Environment and Development in Georgia

Policy, Legal and Institutional Challenges in Selected Areas

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GREEN Alternative

Forward

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- Biodiversity Protection and Management
- Water Management and Protection
- Sustainable Energy
- Transit Transport Infrastructure
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- Natural Disaster Risk Reduction

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1. Protection and Management of Biodiversity in Georgia

1.1 Legal Framework for Biodiversity Protection and Management in Georgia

The foundations of the Georgian legislation on environmental protection are laid out by the Constitution on Georgia, where Article #37 states: “Everyone shall have the right to live in healthy environment and enjoy natural and cultural surroundings. Everyone shall be obliged to care for natural and cultural environment” (Paragraph #3) and “With the view of ensuring safe environment, in accordance with ecological and economic interests of society, with due regard to the interests of the current and future generations the state shall guarantee the protection of environment and the rational use of nature” (Paragraph #4).

The following laws regarding the protection and use of biodiversity have been adopted in Georgia: Law on Environmental Protection, Law on the System of Protected Areas, Law on the Fauna, Law on the Red List and Red Book of Georgia, the Georgian Forest Code, Law on the Licenses and Permits, and other normative acts.

In 1998 in order to implement the aforementioned provisions of the Constitution, **Law of Georgia on Environmental Protection** was adopted, which encompasses the following topics: protection of environment from harmful impact; improvement of the quality of environment; sustainable development and sustainable use of natural resources; maintenance of biological diversity and ecological balance; protection of unique landscapes and ecosystems; taking certain measures towards solution of global environmental problems; definition of the rights and obligations of citizens in the sphere of environmental protection; environmental education.

Law of Georgia on the System of Protected Areas (1996) defines the aspects of foundation, development and functioning of protected areas; establishes the system of bodies responsible for management on different levels and defines the activities permitted on the areas of various categories.

Law of Georgia on the Fauna (1996) regulates legal relations with regards to protection and use of objects of the fauna. Apart from protection of the wild fauna directly, the Law envisages protection of their natural habitat, migration routes, and breeding grounds, ensures sustainable development of wild fauna, and establishes a legal foundation for its *in-situ* and *ex-situ* conservation.

Forest Code of Georgia (1999) regulates legal relations with regards to maintenance, protection, restoration, and use of the Georgian forest fund and its resources. The Forest Code defines the notion of the state forest fund, which means the whole of the lands and its resources (forests) it owns under the legislation. The Code also regulates the right of ownership on the forest fund. It is noteworthy that granting of a forest under a private ownership is permitted. At the time of the Code’s adoption, the entire forest fund is declared as the state property, while the process of its denationalization should be regulated by relevant legislation, the necessity of establishment of which is laid out in the Article #9 of the Code. One of the central objectives of the Code is protection of the forest fund of Georgia, preservation of the uniqueness of intact nature, protection of relict, endemic and other precious types of plants.

In June 2003 Parliament of Georgia adopted the **Law on Red List and Red Book of Georgia**. The Law provides legal basis for juridical definitions of the Georgian “red list” and “red book” (which has the value of recommendation and methodological character) of critically endangered species of wild animals and plants. The Law also defines the structure of the “red list,” the procedures to determine species for inclusion into the list, and the procedures for elaboration, adoption and renewal (revision) of the draft list. Said Law also regulates the issues related to the “red book” of critically endangered species, protection of critically endangered species, their use, and planning and financing of measures for their restoration and preservation.

Law of Georgia on Licenses and Permits entered into force from 4 August, 2005. According to this law several licenses and Permit are directly related to biodiversity: general license for forest use, special license for wood-processing and special license to establish a hunting farm, license for fishing, license for use of cone of fir, and galanthus bulbs and/or cyclamen tubers, which are included in the appendices of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), license for hunting, and Permit for export, import, re-export and introduction-via-sea of the species listed in the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), their parts and derivatives.

Deriving from requirements of this law, other normative acts of Georgia should come in conformity with it. During the transitional period issues are regulated by resolutions of government.

Strategy and Plan of Actions of Protection of Biodiversity – this document entered into force by a decision of the government of Georgia of 19 February 2005.

