997 Agreement concerning the Adoption of Uniform Conditions for Periodical Technical Inspections of Wheeled Vehicles and the Reciprocal Recognition of Such Inspections;*
- (b) *The 1957 European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), and the related Protocols;*
- (c) *The 1970 Agreement on the International Carriage of Perishable Foodstuffs and on the Special Equipment to be Used for such Carriage (ATP).*

Because of the specific circumstances affecting the vehicle fleet in Georgia, transport can be identified as the number one cause of environmental impacts on the quality of air in Tbilisi. The situation keeps getting worse due to the constant increase in vehicle numbers.

To reverse this trend and check the environmental impacts of the sector, drastic measures are needed in multiple directions affecting the efficiency of vehicles, travel and the transport system as a whole. Equally needed are regulations defining the technical characteristics of vehicles, to limit, for example, the use of right-hand-drive vehicles among the registered cars within Georgia.

Recommendation 10.3:

The Ministry of Economy and Sustainable Development, with a view to improving the situation concerning road vehicles, should:

- (a) *Reinstate mandatory inspections of roadworthiness and vehicle emissions and use these inspections to assess the presence of catalytic converters and unregulated retrofitting of vehicles to burn natural gas;*
- (b) *Consider regularizing retrofitting for conversion of cars to natural gas by setting up safety regulations and certification schemes for qualified technicians;*
- (c) *Adopt emission standards for vehicles and technical specifications;*
- (d) *Together with the environmental authorities, tighten fuel quality standards, especially vis-à-vis the sulphur content of liquid fuel;*
- (e) *Adopt regulations defining the technical characteristics of vehicles, inter alia, to limit the use of right-hand-drive vehicles that has risen considerably in recent years;*
- (f) *Make car insurance obligatory.*

Official statistics show a potential deterioration in road safety in Georgia. Current statistics may underreport fatalities and injuries while not offering adequately detailed information as to the causes of accidents. Given the gaps in the existing legal and institutional framework of ensuring the roadworthiness of vehicles, because of the absence of compulsory vehicle inspections, statistics on road safety do not reflect the sources of accidents in order to sensitize public opinion and mobilize political actors to reinforce the roadworthiness inspections regime in the country.

Recommendation 10.4:

The Ministry of Internal Affairs should improve statistics on road accidents and their causes, while taking active measures, including training of drivers and information campaigns, to raise awareness of the need to improve the country's road safety record.

Despite improvements in the urban transport performance of Tbilisi, it is necessary to further develop solutions to improve the traffic situation and mitigate the negative environmental, health, economic and social impacts of motorized transport, for example through the deployment of Intelligent Transport Systems (ITS) solutions. Electrified transport in the form of trolleybuses and trams has been discontinued, despite the fact that these are

some of the more economical and ecological means of transport (producing fewer emissions and less noise than fuel combustion). As recent policy studies and empirical evidence have shown, the promotion of active (i.e. non-motorized) mobility for passengers is a source of considerable benefits in that direction.

Recommendation 10.5:

The Ministry of Economy and Sustainable Development, in cooperation with the municipalities of Tbilisi and other big cities, should:

- (a) *Consider the deployment of Intelligent Transport Systems solutions in order to improve traffic demand management and mitigate the negative externalities caused by urban transport;*
- (b) *Promote active (non-motorized) mobility in the cities and assess the possible benefits of such a transformation.*

Recommendation 10.6:

The Government should introduce supportive policies to promote the development of electrified transportation.

Chapter 11: Forestry and environment

Available data and estimations on the status of Georgia forests are incomplete and often based on a sample of inventory and satellite images for limited periods of time. The forest inventory dates back to 1997 and partial updates have only recently been initiated through temporary ground plots. Implementation of sustainable and multipurpose forest management principles and practices requires its urgent update, as well as the introduction of an effective categorization and monitoring system of sensitive forest stands and of forests with exploitable timber resources.

Forest management plans for conservation or production have not been developed for a long time, with only few exceptions, and are based on outdated and unreliable data. This undermines the effectiveness of forest monitoring and inspection activities, to be conducted through field visits or audits to verify performance against an updated forest inventory and defined management goals. At present, no forests in Georgia are certified with published standards and under an independently verified forest certification scheme such as FSC or PEFC.

Recommendation 11.1:

The Ministry of Environment and Natural Resources Protection should:

- (a) *Carry out an inventory for the State Forest Fund;*
- (b) *Ensure the development of forest management plans for production and conservation based on the new forest inventory, including mechanisms for involving local communities;*
- (c) *Develop a categorization of sensitive forest stands and of forests with exploitable timber resources and implement an effective forests monitoring system;*
- (d) *Promote incentive mechanisms for the sustainable use of forest areas by forest licence holders.*

The Forest Code dates back to 1999. The latest amendments were passed in 2010 and in 2011 a Law on Forest Fund Management was adopted. Thereafter, attempts have been undertaken to develop a new forest code, which have not yet produced results. Furthermore, the current primary and secondary legislation does not correspond to principles of sustainable forest management; the legislation is contradictory and contains loopholes that provide the ground for illegal logging and forest crimes.

Recommendation 11.2:

The Ministry of Environment and Natural Resources Protection should develop a national forest code and harmonize relevant related primary and secondary forest legislation accordingly.

The adoption of the National Forest Concept in 2013, the first forest policy document for the country, marks a step forward. The Concept recognizes the strategic role of this natural resource, defines the relation of the State with forests, and aims at establishing a system of sustainable forest management. The actual implementation of the identified principles, directions and actions now requires the development of an action plan for sustainable forest management, through strong institutional coordination and wide stakeholder consultation.

Recommendation 11.3:

The Ministry of Environment and Natural Resources Protection should develop a national forest management action plan, with criteria, budget, implementing entities, potential financial sources and indicators for sustainable management of forest resources, along with forest-level operational guidelines.

Sustainable use of forest resources in a green economy requires a clear assessment of their economic, social and environmental value. Forests shall be managed in such a way that ensures maintenance of their ecological services and maximum benefits to society. At present, the economic potential of forests is neither fully nor efficiently used. There is large scope for development of the country's forestry sector in terms of timber harvesting on a sustainable basis, and wood and non-wood products processing for both domestic consumption and international trade. The potential of forests for touristic and recreational purposes should also be properly assessed.

Recommendation 11.4:

The Ministry of Environment and Natural Resources Protection, in collaboration with the Ministry of Economy and Sustainable Development, should conduct an evaluation of the environmental, economic and social potential of the country's forestry sector.

In Georgia, in the period after independence, demand for forestry skills fell massively and, as a result, many qualified people left the sector. Measures to reverse this trend have been taken over the last few years, including with the assistance of the donor community, but they will take some years to produce results and are considered to be still insufficient.

Recommendation 11.5:

The Ministry of Environment and Natural Resources Protection, in cooperation with the Ministry of Education and Science, should strengthen education, training and awareness-raising on sustainable forest management at both the central and local levels, including for local communities, by:

- (a) *Identifying education and professional requirements for forest personnel;*
- (b) *Developing education programmes at the university level and targeted training curricula;*
- (c) *Strengthening relevant awareness-raising and communication activities targeting the general public and all key stakeholders, in particular local communities;*
- (d) *Coordinating awareness-raising and capacity-building projects for the forestry sector funded by non-governmental sources (i.e., donors).*

Chapter 12: Tourism and environment

Information is not available on the pressures that tourism puts on the environment in Georgia. Neither data nor estimates are available on the pressures that tourism puts on water resources and air in Georgia, nor of the volume of GHG emissions from the Georgian tourism sector. The 2009 Second National Communication of Georgia to the UNFCCC does not contain any specific data on the tourism sector. Data on municipal waste generated by the tourism sector are hidden within the total data on municipal waste generated in the country.

Recommendation 12.1:

The National Statistics Office, together with the Georgian National Tourism Administration and in cooperation with the Ministry of Environment and Natural Resources Protection, should ensure regular environment-related data collection on the tourism sector.

Recommendation 12.2:

The Ministry of Environment and Natural Resources Protection, together with the Georgian National Tourism Administration and in cooperation with the National Statistics Office, should undertake an assessment of the impact of the tourism sector on the environment.

In 2014, the Georgian National Tourism Administration started working on the national tourism strategy until 2015. The strategy outlines the vision of the tourism industry in the country until 2025 and identifies key issues, barriers and solutions for development of the field. The strategy will also include a five-year action plan, which will present the responsibilities of the governmental institutions involved. It is expected that the final version of

the strategy will be available by end of June 2015. In 2014, the Agency of Protected Areas and the Ministry of Environment and Natural Resources Protection decided to prepare a strategy for tourism development in protected areas.

Recommendation 12.3:

The Government should promote sustainable tourism development and consider the elaboration of a sustainable tourism development strategy.