The Convention on Biological Diversity obliges all parties to elaborate appropriate national documents, which should define the policy and concrete plan of protection of biodiversity in the state. Existence of such a document is considered one of the necessary conditions for protection and rational use of a country's biodiversity. Accordingly, approval of the national strategy and plan of actions of protection of biodiversity constitutes a central stage of Georgia's implementation of commitments envisaged by the Convention and represents one of the main conditions for sustainable development. Its implementation requires mobilization of the scientific potential existing in the country and a close cooperation among governmental, non-governmental, and business sectors. Success will be impossible to achieve without an all-out societal support. It will also be necessary to cooperate with such sectors as agriculture, tourism, energy, urbanization, etc.

The document defines the strategy of protection and rational use of biodiversity of the country (excluding the Black Sea waters) for the next 10 years and concrete activities for a five-year period. It is a framework document based on which a coordinated action in the field of conservation of biodiversity should be carried out in Georgia.

Bearing in mind the current state and problems of biodiversity in Georgia and the threats that influence it, nine main issue have been singled out, which encompass virtually all aspects of protection and rational use of natural resources. However, it was also taken into account that each of them closely relates to the others, and accordingly certain overlaps exist with regards to more complex concrete issues. Those main issues are: protected areas; species and habitats; agricultural biodiversity; hunting and fishing; monitoring of biodiversity; biosafety; environmental education; public awareness and public participation; financial-economic program; sustainable forest economy; legislative aspects.

The Georgian strategy of biodiversity is planned for a 10-year period, while actions are for a five-year period. It is implied that elaboration of a new action plan will be needed after five year, bearing in mind the concrete situation and results achieved by then.

The Georgian strategy of conservation of biodiversity is based on the principles of Pan-European Biological and Landscape Diversity Strategy. Apart from this, additional principles were defined in the course of elaborating the document.

The document lays out a vision for the future: 10 years from now Georgia will be a country with sustainable biological diversity; political, social and economic conditions will be created that favor rational use of natural resources and fair distribution of the benefits.

Aside from the above-mentioned, this sphere is regulated by normative acts issued at different times (presidential decrees, parliamentary and governmental resolutions, orders by ministers and heads of departments (department of forests and department of protected areas)).

1.2 Responsible State Authorities

National policy in the field of protection and use of biodiversity is carried out by the **Georgian Ministry of Environmental Protection and Natural Resources**. According to the legislation, this is a executive governmental institution of which ensures state governance in the field of environmental protection and rational use of natural resources as well as in the field of ecological safety of population.

The Ministry has **territorial bodies**, which represent the Ministry in the course of performing their tasks in the respective administrative-territorial units.

The Central Office of the Ministry of Environmental Protection and Natural Resources includes a structural unit titled the **Service of Biodiversity Protection**. The tasks of the Service are to protect components of biodiversity and to take part in elaboration and realization of the state policy; to coordinate and monitor the implemen-

tation of measures defined in the Georgian Strategy and Action Plan of Biodiversity Protection; to organize and coordinate implementation of obligations undertaken under the conventions and agreements in the sphere of biodiversity that Georgia ratified or joined.

The **Forestry Department**, **a sub-agency institution of the Georgian Ministry of Environmental Protection and Natural Resources**, is an institution of the executive government through which the Minister of Environment Protection and Natural Resources exercises executive governance in the field of forest economy. The Department subordinates regional forestry bodies (which were formed in 2007, following the reorganization of local forestry economies).

The **Department of Protected Areas, a sub-agency institution of the Georgian Ministry of Environmental Protection and Natural Resources**: protected areas (national parks, nature reserves, habitat/species management areas, monuments of nature) are subordinated to the Department.

The **Environmental Protection Inspectorate, a sub-agency institution of the Georgian Ministry of Environmental Protection and Natural Resources**, is a united centralized body of state control in the field of environment protection. Its main tasks are: to exercise state control in the field of environmental protection; to detect and prevent the cases of illegal use of natural resources; to control implementation of the terms of licenses/permits issued by the Ministry.

The Department of Environmental Permits and Licenses of the Ministry of Environmental Protection and Natural Resources: the competences of this department are: to ensure implementation of state ecological examination; to organize approval of limits; to hold actions with regards to licenses; to issue the certificate of licenses and permits.

The function of physical protection is exercised by the administration of protected areas and regional forestry divisions within the confines of their competence and on their respective territories.