Chapter 13: Health and environment

Since 2003, the health surveillance information system in Georgia of reporting and notification of incidents and outbreaks of infectious diseases has been improved. Each year the Ministry of Labour, Health and Social Affairs publishes the Health Care Statistical Yearbook, giving an overview of health status of the country. However, no investigation is performed to link these health data with environmental factors. In order to define priorities and strategy depending on public health issues, a better understanding of the impact of environmental factors on health and the definition of key environmental factors in Georgia are a prerequisite.

Several research studies and a lot of monitoring data for environmental factors or health status are available, but they are not exploited when an environmental health issue arises. Several tools, such as monitoring, a communication centre and research, are available, but they are not used for developing environmental health diagnosis and policy.

Georgia does not have a strategy, programme or plan on environmental health. A national environmental health action plan (NEHAP) for Georgia was developed for the period 1998–2003 in order to reduce environmental pollution and the population's exposure to each environmental medium and source of pollution. However, this key document for environmental health was suspended and never implemented. In parallel, a health and environmental information system could be developed in order to monitor environmental health effects.

The elaboration of the environmental health strategy requires a multidisciplinary approach. The aim is to understand the impact of environmental factors on health, to monitor these factors and health status, to reduce and control them, and to inform the population about them. Indeed, the objectives are to reduce population exposure by reducing pollutant emissions, to take preventive actions with the population in order to modify their habits, and to have an urban development strategy that takes environmental factors into account.

Recommendation 13.1:

The Ministry of Labour, Health and Social Affairs, in cooperation with other relevant governmental bodies, should:

- (a) *Carry out an assessment of environmental health;*
- (b) *Draft a strategy on environmental health;*
- (c) *Draft a national health action plan and ensure its consistency with the National Environmental Action Programme;*
- (d) *Draft a children's environment and health action plan.*

Air pollution takes place in Zestafoni and transport pollution in big cities. Outdoor air quality is monitored in eight places in the country. At this stage, only monthly reports on air quality is delivered to the population. However, from 2016, after improvement of monitoring network, it is planned to provide online information on air quality in order to prevent and limit population exposure.

Indoor air quality is an important health determinant as time spent at home is not negligible, and fragile persons (babies, children and old persons) are the most exposed. No data are available on indoor air pollution, while several factors (e.g. asbestos, radon, carbon monoxide emission) can presumably be present in households and have impact on human health. With the implementation of the cancer register, it is expected that data on mesothelium and other cancers linked to asbestos exposure will be available.

Recommendation 13.2:

The Ministry of Labour, Health and Social Affairs should:

- (a) *Study the impact on health of air pollution exposure;*
- (b) *Develop actions to reduce the population's exposure to air pollution;*
- (c) *Carry out a study on asbestos exposure and develop legislation and construction guidelines;*
- (d) *Inform the population about the health impact from air pollution and preventive actions.*

Water quality has improved in big cities and monitoring is carried out by companies. However, there is a big contrast between urban and rural areas in drinking water quality. In rural areas of Georgia, the quality of small-scale water supplies is rarely or never monitored. Bacterial contaminations of the water source and drinking water are frequent in rural areas.

The number of samples analysed from the state's drinking water quality monitoring is low (around 400 samples per year), relative to the size of the population. In big cities, companies performed analysis but the state agency has no power to control them. The lack of monitoring of recreational water quality is also underlined.

Recommendation 13.3:

The Ministry of Agriculture should:

- (a) *Improve monitoring of drinking water quality, especially in rural areas;*
- (b) *Draft legislation for the control of drinking water quality.*

Occupational health is a public health issue and environmental exposure of workers (e.g. to manganese, asbestos, lead and chemicals) is one of its aspects. Except for specific studies, in Georgia there is no information on occupational exposure to the main factors in the working environment or on work-related injuries and traumatism.

Occupational health monitoring has to be performed and specific databases have to be built. For environmental exposure, the first step is to limit pollutant emission and exposure by implementing industrial processes and the wearing of protective clothing. In parallel, neither preventive actions on occupational hazards nor medical monitoring are performed on workers. These actions would enable preventive diagnosis and better understanding of damage to health in relation to work.

Recommendation 13.4:

The Ministry of Environment and Natural Resources Protection should develop a system for monitoring recreational water quality.

Recommendation 13.5:

The Ministry of Labour, Health and Social Affairs should:

- (a) *Establish a database on work-related injuries, traumatism and disease;*
- (b) *Develop actions on improving working conditions and minimizing risk factors.*

Georgia does not participate in any of the ILO environmental health conventions, such as 1960 Convention concerning the Protection of Workers against Ionising Radiations (ILO 115), 1971 Convention concerning Protection against Hazards of Poisoning Arising from Benzene (ILO 136), 1974 Convention concerning Prevention and Control of Occupational Hazards caused by Carcinogenic Substances and Agents (ILO 139), 1977 Convention concerning the Protection of Workers against Occupational Hazards in the Working Environment Due to Air Pollution, Noise and Vibration (ILO 148), 1981 Convention concerning Occupational Safety and Health and the Working Environment (ILO 155), 1986 Convention concerning Safety in the Use of Asbestos (ILO 162); 1990 Convention concerning Safety in the use of Chemicals at Work (ILO 170).

Recommendation 13.5:

The Ministry of Labour, Health and Social Affairs should initiate accession to the ILO conventions dedicated to the prevention and control of occupational hazards caused by hazardous substances.

Chapter 14: Risk management of natural and echnological/anthropogenic hazards

Georgia has started to embrace the notions of DRR and disaster risk management and a noticeable shift is taking place from a “response-only” to a more integrated approach to DRR, covering preparedness and prevention, for example as demonstrated in the 2014 Law on Civil Safety, among others. In particular, the country’s external partners have been playing an important role in supporting strategies and plans, as well as local-level projects, such as the removal or securing of legacy waste sites. The number of assessments and studies related to DRR and disaster risk assessment has resulted in a long list of recommendations, most of which have yet to be implemented.

DRR and disaster risk management activities are generally based on a multi-hazard risk identification, analysis and evaluation. Attention has primarily been focusing on natural hazards and a number of “blind spots” still exist, in particular relating to risks associated with man-made disasters, including industrial accidents, large dam failure, legacy waste, transport accidents and oil spills on land and at sea.

Recommendation 14.1:

The State Security and Crisis Management Council should coordinate a national multi-hazard risk identification and assessment exercise to serve as a basis for the collective prioritization of disaster risk reduction and disaster risk management activities and updating the new national threat assessment document.

An industrial hazard identification covering the Industrial Accidents Convention or the Seveso Directive has not been carried out. The amended Annex I to the Industrial Accidents Convention covering hazardous activities (to enter into force in December 2015) has been fully aligned with Annex I of the Seveso III Directive. In the absence of a legal framework identifying hazardous substances and activities, existing tools, such as the Flash Environmental Assessment Tool (FEAT) and Awareness and Preparedness for Emergencies at Local Level (APELL), can be applied with a minimum of cost and effort to support industrial hazard identification, followed by site-specific preparedness programmes.

Recommendation 14.2:

The Ministry of Environment and Natural Resources Protection should undertake the identification and mapping of hazardous activities.

Existing tools for environmental policy-making, in particular EIA and environmental permitting, provide an opportunity to address not only environmental pollution but also industrial hazards. Specific risk reduction measures are not included in the permits.

Recommendation 14.3:

The Ministry of Environment and Natural Resources Protection should ensure that site-specific risk reduction measures are included in the EIA and environmental permits.

The response component of the disaster management system is well developed in Georgia. However, its engagement in international fora, including the United Nations Disaster Assessment and Coordination (UNDAC) teams, Environmental Emergency Response Network and International Search and Rescue Advisory Group (INSARAG) is limited.

Recommendation 14.4:

The Government should initiate the process of joining key international response networks, such as the United Nations Disaster Assessment and Coordination teams, the Environmental Emergency Response Network and the International Search and Rescue Advisory Group.

The following recommendation from the previous EPR remains valid.

Georgia has expressed the intention to accede the Convention on the Transboundary Effects of Industrial Accidents and has already started reporting under the framework of the Convention. However, the identification of industrial facilities that would fall within the scope of the Convention was not carried out.

Recommendation 14.5:

As soon as appropriate capacities for implementation are available, and pursuant to the Partnership and Cooperation Agreement with the European Union, the Government should ratify the Convention on the Transboundary Effects of Industrial Accidents.

IMPLEMENTATION OF THE RECOMMENDATIONS IN THE SECOND ENVIRONMENTAL PERFORMANCE REVIEW¹

PART I: POLICYMAKING, PLANNING AND IMPLEMENTATION

Chapter 1: Policymaking framework for environmental protection and sustainable development

Recommendation 1.1:

The Ministry of Environment Protection and Natural Resources, in further developing the Environmental Code, should:

- (a) *Ensure that the Code includes adequate provisions for public participation in accordance with national and international obligations;*
- (b) *Ensure that broad support for the draft Environmental Code is being established during its drafting phase, through engaging civil society and involving other ministries as well as members of the Cabinet of Ministers in order to increase the possibility of its adoption and subsequent implementation;*
- (c) *Continue to work on parallel tracks to ensure that existing gaps in sectoral environmental legislation are adequately addressed.*

The recommendation has not been implemented.

Recommendation 1.2:

The Government, under the leadership of the Prime Minister and the direction of the National Commission on Sustainable Development, should, as a matter of urgency:

- (a) *Develop and adopt a national sustainable development strategy, taking into consideration international good practices and making use of opportunities for public participation in the strategy's formulation;*
- (b) *Ensure the strategy's effective implementation through the development of the necessary instruments at national level and the allocation of adequate financial resources.*

The recommendation has not been implemented.

Recommendation 1.3:

The Ministry of Environment Protection and Natural Resources should:

- (a) *Evaluate shortcomings in the implementation of past programmes and strategies;*
- (b) *Based on these evaluations, finalize through interministerial and public consultations the second National Environmental Action Plan (NEAP), with a linkage to the budgetary planning system, and submit it to the Government for adoption*
- (c) *Make available the resulting documents to the public, while making every effort to identify and address possible information gaps that existed in the past.*

Recommendation 1.4:

The Government should:

- (a) *Adopt with utmost urgency the second NEAP, following its finalization by MEPNR, and*
- (b) *Establish formal procedures for the development and adoption of the national, regional, local and/or sectoral strategies, plans or programmes. The Government should take both environmental and natural resources considerations into account, as appropriate, when developing strategies and programmes.*

The implementation of recommendations 1.3 and 1.4 is ongoing. The attempt by the Ministry of Environment and Natural Resources Protection to develop the NEAP-2 for the years 2008–2012 failed. So another attempt to develop the NEAP-2 covering the period 2012–2016 started in 2010 and was finalized in 2012. The process was

¹ The second review of Georgia was carried out in 2010. During the third review, progress in the implementation of the recommendations in the second review was assessed by the EPR Team based on information provided by the country.

coordinated by the Ministry of Environment and Natural Resources Protection. The preparation of the NEAP-2 was conducted with full transparency and the participation of stakeholders. All line ministries, scientific and NGOs, as well as other interested parties, were involved in the preparatory process. Overall, both in terms of process organization and its outcome, NEAP-2 development has been well aligned with good international practice. The development of NEAP-3 has started in 2015. The NEAP-3 is expected to be adopted in 2016.

1.4 (b) Through the help of UNDP the Ministry reviewed the NEAP-2 and its implementation progress and developed “Rules of the Development of NEAP” with clear procedures, methodology and guidelines for the NEAP elaboration process in Georgia to serve as a basis for the NEAP-3. In addition UNDP conducted specialized training in strategic planning, and introducing tools and methodologies for the elaboration of strategic policy documents for the staff of the Ministry to strengthen capacities of the MENRP.

Recommendation 1.5:

The Ministry of Environment Protection and Natural Resources should:

- (a) *Accelerate the process of adoption of legislation on biosafety at the national level;*
- (b) *Strengthen those institutions that will be responsible for the effective functioning of the biosafety system in Georgia.*

(a) The Law on Living Modified Organisms was adopted in 2014.

(b) Institutions responsible for the biosafety are determined by the Law on Living Modified Organisms: Revenue Service is responsible for border control. In order to control introduction of genetically modified organisms into environment, special unit was created in the Department of Environmental Supervision under MENRP. Biodiversity Service under the MENRP is responsible for elaboration and implementation of biosafety policy.

* * * * *

EPR 1 - Recommendation 1.1:

The Ministry of Environment and Natural Resources Protection and other relevant ministries, in attempting to converge their legislation with EU directives, should adapt the objectives and standards to national legal practice.

To follow best European experience in the legal regulation of environmental protection, drafters of national laws may also borrow mechanisms or procedures from EU directives or other legislative acts and adapt them to the country’s legal system.

The recommendation is implemented. The EU Association Agreement was signed in 2014. A Roadmap for EU approximation in the environmental and climate action fields was finalized in 2015. A government-wide monitoring framework was established. The Government adopts annual national action plans for the implementation of the Association Agreement, and Deep and Comprehensive Free Trade Area.

Through EU Twinning project or other technical assistance projects, Georgia drafted laws on, for example, waste management, water resources management, air protection, biodiversity, EIA/SEA, and forest law using mechanisms or procedures from EU directives or other legislative acts.

EPR 1 - Recommendation 1.2:

The Ministry of Environment and Natural Resources Protection and other relevant State bodies should:

- (a) *Prepare the necessary regulations and other appropriate instruments for government decision or adoption;*
- (b) *Amend existing laws that do not conform to the appropriate criteria.*

The recommendation is implemented (see implementation EPR 1 - Recommendation 1.1).

EPR 1 - Recommendation 1.3:

The Ministry of Environment and Natural Resources Protection should:

- (b) *Redraft the Law on Environmental Permit and streamline permit issuing procedures to ensure that only one environment-related permit is required. In this regard, the respective provisions of the Law on Water and the Law on Ambient Air Protection should be harmonized with the Law on Environmental Permits.*

The recommendation has not been implemented.

EPR 1 - Recommendation 1.4:

- (a) *The Ministry of Environment and Natural Resources Protection should develop detailed regulations for conducting State ecological expertise and environmental impact assessment that would provide for the comprehensive assessment of all impacts, including long-term, cumulative and transboundary effects. The requirements for scoping as an integral part of the EIA procedure should be introduced too;*
- (b) *The Government is encouraged not to approve projects subject to EIA before the assessment and the State ecological expertise have been completed and the environmental permit issued by the Ministry of Environment and Natural Resources Protection, as stipulated in the law.*

The implementation of the EPR 1 - Recommendation 1.4 is on-going. In 2014, the Ministry of Environment and Natural Resources Protection started to develop a new law on environmental impact permitting. This law includes provisions for the mandatory use of strategic environmental assessment (SEA) for plans and programmes. It will transpose into the national legislation the requirements of the Protocol on Strategic Environmental Assessment to the Espoo Convention on Environmental Impact Assessment in a Transboundary Context, and relevant EU legislation. The draft law is planned to be submitted to the Parliament for approval in 2016.

EPR 1 - Recommendation 1.5:

- (b) *The Ministry of Environment and Natural Resources Protection should establish an environmental State inspectorate with full inspection powers for environmental enforcement. Companies should also be encouraged to carry out self-monitoring and reporting, as is now required in the Law on Ambient Air Protection. To support self-monitoring, the Ministry of Environment and Natural Resources Protection should encourage the establishment of accredited laboratories and accrediting agents.*

In May 2013, the Department of Environmental Supervision was established and granted the authority to exercise state control over the use of natural resources.

A unified electronic system of data management is being developed in the Ministry of Environment and Natural Resources Protection for the purpose of supporting companies to establish self-monitoring and accounting systems (a working group is established), which will enable entrepreneurs and companies, using the “one window” principle, to present self-monitoring results and reports.

Chapter 2: Compliance and enforcement mechanisms

Recommendation 2.1:

In order to guarantee the effective implementation of EIA:

- a) *The Government should propose to the Parliament the necessary changes in the Law on Licenses and Permits, the Law on State Support to Investments and the Law on Environmental Impact Permit in terms of expanding the scope of the activities subject to EIA and increasing the time for the environmental authorities to review the EIA report and prepare the conclusion of the EE;*
- b) *The Ministry of Environment Protection and Natural Resources should elaborate further provisions for screening as an integral part of the EIA process concerning the activities that are beyond the scope of mandatory EIA;*
- c) *The Ministry of Environment Protection and Natural Resources should elaborate further provisions to introduce EIA into a transboundary context.*

The implementation of the recommendation 2.1 is on-going (See implementation of EPR 1 - Recommendation 1.4).

Recommendation 2.2:

The Ministry of Environment Protection and Natural Resources should develop the necessary legal provisions in order to introduce the strategic environmental assessment into the national legislation as soon as possible and should submit the draft legislation to the Government and the Parliament for adoption.

The implementation of the recommendation 2.2 is on-going (See implementation of EPR 1 - Recommendation 1.4).

Recommendation 2.3:

The Ministry of Environment Protection and Natural Resources should:

- a) Differentiate environmental permitting approaches and procedures used for large industry and small and medium-sized enterprises;*
- b) Introduce a system for activities not subject to integrated permits to regulate air emissions, wastewater discharges and waste releases and water abstractions;*
- c) Formulate permit conditions more precisely, with a possibility of reviewing them whenever changes are introduced into processes, production volumes or regulatory requirements;*
- d) Introduce gradually the integrated permitting system, based on the concept of “best available techniques”;*
- e) Undertake the necessary steps to return the Environmental Monitoring Laboratory for Radiation Safety to its jurisdiction in order to exercise effective and complete control over the implementation of the licenses and permits issued for nuclear and radiation activities;*

The implementation of the recommendation 2.3 is on-going (See implementation of EPR 1 - Recommendation 1.4).