1.3 Ecosystems

The following main biomes are found in Georgia: forests, hollow forests, semi-deserts, steppes, arid sparse forests and hemi-xerophilous bushes, wetlands (lakes, swamps, marches, etc), sub-alpine, alpine and sub-nival zones. Out of this the largest area is occupied by the forests. The Kolkheti Refugium and the plant complexes of limestone terrain and high-mountain zone of the Western Caucasus Mountain Range are particularly special in terms of ecologic and bio-geographic character, diversity of species, and high level of endemism.

Management of components of biodiversity at the ecosystem level is carried out via forestry and protected areas and consequently the forestry sector and protected areas will be reviewed in this chapter.

1.3.1 Forestry Sector

Current Situation

Georgia is considered to be a forest-abundant country. According to official data, roughly 40 percent of the country's territory is covered by forests. At the same time, average density of the forests reaches the critical threshold and amounts to 0.52. In addition, groves with the density below the critical level (0.5) take up more then half (55 percent) of the total territory covered by forests. Such forests have drastically decreased protective functions (protection of soils, storage of waters, regulation of waters, sanitary-hygienic functions, etc.) and self-recovery/self-renewal ability, which in the end exerts a negative influence on the entire ecological state in Georgia (Georgian Strategy and Action Plan for Biodiversity, 2005). Nevertheless, almost intact groves of forests are still found in Georgia, representing an illuminating example of our bio-geographical unit and for this reason have a great conservation value.

According to the Forest Code of Georgia, the forest fund of Georgia comprises of the state forest fund, the forests of Georgia under other types of ownership, and their resources. The state forest fund, the largest portion of Georgian forests, is under the authority of the Georgian Ministry of Environmental Protection and Natural Resources, including: 82 percent under the authority of the Forestry Department, eight percent under

the Department of Protected Areas, a small portion of lands (two percent) belongs to Vasil Gulisashvili Forestry Institute, and the ownership of the rest (eight percent) is unclear[1]. These are mainly former so-called *Kolkhoz* (collective farm) forests, physical transfer of the ownership of which onto local governance and self-governance bodies has not taken place. In this chapter we won't discuss protected areas; a separate article is dedicated to them.

Thus at present the forests of Georgia are entirely under the state ownership. At the same time, the foundations of private ownership are laid in the Georgian legislation. The Forest Code of Georgia (Article #9) states that an owner of the Georgian forest fund may be the state, the Office of the Patriarch of Georgia, also physical and legal entities. At the same time it is stated that the state forest fund is a state property and the rule of its denationalization is determined by the Law of Georgia on Denationalization of Georgian Forests. Denationalization or privatization of forests is possible only after said Law enters into force (Article #120).

Institutional Aspects of Forest Management

The activities related to the commercial forest fund[2] comprise of several aspects, namely:

- Policy-making
- Forest use (licensing, contracts)
- Forest management (maintenance, biological protection, tree planting, use of the lands of the forest fund, monitoring, cadastre, accounting)
- Physical protection of forest (combating illegal use of forest)

- ***Policy-Making***

Policy-making in the sphere of forests is carried out by the Georgian Ministry of Environmental Protection and Natural Resources. Main responsibility for economic forests falls on a state sub-agency institution, Department of Forestry. It performs its duties based on its statute, the Forest Code of Georgia, and other normative documents.

- ***Forest use***

The licenses for use of forest are issued by the Ministry of Environmental Protection and Natural Resources, namely the Department of Environmental Permits and Licenses. The Ministry may grant the authority to issue licenses to its territorial bodies. So far, such a delegation has taken place only with regards to the Department of Environmental Protection of Autonomous Republic of Adjara.

The licenses are issued through auctions. According to the acting legislation, in conformity with the Forest Code, short-term (about one-year-long) and long-term (about 20-years-long) licenses are permitted. At present no legislative base exists for leasing or privatization of forests. According to the Constitution this is a prerogative of Parliament.

The licenses for use of forest are issued in accordance to the Law of Georgia on Licenses and Permits. The licenses for use of forest belong to the type of "licenses-for-use[3]". There are the following types of such licenses: a general license for use of forest, a special license for wood-processing, a special license for hunting farms. At the same time, a general license for use of forest is a document that incorporates special licenses for wood-processing and hunting farms. It is not obligatory to obtain a general license in order to conduct just one particular activity covered by a special license.