Recommendation 2.4:

The Ministry of Environment Protection and Natural Resources should:

- a) Implement fully the Strategy of Environmental Compliance Assurance. Special attention should be paid to the preparation of the guidelines on carrying out site visits and drawing up inspection reports as well as to the preparation of guidelines on the inventory of the regulated community;*
- b) Organize regular training of environmental inspectors to strengthen the capacity of the Environmental Inspectorate and its territorial bodies and guarantee uniformity of the compliance assurance and enforcement.*

(a) This part of the recommendation is not valid.

(b) The Legal Entity of Public Law Environmental Information and Education Centre was established under the Ministry in May, 2013. The Centre prepares training modules and organizes tailored training. In 2013, four modules were developed by the Centre on the priority topics defined by the Division of Environmental Policy and training of trainers was conducted. In addition, 12 staff of the Division were trained as trainers. In 2014, 15 inspectors were trained in the inspection procedures based on the module developed by the Centre.

Chapter 3: Information, public participation and education

Recommendation 3.1:

The Ministry of Environment Protection and Natural Resources should develop proposals, with relevant budgets and time schedules, for submission to the Government for approval:

- (a) To enlarge the ambient environmental monitoring networks to meet the requirements of existing monitoring regulations;*
- (b) To increase the number of parameters measured, in particular, PM_{2.5} and PM₁₀, VOCs, PAH and POPs in ambient air and biological parameters at all water monitoring posts;*
- (c) To switch, step by step, to automatic measurement, and improve data quality control and storage procedures;*
- (d) To establish an environmental database at the National Environmental Agency that is easy for use and accessible to the public.*

In 2012, the first automatic monitoring station was installed in Tbilisi at Vashlijvari meteorological station, where measurements of PM₁₀ and PM_{2.5} are conducted.

Recommendation 3.2:

In cooperation with MEPNR, the Ministry of Labour, Health and Social Affairs, the Ministry of Agriculture and other relevant public authorities, the Ministry of Economic Development should prepare proposals with time frames and proposed budgets for submission to the Government for approval, on urgently restoring and improving the collection and publication of statistical data on the environment. Recommendations from the ECE Guidelines for the Application of Environmental Indicators in Eastern Europe, Caucasus and Central Asia that were endorsed at the Belgrade (2007) Ministerial Conference “Environment for Europe” should be used in this process.

In January 2014, the Ministry of Environment and Natural Resources Protection and the National Statistics Office signed a Memorandum of Understanding (MoU) for better inter-institutional cooperation within the country. In particular, this document intends to optimize the work around the collection and dissemination of environmental data, a process that is still weak in the country. The MoU aims to improve the statistical information on environmental protection, improve the quality and accessibility of environmental data that will facilitate information exchange and dissemination of environmental statistics at the national and international levels, and, on the other hand, improve the process of preparation of the national accounts and other aggregate indicators.

Recommendation 3.3:

In drafting a revised presidential decree on the rules for the preparation of state-of-the-environment reports, the Ministry of Environment Protection and Natural Resources should follow the ECE Guidelines for the Preparation of Indicator-Based Environment Assessment Reports and ensure that the reports are reader-friendly and accessible to the public. In between the publications of the report, MEPNR should publish topical environmental reports including reports on environmental pollution.

In 2010, the “National Report on the State of Environment of Georgia in 2007–2009” was elaborated, and it was approved on 9 December 2011. The Report was prepared and published in the Georgian and English languages. The Report is available on the official web page of the Ministry. No State of Environment report has been elaborated since 2010.

Recommendation 3.4:

To ensure full compliance of Georgia with the requirements of the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention), the Ministry of Environment Protection and Natural Resources should develop, in cooperation with the representatives of the civil society, draft amendments to:

- (a) The Law on Licenses and Permits, for submission to the Government for approval and subsequent submission to the Parliament for adoption;*
- (b) The Governmental Decree on Approval of Provision on Procedure and Conditions of Granting Environmental Impact Permit, for submission to the Government for approval.*

The implementation of the recommendation 3.4 is on-going (See implementation of EPR 1 - Recommendation 1.4). The new law will ensure better compliance with the Aarhus Convention.

Recommendation 3.5:

The Ministry of Education and Science, in cooperation with the Ministry of Environment Protection and Natural Resources and other stakeholders, including NGOs and the mass media, should finalize, without delay, the National Strategy on Education for Sustainable Development and develop an action plan for the implementation of the ECE Strategy on Education for Sustainable Development. It should also establish a Coordinating Council on Environmental Education and Education for Sustainable Development, involving all stakeholders, to make it an effective instrument for the promotion of the Strategy implementation.

In 2012, the Government adopted the Environmental Education for Sustainable Development: Georgian National Strategy and Action Plan for the period 2012–2014, which is the basic strategic document for the implementation of the principles of education for sustainable development (ESD) at the national level in Georgia. The document was prepared by the Ministry of Environment and Natural Resources Protection in cooperation with the Ministry of Education and Science. The elaboration process of the Strategy and Action Plan involved the engagement of all stakeholders, including NGOs, educational institutions, teachers, decision-

makers, the media, and local and international experts. Public hearings and discussions were held at different levels of the elaboration process.

One of the key milestones in ESD implementation was establishment of the Environmental Information and Education Centre in 2013, which coordinates ESD activities in the country. To implement the Strategy and Action Plan, the Centre established an inter-agency coordination unit consisting of representatives of the Ministry of Education and Science, Ministry of Sport and Youth Affairs, Ministry of Environment and Natural Resources Protection, universities, NGOs and international organizations. The Centre initiated research that would give an overview of the education system in relation to environmental education and, at some point, ESD. The research report will be available in September 2014 and will serve as a road map for the planning of further activities of the Centre to promote environmental education in formal and non-formal education.

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EPR 1 - Recommendation 3.1:

(a) The Government should adopt the programme on monitoring drawn up by the Ministry of Environment and Natural Resources Protection and other institutions and should provide funding to carry it out. Monitoring of industrial hot spots and high-polluting facilities should be included in this programme as a matter of priority;

(b) After adoption, the Ministry of Environment and Natural Resources Protection and relevant institutions should harmonize the environmental norms and standards with international norms and standards, and should set up an appropriate system for environmental monitoring.

(a) The recommendation has been partially implemented. Annually, the National Environmental Agency (NEA) develops a Surface Water Quality Monitoring Programme (Annual Plan), which defines fixed sampling points, frequency of sampling and sampling parameters. The Programme is presented to the Ministry of Environment and Natural Resources Protection for review and comments, after which it is adopted by Order of the Head of the NEA. The NEA's Environmental Pollution Monitoring Department is responsible for the implementation of the Plan. There is a tendency of increasing the number of sampling points during recent years. Some industrial hotspots and high-polluting facilities are also included in the Plan.

(b) The recommendation has not been implemented.

EPR 1 - Recommendation 3.2:

The Ministry of Environment and Natural Resources Protection should:

(a) Prepare an amendment to the Law on Environmental Permits to extend the 45-day time frame for public participation;

(b) Improve the exchange and dissemination of all information relevant to the permit procedure, including the environmental impact assessment and the results of the State ecological expertise, for example by creating a depository within the Ministry accessible to the public. (See Recommendations 1.3 and 1.4.)

The implementation of the EPR 1 - Recommendation 3.2 is on-going (See implementation of EPR 1 - Recommendation 1.4).

EPR 1 - Recommendation 3.3:

The Ministry of Environment and Natural Resources Protection should:

(a) Actively promote adoption by Parliament of the (draft) law on public access to environmental information and decision-making as soon as it is finalized;

(b) Following its adoption, widely publicize and distribute the law and support staff training and public awareness campaigns on the content of the law in order to facilitate its application.

The public access to environmental information and participation in decision-making components are incorporated in all new developed laws. Moreover, the definition of "environmental information" that was not reflected in the national legislation until now will be incorporated into the 1996 Law on Environmental Protection. Currently, the mentioned law with amendments is submitted to the Government for consideration.

Chapter 4: Implementation of international agreements and commitments

Recommendation 4.1:

The Government should:

- (a) *Strengthen active participation in international fora to improve environmental management and meet its international obligations and commitments;*
- (b) *Comply with its reporting obligations to the United Nations Commission on Sustainable Development.*

(a) Georgia is engaged in the international processes through the implementation of international commitments that are a part of 34 international agreements, including conventions and their protocols. The country is involved in the global development processes regarding climate change, Millennium Development Goals, Sustainable Development Goals, etc.

The Association Agreement with the European Union combines the large number of environmental and sustainable development commitments, as well as other international obligations in different areas.

In order to contribute to the improvement of environmental management at the international level, Georgia is involved in environmental processes, e.g. the Committee on Environmental Policy (bureau member), THE PEP – Transport, Health and Environment Pan-European Programme (bureau member), Intergovernmental Working Group on the follow-up on the outcomes of Rio+20 (member), Convention on Protection of the Black Sea Against Pollution (advisory group member and member of commission), Convention on Biological Diversity (bureau member of COP 12 and COP-MOP 16), IPBES – Intergovernmental Platform on Biodiversity and Ecosystem Services (bureau member), the Pan-European Biodiversity Platform (member of standing committee), Convention on the Conservation of Migratory Species of Wild Animals (alternative bureau member), International Union for Conservation of Nature (member), International Show Caves Association (member), Green Climate Fund (member), Adaptation Fund Board (member), etc.

Participation in international environmental management processes and implementation of its commitments is among the priorities of the Ministry of Environment and Natural Resources Protection, in order to support development in a sustainable way.

(b) Part b of this recommendation has not been implemented.

Recommendation 4.2:

The Government, in order to allow the effective functioning of the National Commission on Sustainable Development (NCSD), should:

- (a) *Ensure that the composition of the National Commission does not require confirmation through formal acts (government resolutions) when changes in the composition of the Cabinet of Ministers occur;*
- (b) *Provide adequate funding for the National Commission's activities and specify the Commission's modus operandi, including a functional work plan with an agreed timetable for the development of the country's NSSD through comprehensive consultation with all relevant stakeholders.*

The recommendation has not been implemented.

Recommendation 4.3:

The Ministry of Environment Protection and Natural Resources, in performing its role as the secretariat of the National Commission on Sustainable Development, should ensure that the Commission meets at regular intervals, as specified by Georgian law, and once a work plan is established, ensure that it is adhered to by all constituent parties of the Commission.

The Ministry of Environment and Natural Resources Protection was not given the opportunity to act as the secretariat of the National Commission on Sustainable Development for the reasons described under Recommendation 1.2.

Recommendation 4.4:

The Ministry of Environment Protection and Natural Resources should elaborate a transparent mechanism and designate a lead unit to improve project coordination and enhance the Ministry's ability to fully utilize past experience when designing new projects suitable for external funding.

The recommendation has been implemented. The Ministry of Environment and Natural Resources Protection is organizing biannual donor coordination meetings, and it maintains a database on donor-financed projects. Ways and means of strengthening the role of the government in project implementation and coordination need to be explored. The project coordination unit has been established under the Department of Environmental Policy and International Relations..

Recommendation 4.5:

As soon as appropriate capacities for implementation are available, the Government should accede to the following conventions:

- *The ECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes;*
- *The ECE Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention);*
- *The ECE Convention on the Transboundary Effects of Industrial Accidents.*

The Government should also accede to the following Protocols:

- *The relevant Protocols to the Convention on Long-range Transboundary Air Pollution;*
- *The Protocol on Pollutants Release and Transfer Registers to the Aarhus Convention;*
- *The Protocol on Water and Health and the Protocol on Civil Liability and Compensation for Damage Caused by the Transboundary Effects of Industrial Accidents on Transboundary Waters to the Convention on the Protection and Use of Transboundary Watercourses and International Lakes;*
- *The Protocol on Strategic Environmental Assessment to the Espoo Convention.*

The first part of this recommendation has not been implemented.

The second part of this recommendation has been partially implemented. Georgia ratified the Protocol on Long-term Financing of the Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe (EMEP) in 2013.

EPR 1 - Recommendation 4.4:

The Ministry of Environment and Natural Resources Protection should take the lead in identifying environmental programmes and projects that may need external support. In order to accomplish this, it should take the following steps:

- *Establish a project preparation unit to act as a focus for coordination with donors and international financial institutions;*
- *Set priorities for external funding on the basis of domestic problems and needs, and communicate these priorities clearly to the donor community and international financial institutions;*

The recommendation has been implemented. The Department of Environmental Policy and International Relations is responsible for the coordination of new project proposals and their submission to the relevant international donor organizations or governmental bodies.

In order to present major activities carried out by the Ministry, to exchange views on further cooperation and coordination with donors, and to ensure more transparent project coordination, the Ministry holds donor coordination meetings twice a year. Furthermore, where necessary, Donor Coordination Task Force meetings (sectoral meetings) are conducted as well.

PART II: ECONOMIC INSTRUMENTS AND FINANCIAL RESOURCES

Chapter 5: Economic instruments and expenditures for environmental protection

Recommendation 5.1:

The Ministry of Environment Protection, in cooperation with the Ministry of Economic Development, the Ministry of Finance and other relevant ministries, should:

- (a) Review the existing command-and-control approach to pollution abatement and control with a view to ensuring (i) more effective monitoring and enforcement of pollution standards; (ii) a focus on major pollutants; and (iii) environmental relevance of existing emission norms;*
- (b) Review the existing system of fines to create adequate incentives that deter emitters from producing too many emissions, assuming appropriate monitoring and enforcement of environmental standards;*
- (c) Develop a policy paper on the feasibility of the introduction of pollution taxes for major pollutants, as a basis for the creation of stringent incentives for more environmentally friendly behaviour;*
- (d) Review motor vehicle-related taxes, with a view to making them supportive of environmental protection.*

The recommendation has been partially implemented. The polluter-pays principle has not fully fulfilled. Environmental inspections have been strengthened with the establishment of the Department of Environmental Supervision in 2013. An adequate system of fines and legislation concerning environmental liability and the determination of environmental damage compensation are lacking. The system of excise taxes on motor fuels and imports of road motor vehicles has not yet been reformed. The new Waste Management Code includes polluter-pays principle, which will be enforced with the creation of the “Extended Producer Responsibility” specified by the Waste Management Code and the identified fines for improper waste management such as littering and pollution.

Recommendation 5.2:

The Government should:

- (a) Establish an institutional platform – in the form, for example, of a “round table” – that allows at an early stage for a systematic dialogue concerning environmental impacts of actual or planned economic policies on the one hand and the economic impacts of actual or planned environmental policies on the other;*
- (b) Ensure that all key actors and institutions are involved in this dialogue, i.e. competent ministries, the business sector, civil society, research institutions, and other stakeholders.*

The recommendation has not been implemented. In 2013, the Government established the Economic Council, chaired by the Prime Minister, designed inter alia to coordinate the development and implementation of the national economic policy, including sector policies such as environmental policy.

The Council, in its configuration and functioning, is not directly a platform for discussing environmental impacts of actual or planned economic policies on the one hand, and the economic impacts of actual or planned environmental policies on the other, but it partly covers mentioned issues, e.g. the economic impacts of planned and ongoing environmental activities of the action plan of the Ministry of Environment and Natural Resources Protection were discussed. The Council discussed an annual plan of the Ministry as well as legislative initiatives.

Recommendation 5.3:

The competent central and local governments, including the regulatory agency for the energy and water sector (GNERC), should:

- (a) Eliminate in a transparent and gradual fashion any existing price subsidies for utility services, notably water supply and sanitation but also waste and energy services, taking into account the associated need for targeted social assistance to lower-income households;*
- (b) Promote, in cooperation with the corresponding utilities, the progressive installation of individual meters for electricity and water consumption;*
- (c) Set tariffs for water abstraction at a level that supports sustainable water resources management.*

The recommendation has been partially implemented. Overall, electricity tariffs are cost reflective, but there are important cross-subsidies among different consumer groups. Water supply tariffs in the majority of the country

are not cost reflective and discriminate against industry and other legal entities. There has been progress with the installation of water meters; metering of electricity consumption is virtually complete.

Recommendation 5.4:

- (a) *The Government should give greater priority to environmental spending within the medium-term expenditure framework;*
- (b) *In this context, the Ministry of Environment Protection and Natural Resources, in cooperation with other competent Government spending units, should define medium-term priorities and objectives for environmental policy across major sectors of the economy and prepare estimates of associated costs and major benefits that would feed into the preparation of medium-term Government expenditure plans;*
- (c) *The Government should create incentives designed to mobilize adequate private sector resources for environmental protection by strict application of the polluter-pays and user-pays principles;*
- (d) *The Government should also instruct the Department of Statistics to conduct regular surveys on pollution abatement and control expenditures by major emitters in industry and by other economic sectors.*

The recommendation has been partially implemented. The Basic Data and Directions (BDD) document and medium-term action plans have together become an effective mechanism for the planning, prioritization and control of government expenditures. Financial resources of the Ministry of Environment and Natural Resources Protection have been increased somewhat, but the overall dependence on foreign donor funds remains quite high.