General and special licenses for forest use are auctioned off. The rules for participation in the auctions, the terms, and the rule of setting the starting price are also laid out in the legislation. A license applicant should submit the application not later than 15 days before the auction is held. The auctions are held at the Ministry of Environmental Protection and Natural Resources, or at other places indicated by the Ministry. The license holder can split the license or give it to other person; the license could be inherited too.

Certain fees need to be paid for the obtainment of a license. Prior to an auction, a license applicant pays a "deposit" in cash or through a bank transfer to the bank account designated by the Ministry. The "deposit" amounts

[1] This is the official data of the Ministry for 2005. Since then certain areas from the Department of Forestry were given to the Department of Protected Areas: Tbilisi National Park and Mtirala National Park have been established. Forest areas of the Nedzvi habitat/species management area (11,000 hectares) were given to the Administration of Borjomi-Kharagauli National Park.

[2] The state forest fund excluding protected areas

[3] According to the Law of Georgia on License and Permit (2005), for utilization of natural resources a license of use is issued, an example of which is the licence for use of forest.

to 20 percent of the starting price. In case the applicant does not win the auction the deposit is returned, while in case s/he wins then the deposit is counted in the payment of the final price. The license applicant also pays a license fee.

The winner of an auction for obtainment of a general license of forest use or a special license for wood-processing must compensate the costs that the state will incur in the process of allocating felling areas with the appropriate volume of wood. Following the obtainment of a license, the forest user should pay the resource tax proportional to the volume of the extracted resources to the local budget.

To sum up, the auctions are held by the Department of Environmental Permits and Licenses, while all the nessary the materials for holding them are prepared by the Forestry Department.

In 2005 the Law on Licenses and Permits changed the rules of license issuance in Georgia, including licenses for forest use. According to this law, different issues are temporarily regulated by governmental resolutions and the minister's orders. Despite of this, many aspects related forests are still regulated by the Forest Code of Georgia and the statutes deriving from it, for example the rules for allocation of felling area, etc. Unfortunately, many incompatibilities exist between the old and the new law, which necessitates adoption of a new forest code. It is also necessary to make sure that the forest code incorporates more basics of sustainable management of forest and singles out the role of forest as a component of biological diversity. Prior to the adoption of said law, for the purpose of license issuance, interagency councils existed at Ministry, which comprised of representatives of various interested agencies and non-governmental organizations. These councils were in charge of receiving applications and determining the winners on the basis of tender (in other words, expert assessment of applications). It was unclear who was responsible for the decision-making: the ministry or an expert. A tender is a less objective procedure compared to an auction, and from this perspective the current system is better than its predecessor. However, on the other hand no preliminary evaluation of the applications is conducted, and in fact the only criterion for granting a license is the highest bid.

Forest Management

On the main issues related to the field of forests, the Ministry of Environmental Protection and Natural Resources is represented by Forestry Department, a state sub-agency. The Department's competence is to manage the state commercial forest fund (as was mentioned above, the Georgian state forest fund is comprised of the commercial forest fund and the fund of protected areas). According to the statute, the tasks of the Department are: protection of forests from illegal tree felling, fires, and parasites; state accounting and monitoring of forest resources; participation in the forest policy and formation of the legislative base; elaboration of measures to retain ecological functions of forests; monitoring and supervision of permitted activities on the lands of the forest fund; cooperation with international, local, scientific and public organizations.

The Forestry Department includes its territorial bodies: nine regional forestry agencies and basic depositories of saplings, namely regional forest agencies of Kvemo Kartli, Shida Kartli, Mtskheta-Mtianeti, Samtskhe-Javakheti, Imereti, Guria, Ratcha-Lechkhumi-Kvemo Svaneti, Samegrelo-Zemo Svaneti, and Kakheti and basic sapling unit of Keda. The forestry agencies incorporate forestry districts. These forestry districts practically represent the former forest economies.

The rights and responsibilities of an agency are: to account the resources present on the territory of the forest fund; to control the protection of forests and adherence to the rules of forest use; to prevent violations of the legislation, to draw up reports; to issue documents that confirm the legality of cut timber and bark for firewood, as well as the origin of timber[4]; to confiscate illegally obtained resources; to prepare proposals for allocation of land plots for state and public purposes from the state forest fund; to provide the Department with information.

Thus, according to the legislation, the function of monitoring and control is performed by local (territorial) bodies of the Forestry Department, while the accumulation and summarization of the data should be conducted within the Department itself. The Department provides this data to the Ministry. At this stage it is difficult to judge on the effectiveness of this system as the new system of the Forestry Department (structural changes) entered force only on 1 March 2007, while the recruitment has not finished yet. After the recruitment is completed, an area of 4,500 hectares in average should be assigned per forest guard.

[4] These documents are used when transporting the obtained timber and are presented to representative of the Customs Service, law-enforcement bodies, the Inspectorate of Environmental Protection, and the Forestry Department as per requested, as envisaged by the law.

To summarize, all aspects of the management of the commercial forest fund except for the issuance of licenses are handled by the Forestry Department. The function of controlling licenses and combating illegal use is assumed also by the Environmental Protection Inspectorate of the Ministry of Environmental Protection and Natural Resources. Aside from the rapid reaction function, i.e. detection of illegal activities while conducting field trips, the Inspectorate should also exercise control over adherence to the license conditions[5]. The mode of cooperation between the Forestry Department and the Environmental Protection Inspectorate as well as the separation of their competences in combating illegal tree felling have not specified as of yet.

Reform of the Georgian Forest Sector: Tendencies and Threats

The necessity of reforming the forest sector is unanimously shared by all governmental agencies, organizations and independent experts. However, a certain disagreement on the ways to implement this reform exists among the different positions. For years decisions adopted by the government come in conflict with one another, and consistency is lacking. The main reason for that is the absence of a national forest policy.

The world-wide practice has shown that in order to implement sustainable management of forests a state must carry out the following actions:

- Elaborate and approve the national forest policy;
- Elaborate a forest strategy and a plan of actions on the basis of the national forest policy;
- Approve the state legislation and implement an institutional reform in conformity with the national forest policy and strategy.

Forests belong to the whole nation and represent an issue of ardent interest as they are closely intertwined with environmental, economic and social issues. Therefore important decisions related to forests should be taken with participation of the wider public and on the basis of a national consensus.

The obligation of the government of Georgia to take such steps stems from its participation in various conventions and initiatives that declare principles of sustainable forestry (for example, Convention on Biodiversity, MCPFE and ENA-FLEG, etc).

The second factor necessary for sustainable management of forests is existence of a precise inventory, or the data on forest arrangement. This is important to ensure sustainable management of forests, i.e. in conservation perspective, as well as in order to provide a potential investor with reliable information.

The only acting strategic document on the forest sector is the Biodiversity Strategy and Plan of Actions of Georgia, approved by a governmental resolution (resolution #27 of the government of Georgia of 19 February 2005). This document provides a quite detailed description of the extant problems in the forest sector, lays out general strategic objectives and tasks, and states that "the forest strategy and plan of actions will be elaborated as a separate document based on the relevant objectives and tasks defined in this document.[6]"

Discussions and works on a reform of the forest sector of Georgia began in the second half of 1990's. Following the breakup of the Soviet Union, during the civil war and battles for territorial integrity naturally nobody has had time to reform the forest sector. After the Constitution was adopted and foundations of new legislation were laid, the state began preparations to transform the Soviet-era forestries into appropriate institutions of market economy.

A new Forest Code was drawn up for this purpose (1999), followed by the commencement of a World Bank-financed project, Project of Development of the Georgian Forest Sector. This project aimed at reforming the forest sector of Georgia, improving management and institutional strengthening.

Unfortunately the national forest policy has not been elaborated at the very initial stage of this project. As a result, a number of documents elaborated and measures implemented under the aegis of this project remain unused[7]. As for the essence and direction of the reform, they change as a result of structural changes occurring in the government, and what is worst – as a result of changes/reshuffling of officials within the agency.

[5] Out of more than 500 one-year licenses issued in 2006-7, none of their holders has filled out the [form of] license conditions, and hence it is unclear how they fulfil this provision of the law. The control over the fulfilment of the provisions might also be complicated by the condition that the box of Species of Resource for Felling in the issued license is incorrectly filled out. Instead of indicated the amount of wood resources per binomial names of plant species, it frequently says "coniferous" and "deciduous." Such a note may facilitate transportation of and trade in illegally felled timber.