PART III: INTEGRATION OF ENVIRONMENTAL CONCERNS INTO ECONOMIC SECTORS AND PROMOTION OF SUSTAINABLE DEVELOPMENT

Chapter 6: Sustainable management of water resources and protection of the Black Sea

Recommendation 6.1:

The Ministry for Regional Development and Infrastructure should promote the adoption of the policy paper for the development of water supply and sanitation sectors and thereafter speed up the development of the required action plan, which will include measures, priorities starting with the hot spots, time tables and estimated financial requirements and resources.

The recommendation has been implemented. The State Strategy Regional Development of Georgia 2010–2017 has been developed. The aim of the development of municipal infrastructure is to establish a mechanism of effective management of infrastructure systems providing different kinds of public services (water supply and water drainage, waste management, roads, transport), for their further sustainable development.

Recommendation 6.2:

The Ministry of Agriculture and the Ministry for Regional Development and Infrastructure should take care that self-monitoring and state control of water supplies are urgently enforced to ensure the safety of the population and to provide adequate training for the personnel.

In accordance with the present legislation, since 2006, the National Food Agency of the Ministry of Agriculture has conducted the state control of drinking water safety parameters and quality. The Agency monitors drinking water every year in accordance with the Food Product Laboratory Research Programme. At the same time, the Agency is the main entity that orders and organizes tenders for accredited laboratories (all over the country) to conduct the monitoring of drinking water quality in accordance with the State's earmarked programmes. In the event of discrepancy between water quality and the "Drinking water technical regulations", the Agency sends recommendations to the relevant entities. The United Water Supply Company of Georgia (UWSCG) and Georgian Water and Power (GWP) (together responsible for drinking water supply for Tbilisi, Mtskheta, Rustavi and Gardabani) have their own laboratories for conducting self-monitoring of drinking water quality.

Training:

In October 2011, 33 representatives of water utilities, the Ministry of Labour, Health and Social Affairs, the Ministry of Agriculture and persons responsible for safe water supply at various municipalities were trained in Water Safety Planning.

In September 2013, a three-day training on Drinking Water Transportation and Distribution was conducted for the staff of UWSCG, representing top management and technical managers/operators from the central office and regions.

Recommendation 6.3:

The Ministry for Environment Protection and Natural Resources should:

- a) *Ensure that the new Water Law framework reflects the protection and sustainable management of all water resources (including groundwater and the territorial Black Sea) by introducing principles of water basin management based on the current institutional framework;*
- b) *Develop a Georgian national action plan (NAP) for the protection of the Black Sea based on the principles of the regional Strategic Action Plan for the Environmental Protection and Rehabilitation of the Black Sea, by taking into consideration hot spots, required measures for improvements, a timetable and the financing funds as well as measures for water supply and sanitation;*
- c) *Develop a strategy and action plan for further modernizing and upgrading the monitoring network in line with international guidelines and best practices to assess progress in achieving environmental policy targets. In detail, this means:*
 - *Enlarging the number of parameters that have to be controlled and introducing biological monitoring into surface water bodies;*
 - *Establishing more hydrological monitoring stations and sampling points;*
 - *Linking environmental quality data with emission data by enterprises to establish cause-and-effect relationships to be reported to compliance control;*
 - *Training personnel in proper handling of appropriate analysis equipment and ensuring a high quality of laboratory reagents.*

(a) The new Law on Water Resources Management has been drafted, based on the principles and approaches of the EU Water Framework Directive. The scope of the new Law is:

- Surface waters;
- Transitional waters;
- Groundwaters;
- Coastal waters;
- Territorial waters.

(b) In 2011, a National Environmental Action Plan for Georgia for the period 2012–2016 (NEAP-2, approved by the Resolution of the Government No. 127 of 24 January 2012) was developed. Due to the fact that there were not enough financial resources to develop a National Action Plan for the Black Sea, chapter 5 was developed and included into one general document – NEAP-2. The chapter is based on the principles of the regional Strategic Action Plan for the Environmental Protection and Rehabilitation of the Black Sea, which sets priorities and actions for the protection of the Black Sea. The long-term goal for the protection of the Black Sea is to improve its ecological state. This goal is in line with the target set by all countries bordering the Black Sea in the Black Sea Strategic Action Plan.

(c) The water quality monitoring network has improved, from 41 points in 2009 to 69. The number of monitored parameters has increased. In some river basins (Chorokhi-Adjaristskhali, Khrami, Alazani, Kura), in the framework of international projects, monitoring is conducted in accordance with the EU Water Framework Directive. The number of monitored parameters has been increased (TN, TP, cyanides, arsenic, cadmium). Hydrobiological monitoring has begun, from 2012. At present, there are data on 22 rivers at more than 50 points. From 2014, groundwater monitoring began at the two wells in the Alazani-Agrichai aquifer (reactivated in the framework of the international project).

At present, 19 automated hydrological stations and 12 manual stations are functioning. By the end of 2014, the installation of 10 more automated hydrological stations is planned.

The laboratory of the National Environmental Agency has applied for national accreditation and participates in inter-laboratory comparative tests.

Recommendation 6.4:

The Ministry for Regional Development and Infrastructure should:

- a) Improve the collection rate of water bills for industrial companies and households;*
- b) Adopt payment on actual consumption by introducing water metering, also in apartments;*
- c) Raise the annual water bill to the highest affordable level, followed by annual increases according to nominal GDP growth;*
- d) Increase the State budgetary resources for investment in the water sector.*

The tariffs for drinking water supply are set by the Georgian National Energy and Water Supply Regulatory Commission (GNERC) by its Resolution No. 17 on Adoption of Water Supply Tariffs, of 17 August 2010.

The metering of drinking water supply is in progress in the cities. Up until 1 September 2010, metering of the water supply system was voluntary for the population. In compliance with Resolution No. 18 of the GNERC, dated 17 August 2010, water distribution companies were given the right of individual metering of the population. Today, in Tbilisi, about 20 per cent of consumers (mainly in the private sector) are provided with water meters; from 2015, it is planned to cover apartments.

The key player in the field of drinking water supply and sanitation – UWSCG – was founded on 14 January 2010. The company provides water and wastewater services for urban settlements throughout Georgia, with the exception of Tbilisi, Mtskheta, Rustavi and the Autonomous Republic of Adjara. The company's mission encompasses a broad range of activities, including the optimization of billing and collection processes, strengthening of its financial status, implementation of a financial management system and finalization of metering processes.

The state budgetary resources for investment in the water sector are increasing. In 2013, 130 million lari were allocated for the rehabilitation and development of the drinking water systems.

Recommendation 6.5:

The Government should modify the mandate of the Ministry of Environment Protection and Natural Resources to include integrated water management planning and responsibility for ensuring the coordination of actions in the water sector, in particular regarding information on water.

The Ministry of Environment and Natural Resources Protection has all responsibilities regarding water resources management.

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EPR 1 - Recommendation 7.1:

The Ministry of Agriculture and local governments should ensure that:

- *Drinking water utilities disinfect their water supplies with chlorine or other chemicals so that sufficient disinfection residual is maintained within distribution systems to ensure microbiological safety;*
- *Utilities that do not disinfect are justified in this decision; for example those systems tapping protected wells or springs with very short, protected distribution networks.*

As a rule, drinking water delivered by centralized water supply systems is disinfected by chlorine. The relevant laboratories (UWSCG, GWP, Ajara Water Supply Company) carry out permanent control on residual chlorine in the drinking water.

Bottled water is widely consumed, especially by employees working for enterprises located in rural areas, where, in some cases, the safety of drinking water cannot be guaranteed due to the absence of permanent water quality control.

EPR 1 - Recommendation 7.3:

The Ministry of Environment and Natural Resources Protection should:

- *Undertake a policy review on the use of watershed-based planning for the implementation of improved water services and water pollution control;*
- *Draft regulations, including incentives, for watershed-based planning; and*

In 2012, a “Review of the Georgian Legal and Institutional Water Framework and Recommendations for Implementation of EU Water Framework Directive Principles, including Preparation of a National Water Law” was prepared within the framework of the ECE project National Policy Dialogue on Integrated Water Resources Management in Georgia.

Development of regulations for watershed-based planning started in 2014 with the support of the ECE and EU project Environmental Protection of International River Basins.

EPR 1 - Recommendation 7.4:

The Ministry of Environment and Natural Resources Protection should accelerate preparation of a Georgian national action plan for the Black Sea.

Water management should also take into consideration good irrigation practices and the introduction of environmental sound technologies (see recommendation 11.2).

See recommendation 6.3 (a).

As a first step, the Ministry of Agriculture is focused on rehabilitation of the existing main irrigation channels and decreasing water losses in irrigation systems. The next step will be implementation of modern systems of sprinkling irrigation in particular regions, taking into account the geographical features of the said regions.