[6] Meaning the Biodiversity Strategy and Plan of Actions of Georgia

[7] For example, a document Plan of Rationalization and Institutional Development of the Forest Sector, because a thorough reform of the government took place in 2004, after the Rose Revolution, and as a result the State Department of Forestry came under subordination of the Ministry of Environmental Protection and Natural Resources

The first model of reform was created in 2002-2003. It envisaged the establishment of a state commercial structure, which would perform economic works. Only after this the World Bank project started to take care of the creation of the forest policy document. For this purpose the project obtained a grant from the Food and Agriculture Organization of the United Nations (FAO), which was signed at the beginning of 2004.

Following the Rose Revolution and the uniting of the State Forestry Department with the Ministry of Environmental Protection and Natural Resources, the issue of reforming the forest sector reappeared on the agenda. Unfortunately, elaboration of the policy was once again put off and elaboration of the reform concept started first.

The government of Georgia set up a governmental commission for reforming the forest sector. The Forestry Department prepared the reform concept, which was reviewed by the commission. The Cabinet of Ministers and appropriated parliamentary committees discussed this issue and reached an agreement over the main directions of the reform at the end of 2004 and beginning of 2005.

The reform envisaged the establishment of a new unit of forestry relations, a state joint-stock company with 100 percent state ownership, which would become the responsible body (commercial structure). The joint-stock company would conduct its entrepreneurial activities in accordance to the Georgian legislation; the forests would be divided into various categories on the grounds of purpose and function: high category, particularly productive, and of protection function. In terms of ownership, the reform would divide the forests into communal, municipal, and state forests; as a result of the reform, the form of the forest use subject to licensing would be a long-term lease, which could be transformed into private ownership in the future.

Neither representatives of society nor other structures of the Ministry, except for the Forestry Department, took part in the elaboration of this reform concept. Just several presentations were held. Overall, this model of management resembled those extant in European states, though economic, social, and ecological issues are balanced in the latter[8]. Numerous points of significance remained without elaboration and specification in the reform concept: how would forest areas be allocated for the creation of new protected areas and for the expansion of the existing ones; how the control and protection be enforced; how would the competitive milieu be maintained between private wood-processing entities and the state joint-stock company; what portion of the state forest fund would be given to the joint-stock company, etc. Only after the elaboration of this reform concept, works started on drawing up the forest policy document of Georgia.

Following the changes within the department's management in 2005, the reform's emphasis shifted once again. A new document of reform concept came out in the beginning of 2006[9]. The idea of establishing the state joint-stock company was rejected. Long-term leasing stayed as the main for of forest use. It said that the state plans to lease the maximum amount of forests to the private sector. Leasing would be replaced with private ownership in the future. As the paragon examples the document mentioned countries of Africa, Latin America and Asia, as well as Russia and Canada.

This concept suffered from myriad flaws, and was therefore criticized by environmental organizations and experts. It did not consider who would manage those forests that could not be leased; how conservation measures would be carried out; how to satisfy the population's demand on bark, etc. In fact, there was only one major difference from the previous concept: the state commercial system would not be set up, since it was considered to be a new source of corruption and a potential monopolist.

Following the publication of this document, the Ministry started working on elaboration of the forest policy. The aforementioned reform concept was rejected in entirety because of its weakness and the received criticism. The emphasis shifted onto elaboration of the policy in conformity to the FAO grant. As the subsequent developments have shown, the rejection was only temporary.

At the beginning of summer of 2006, an expert group established by the Ministry drew up a Concept of the Georgian Forest Policy. The forest policy and strategy of Georgia was planned to be created following the concept's approval and on its basis. Discussions of the concept took place. The dates and the plan to elaborate the final document were set.

[8] For example, part of forests in Austria is managed by a state company Österreichische Bundesforste (ÖBF). It protects and manages forests, mountains and rivers. The company manages 860,000 hectares, which amounts to 10 percent of the Austrian territory, 15 percent of the country's forests and 70 percent of the lakes. More than a half of its territory is protected by the environmental legislation.

[9] The Position of the Georgian Ministry of Environmental Protection and Natural Resources on Reforming the Management of State Forests and Use of Natural Resources, 2006

Shortly thereafter, the Ministry again took the process of creating the Georgian forest policy, agreed with the donors, to a wrong direction.

At the end of 2006, again as a result of governmental changes the Concept of the Georgian Forest Policy was once again remade into a totally different document in terms of its contents and form – the Forest Policy and Strategy of Georgia – in other words, it claimed to be a finalized version.

The elaboration of this document also took place in a completely non-transparent way, through labors of several people in their respective offices. It was a mixture of two documents: Basics of the Georgian Forest Policy and the Reform Concept that the Ministry disseminated at the beginning of 2006. Naturally, the remarks and suggestions made before lost the meaning.

The document mixed the goal, objective, priority direction, principle, and action; past management, description of the present situation, and future actions envisaged by the policy were not separated either; the to-be-reviewed document also had a pretense to be a "strategy," but was not accompanied with an action plan or implementation indicators. The cases of incompatibility were detected too. For example, the document envisaged division/classification of Georgian forests according to MCPFE classes, which is welcomed, but on the other hand, the division of forests into classes as offered by the Vienna Resolution is equated with forms of ownership and permitted giving protected areas to private ownership.

At the same time the structure and disposition of the document implied that the decision on implementation of this activity had already been taken, while the document was prepared only to dress up the situation and to please the donors.

Overall, one could conclude that through the Forest Policy and Strategy of Georgia, prepared by the Georgian Ministry of Environmental Protection and Natural Resources, it was impossible to carry out the "implementation of active measures in the management system of the forest sector" (as the 2006 report of the Ministry has claimed).

The document underwent changes once again after sound criticism on the part of non-governmental organizations (the management of the Department was once again changed during this period), but still without informing the public. This policy-defining document also came out after the reform of the forest sector was approved and put into action.

The new document is titled the Georgian Forest Policy. According to this document, forms of ownership on the forests of Georgia will be set up in the following form:

1. Territories of the Forest Fund under the state ownership, responsibility on whose management rests with the Ministry of Environmental Protection and Natural Resources (through the Department of Forestry and Department of Protected Areas). Part of the territories of the State Forest Fund through auction may be given in long-term use to legal entities of private law for wood-processing as well as for establishment of hunting farms, tourist and recreational infrastructure, and other purposes.
2 . Territories of the forest fund under the management of autonomous republics, which also may be given in long-term use to physical or legal entities
3. Territories of the forest fund of local importance, being under the management of local self-governance bodies
4. Territories of the forest fund under the management of the Patriarch's Office.

According to the document, the emphasis will be shifted onto the long-term forest use in the form of licenses (different from the previous ones which implied leasing). Irrespective of the forms of ownership and management of the Forest Fund territories, the implementation of the forest policy will be coordinated and the control over forest use will be exercised by the Georgian Ministry of Environmental Protection and Natural Resources. The tentative list of those forests (roughly 800,000 hectares) that should be transferred under the management of local self-governance bodies is drawn up.

Local self-governance bodies will set up appropriate forest divisions, which will be financed from the budgets of self-governance bodies. The rights and responsibilities of self-governance bodies will be the following:a) to meet the local population's demand for firewood and wood for products[10] b) to implement measures for pro-

[10] It is unclear whether the demand of the local population for firewood and wood for products will be satisfied at the expense of the local forests only, or from other areas too. The former collective farm (*Kolkhoz*) forests are the most degraded, and such a step will in short run destroy these forests (800, 000 hectares) completely. These forests just won't be able to satisfy the demands of the local population. It is also unclear whether forests are given to local self-governance bodies for management or for ownership.

tection and restoration of forests c) to conduct statistical (background) inventorying of forests d) to fill out the aforementioned forms and present them to the Ministry e) to elaborate plans for forest management and to present them to the Ministry for approval.

Four main functions have been defined which the state should carry out with regards to forests:

1. **Regulatory function**, which encompasses perfection of the legislative-normative base necessary to implement the forest policy with participation of all interested parties;
2. **Supervisory function**, which encompasses creation of the institutional system that ensures implementation of the legislation on the forest fund territories, irrespective of their ownership or management forms;
3. **Proprietorship (ownership) function**, which means such management of forests by the state that guarantees implementation of the ecological and social functions characteristic to state forests, which on its part ensures protection of forests, increase of the value of state forests, and growth of the profit for the forest owner, i.e. for the state;
4. **Facilitation function**, which means creation of such conditions that facilitate stabilization of the long-term function of forests and increase of the private sector's motivation.

From the perspective of meeting international commitments and developing sustainable forest management in Georgia as well as in terms of introducing modern standards of forest management, implementation of the guiding principles of The Forest Stewardship Council (FSC) has been chosen as a priority point of reference.