Chapter 7: Waste management

Recommendation 7.1:

When developing the new waste framework law and related legislation, the Ministry of Environment Protection and Natural Resources should:

- *Take into consideration existing waste legislation, and identify and clearly state sub-law regulations needed for the effective implementation of the legal framework;*
- *Include a clear classification of hazardous waste and requirements for each industrial site to report on hazardous waste by type of waste;*
- *Include the obligation of transferring hazardous waste to licensed operators once the market will allow it;*
- *Ensure that appropriate regulations aimed at enabling and strengthening law enforcement activities of the Inspectorate of Environmental Protection are formulated and put forward for adoption;*
- *Establish monitoring and reporting obligations for all entities dealing with waste production and management;*

This recommendation was fully implemented. The structure of the Law on Waste Management Code follows that of contemporary laws and directives/ regulations of EU Member States that are mentioned in the Georgia – EU Association Agreement. has been prepared in numerous working sessions of German and Bulgarian legal experts and Georgian counterparts. The current Law follows sets only a legal framework on waste. It will require a number of subsequent legal acts (sub-laws and by-laws) in order to become a fully implementable set of legislation on waste management. The mandate to prepare and adopt such acts are prescribed within this Law on Waste Management. The Waste Management Code was adopted end of December 2014 (chapter 5) and entered into force on 15th of January 2015.

Recommendation 7.2:

The Ministry of Environment Protection and Natural Resources should:

- (a) *Strengthen the capacities of the Inspectorate of Environmental Protection by increasing the number of inspectors who can be in part drawn from the current first responder staff;*
- (b) *Provide new and existing inspectors with training on waste and water inspections;*
- (c) *Modify the status of the existing Nuclear and Radiation Safety Service in order to strengthen its regulatory, technical/advisory and inspection role;*
- (d) *Consolidate responsibilities for the management and disposal of radioactive waste through the establishment of a Radioactive Waste Management Agency under MEPNR authority;*
- (e) *Increase MEPNR monitoring capacity by creating databases on waste production and waste operators, and boost capacity to use such information for decision-making and long-term planning.*

This recommendation's parts (c) and (d) on radioactive waste were implemented, but parts (a), (b) and (e) were not implemented.

(a) (b) The Ministry of Environment and Natural Resources Protection does not have specific inspectors for the waste sector.

(c) (d) Progress was achieved in management of radioactive waste; it was strengthened institutionally and responsibilities were assigned (new law in 2012) with the support of IAEA.

(e) No new data on waste generation and management have been collected since 2004.

Recommendation 7.3:

(a) *The Ministry of Environment Protection and Natural Resources should urgently elaborate a national waste management plan;*

(b) *The Government should provide municipalities with technical assistance and training on technology and management skills for adequate solid waste management;*

(c) *The Government should help municipalities to modernize their household waste management practices.*

(a) The waste management strategy and waste management plan have been drafted but not yet adopted.

(b) (c) The creation of the Solid Waste Management Company transferred part of municipal responsibilities for disposal sites to a specialized company and also created a platform for effective modernization of municipal waste services.

Recommendation 7.4:

The Ministry of Environment Protection and Natural Resources, in cooperation with the appropriate government bodies and municipalities, should:

(a) *Adapt economic instruments already tested in different countries to promote a solid waste market, private companies dealing with different types of waste, and the establishment of inter-municipal companies and public-private partnerships; as well as encourage private investment in waste management and recycling infrastructures;*

(b) *Use fiscal incentives and tariffs to promote the investment of industries in cleaner technology;*

(c) *Apply the polluter-pays principle to waste management, and set the costs of the management of specific types of waste (hazardous waste, packaging, etc.) at the charge of the producer/importer;*

(d) *Do its utmost to gather funds to rehabilitate contaminated sites;*

(e) *Invest part of the revenues of recycling and energy production from waste to promote the reduction of the amount of waste produced, awareness campaigns and other direct actions on specific types of waste, using lessons learned and best practices from other countries (e.g. best practices on the reduction of the number of plastic bags).*

The implementation of this recommendation is ongoing. , The establishment of incentives to promote specific waste management is already defined by the Waste management code for the development of the "Extended Producer Responsibility", which will encourage private sector to enlarge recycling infrastructure. Economic costs of waste management have to be funded by the Government and international donors. Polluter pays principle is already defined by the waste management code. The rehabilitation of the two known polluted sites has already started with the assistance of international donors. For quite a long time there will be no revenues from recycling.

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EPR 1- Recommendation 6.1:

(a) *The Ministry of Environment and Natural Resources Protection should promote the adoption of the draft law on waste management and its enforcement through the development of regulations, technical standards and norms for this law and other existing legislation on waste management;*

(b) *The Ministry of Environment and Natural Resources Protection, in coordination with other relevant ministries, should prepare action plans for the management of waste, including the rehabilitation of contaminated sites. This action plan should be integrated into the strategy for sustainable development.*

- (a) This recommendation was implemented. The Waste Management Code was adopted in 2014.
- (b) This recommendation has been partially implemented. NEAP-2 of 2012 includes a chapter on waste and radioactive waste. Measures proposed in NEAP-2 are being implemented. The waste management strategy and waste management plan are prepared as drafts but they focus only on municipal waste. The waste management strategy covers a period of 15 years (2016-30) and is a living document that could be revised although the Action Plan covers a period of 5 years (2016-2020). A joint format forms the basis for the two integrated documents. The Strategy covers waste generated from service sector (households, offices, etc.) along with generated by industry, hospitals, agricultural, mining sector and others.

EPR 1 - Recommendation 6.2:

The Ministry of Environment and Natural Resources Protection, in cooperation with the municipalities, should:

- (a) *Develop an information management system for municipal waste generation, handling and recycling;*
- (b) *;*
- (c) *Monitor air, groundwater and soil in the vicinity of landfills, with priority given to those that are situated near big cities;*
- (d) *Support the construction of sanitary landfills, processing or incineration facilities, on the basis of positive environmental expertise and environmental impact assessment; and*
- (e) *Raise public awareness about the environmentally sound management of municipal waste.*

Parts (d) and (e) of this recommendation were implemented but parts (a) and (c) have not been completed.

Monitoring of waste management and its impact on the environment did not show any improvement since the last EPR. However, with the creation of the Solid Waste Management Company, conditions were created for future improvement.

Construction of new landfills has progressed well, regional landfills are planned and funding is being secured. Public awareness of waste management, especially in terms of city cleanliness and recycling, has increased through social network actions and NGO support.

EPR 1 - Recommendation 6.3:

The Ministry of Environment and Natural Resources Protection, in cooperation with relevant stakeholders, should:

- (a) *Introduce and implement a classification system for industrial waste and hazardous chemicals, including pesticides, on the basis of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS);*
- (b) *Develop a permitting system for hazardous waste and draw up an inventory of major sources of hazardous and industrial waste in order to introduce the technologies for its recycling or environmentally sound treatment;*
- (c) *On the basis of the above, start the rehabilitation of abandoned industrial waste sites and, where technically and economically possible, recycle industrial waste as a secondary raw material.*

This recommendation has not been implemented.

EPR 1 - Recommendation 6.4:

The Ministry of Environment and Natural Resources Protection, in cooperation with relevant stakeholders and municipalities, should:

- (a) *As a first and most urgent step, take appropriate measures to protect the population and to limit access to the Iagluja site;*
- (b) *Develop a plan for the environmentally sound management of the site that also identifies the institutions that will be responsible for carrying it out;*
- (c) *Carry out a risk assessment of the site in cooperation with the Ministry of Labour, Health and Social Affairs and other relevant institutions;*
- (d) *Identify the quantities and composition of the hazardous chemicals that are buried at the site; and*
- (e) *Develop a plan for its rehabilitation.*

The Iagluja site was fenced and rehabilitation works are continuing under the GEF project. Identification of the best rehabilitation options for full clean-up is under preparation. This will result in a rehabilitation plan.

Considering the attention given to the Iagluja site and progress of works, this recommendation is considered implemented.

EPR 1 - Recommendation 6.5:

The Ministry of Labour, Health and Social Affairs, in cooperation with the Ministry of Environment and Natural Resources Protection, should:

- (a) *Organize the separate collection of medical waste, including non-anatomic medical waste, and provide for its environmentally sound disposal or incineration throughout the country; and*
- (b) *Train personnel in the environmentally sound management of medical waste.*

This recommendation is still under implementation. The management of medical waste is being improved under the project Infectious Healthcare Waste Management in Georgia.

Chapter 8: Risk management of natural and technological/anthropogenic hazards

Recommendation 8.1:

The Government should develop and adopt a national strategy on disaster risk management (DRM) complemented by a relevant national action plan taking into account disaster risk reduction and climate change adaptation measures, in compliance with national commitments and international instruments recognized by Georgia, especially the Hyogo Framework for Action (HFA).

The recommendation has not been implemented.

Recommendation 8.2:

The Government should establish a fully functional national coordination mechanism or a national platform by strengthening the existing coordination mechanism on disaster risk management with the participation of all relevant stakeholders.

In Georgia, there are several coordination mechanisms for DRR, such as:

- The DRR Think Tank of Georgia (hosted by the Ministry of Environment and Natural Resources Protection), which regularly hosts an informal forum for DRR stakeholders. The Think Tank unites representatives from about 60 governmental agencies, NGOs, international organizations and academia. The forum was established in 2009 under the UNDP project Strengthening Disaster Risk Reduction System in Georgia, and in 2012 it was taken over by the Ministry of Environment and Natural Resources Protection. The Ministry also has the ownership and provides overall management of the web-based database, “Who Does What Where in Disaster Risk Reduction in Georgia” (www.3w.org.ge). This website is based on information received from partner agencies/organizations and requires continuous review and updating in order to provide an accurate picture of the DRR scenario in Georgia.
- Experts’ Advisory Panel (hosted by the Emergency Management Agency), the main objective of which is to support the Agency in the development of a scientific–technical strategy on emergency prevention and mitigation, and elimination of the consequences of emergency situations. The Panel is chaired by the Ministry of Internal Affairs Deputy Minister and the members are Agency staff, representatives of governmental agencies, NGOs, and scientific and research institutes, and independent experts. It was noted that the Panel works on topics related to prevention of emergencies and loss reduction, and ensures coordination of experts in civil emergency planning under the NATO programme Partnership for Peace. Nevertheless, the draft document of the CADRI assessment report indicates that many respondents noted that they were not aware of the exact mandate and composition of the Panel, and of the roles and responsibilities of its members.
- Within the framework of the DIPECHO project Supporting Disaster Risk Reduction amongst Vulnerable Communities and Institutions in Georgia, UNICEF is supporting the Ministry of Education and Science in the establishment of the national inter-agency coordination mechanism on DRR education – Disaster Risk Reduction Education Coordination Group. The objectives of the coordination group/mechanism are to promote initiatives and support further mainstreaming of DRR in both formal and informal education, as well as promoting school and pre-school disaster preparedness and safety. The first coordination meeting was held in May 2013.

Recommendation 8.3:

The Government should identify hotspots in urban areas and strengthen monitoring, forecasting and early warning of natural and technological disasters in compliance with international requirements.

The Ministry of Environment Protection and Natural Resources should establish an analytical centre with adequate capacity to create and maintain a database of geological, seismological and meteorological data that is easy to use and accessible to the public.

Improvement/modernization of the Early Warning System has been identified as one of the priorities for Disaster Risk Reduction within the second National Environmental Action Programme of Georgia 2012–2016 (NEAP-2). Allocations of funds from the state budget were augmented for monitoring, forecast and prevention measures in the sphere of disaster risk management.

An analytical centre with adequate capacity to create and maintain a database of geological, seismological and meteorological data that is easy to use and accessible to the public yet has not been established.

Recommendation 8.4:

The Government should improve the legal basis on for major hazard prevention in compliance with international requirements.

The recommendation has not been implemented.

Chapter 9: Forestry, biodiversity and protected areas**Recommendation 9.1:**

The Government should:

- (a) *Approve the State forestry policy document and submit it to the Parliament for adoption;*
- (b) *Develop and adopt a national forestry programme and an action plan, and ensure their implementation.*

The recommendation was implemented:

- (a) A new National Forest Concept was approved on 26 December 2013.
- (b) A National Forest Concept was adopted in 2013.

Recommendation 9.2:

The Ministry of Environment Protection and Natural Resources should develop draft amendments to the laws and legal acts relating to forest protection and forestry in order to ensure their consistency while applying the principles of sustainable forest management, and submit them to the Government for approval and then to the Parliament for adoption.

The implementation of the recommendation is on-going. In 2014, the Ministry of Environment and Natural Resources Protection is currently drafting a new forest code, to be submitted for review by key stakeholders, approval by the Government and final adoption by the Parliament in 2016.

Recommendation 9.3:

The Government should strengthen the institutional capacity of the Forestry Department. Its staff, especially forest guards, should be adequately equipped and provided with regular training.

In 2013, a module for forest rangers was developed by the Environmental Information and Education Centre and training of trainers was conducted. Twenty rangers were trained and in November–December 2014, 250 more rangers will be trained. The latest activity will be conducted in the coming two years to train all rangers of the National Forestry Agency (NFA). Twelve staff of the NFA participated in a study visit to Bavaria, Germany. It is planned to start two-month intensive training for the 15 NFA interns (to then be employed by NFA) on the inventory and taxation (forest valuation). In 2013, the number of forest guards and their salary were increased. It is planned to renew their uniforms.

Recommendation 9.4:

The Government should adopt the draft national protected areas system development strategy and action plan and ensure their implementation and financing.

Though the 2009 national protected areas system development strategy and action plan for Georgia for the period 2010–2015 is not a legally binding document and is not officially approved, it is used as the main strategic document for managing the system of protected areas. Ninety per cent of the activities defined in the strategy have been completed.

In parallel, the second National Biodiversity Strategy and Action Plan (NBSAP) 2014–2022 comprises 11 thematic directions, one of which is protected areas. As NBSAP is the main policy document for this decade, it means that it is compulsory to achieve targets and activities defined in it, and it can also be considered to be the main strategy and plan for the system of protected areas.

Recommendation 9.5:

The Ministry of Environment Protection and Natural Resources should ensure that the quotas for game species are based on the results of appropriate research on game numbers and population dynamics.

The Government, within the National Biodiversity Monitoring System (NBMS), allocates funds annually for species monitoring. The surveys, using aerial counts in combination with pallet counts and other appropriate methods, were conducted in 2012 and 2013 and are planned for the autumn of 2014.

The monitoring of waterbirds has also been initiated within the NBMS: winter counts were conducted in January, 2014; data from these counts are currently being processed.

However, there is no evidence that the quotas for game species are based on the results of the above-mentioned monitoring.

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EPR 1 - Recommendation 8.3:

(a) *The Ministry of Environment and Natural Resources Protection, together with the State Department for the Management of Protected Areas, should:*

- *Develop a strategy for protected areas that, inter alia, implements the requirements of the Pan-European Biodiversity and Landscape Diversity Strategy, climate change action plans, and bio-corridors;*
- *Develop management plans for all protected areas as stipulated in the Law on Protected Areas;*

(b) *The State Department of Forestry, in cooperation with the Ministry of Environment and Natural Resources Protection, should develop a general strategy for the sustainable use of forests, ensuring the accomplishment of all forest functions and their stable regeneration.*

(a) Both strategies, the NBSAP and the National Protected Areas System Development Strategy and Action Plan, include some of the requirements of the Pan-European Biodiversity and Landscape Diversity Strategy and bio-corridors:

- European Diploma – the preparation process for nominating Vashlovani Protected Areas for a European Diploma started in March 2012. At the next stage, experts from the European Council visited Vashlovani Protected Areas to further estimate its value. Within a year, the decision will be made whether the application to receive the Diploma has been satisfied;
- Emerald Network – 21 sites are identified in Georgia. Selected sites will be submitted for final adoption by the Bern Convention Standing Committee;
- Ramsar sites – work in this direction has started. According to the plan, three lakes of Javakheti Protected Areas (Bugdasheni, Madatapa, Khanchali) will be submitted for designation as potential Ramsar sites;

- World Heritage sites – the process for the nomination of Georgian protected areas as potential World Heritage sites was launched back in 2011.
- Eco corridors – the network of protected areas is not totally completed; accordingly, eco-corridor planning has not yet taken place. The planned Pshav-Khevsureti Protected Areas were established and the negotiations are under way with the government on establishing Racha Protected Areas. The next step will be to plan and create eco-corridors. Moreover, their creation is one of the targets defined in the NBSAP;
- Transboundary cooperation – transboundary cooperation has been more active recently than previously. Within the framework of the project Establishment of Javakheti National Park in Georgia, financed by the German Government, cooperation between the Administration of Javakheti National Park and Lake Arpi National Park in Armenia is quite successful. Exchange visits have been held, together with mutual activities, which entails creation of a joint biodiversity monitoring plan and a transboundary map. The parties also share their experience and views on protected area management issues. Furthermore, there was a workshop organized regarding cooperation between Matchakhela National Park (Georgia) and Camili Biosphere Reserve (Turkey). It is in the future plans of the Agency of Protected Areas to strengthen transboundary cooperation with various bordering protected areas.

Currently, four PAs have an updated management plan, four are under elaboration and five will start in the framework of two new projects (KfW's Open Programme and GEF/UNDP's Expansion and Improved Management Effectiveness of the Achara Region's Protected Areas).

(b) The Ministry of Environment and Natural Resources Protection, in cooperation with the National Forestry Agency, is currently working on several issues within the framework of the National Forest Concept. The sixth working group is dealing with adoption of national sustainable forest management standards issues that are set forth in the National Forest Concept.