Many things still needed further elaboration in the document: provision of the local population with firewood and bark for materials for private purposes; eco-systemic approach was not sufficiently incorporated; nothing was said about informing the public and the possibility for its involvement in the decision-making process.

The Forestry Department arranged a discussion of this document and requested remarks and suggestions[11]. Many of them were taken into account during the project refinement. However, the document was disseminated in governmental agencies for agreeing and then discussed at a governmental session without its final version being available to the public at any point.

Thus, the democratic quality of the document's adoption as well as the fact that the policy is adjusted to an already decided reform path remained intact[12]. However, in the version presented at the governmental session the goal of the "Georgian Forest Policy" was presented in the refined form and fully complied with the principles of sustainable management. The issues concerning the participation of the public and ecological issue have been added. It is not completely clear in which form the forests will be given to local government – whether with the right of ownership or the right of management.

Several licenses for 20-year term have already been issued in the name of the reform implementation. The Forestry Department's attitude regarding forest arrangement works should be noted. In their opinion, preliminary inventorying and forest arrangement should not be carried out by the state as it incurs additional and large costs. Therefore, the license holder should be tasked to carry out forest arrangement works. In such a case, because of the absence of preliminary data, degraded areas that have no resource of barks or forests of protected and protective importance might be given out for tree felling purposes. At the same time, evaluation by a license holder of the own resource that s/he must extract contains a certain conflict of interests. Tasking of license holders to undergo certification under the rules of the Forest Stewardship Council (FSC) seems a positive phenomenon at the first glance, but in the situation when national standards of certification are not yet elaborated and the country has no specialists well-aware of this issue, insertion of this norm in the license represents a formality so far and cannot be considered as a guarantee of preservation and sustainable use of the forests. Since in more than half of the forests the density reaches the critical threshold the forests with high conservation value are given out through long-term licenses. At the same time certification is voluntary as a rule, while its start – approbation should take place on trial (pilot) sections. Thus the Ministry's approach that inventorying should be conducted by the investor and monitoring through certified commercial organizations of the Forest Stewardship Council (FSC) is flawed from the very beginning. Experts unanimously state that if the current pace of using bark resources of the Georgian forest ecosystems is maintained, be it legal or illegal, Georgia's forests will completely disappear in 10-15 years.

[11] Association Green Initiative provided the Forestry Department with detailed and documented remarks on this document and actively participated in the discussions

[12] Because of the existing situation, Green Alternative addressed the World Bank and demanded the Project of Forest Development be stopped

There is one more dangerous tendency. As was already mentioned, at present no mechanism exists for giving forests to private ownership. In order to sell forest areas to private entities for the purposes of infrastructure development and recreational use, the areas are withdrawn from the state forest fund and added into the non-agricultural fund. And for such an action it is no longer necessary to hold an assessment of the impact on the environment. In many cases these are areas not covered by forests, located near settlements. Despite of this, it is necessary that guarantees exist for the areas sold in this manner that the forest-covered areas will not shrink or degrade. In case tree felling is inevitable, then compensation must be in place – to plant forests on a substitute territory. A legislative norm could serve as the guarantee for this. A similar practice exists when, according to a special law, a financial compensation is paid out for exploiting substitute lands when land plots of agricultural purpose are used for non-agricultural purposes.

Recommendations

Bearing in mind the ecological state of Georgian forests and current tendencies, it is necessary:

1. To stop large-scale use of wood resource of Georgian forests.
2. To grant the protection status (I-IV categories of IUCN, i.e. nature reserves, national parks, monuments of nature, habitat/species management area) on at least 15 percent of Georgian forests. Before the respective administrations for these areas are established, they should be granted the status of reserve protected areas through a normative act, and industrial production of bark should be prohibited.
3. Apart from this, at least 15 percent of forests in addition to be declared as protected areas of less strict mode (V-VI categories of IUCN, i.e. protected landscapes and zones of traditional use. Traditional economic activities are not prohibited here), whose management could be conducted by self-governance bodies too. The EU's recommendations should be taken into account when declaring reserve and new protected areas so that the protected areas join first the Emerald network, and then Natura-2000 in case Georgia joins the EU.
4. To complete inventory/categorization of Georgian forests and on the basis of environmental assessment to single out those areas where tree felling is still permissible. These will be the areas where the density is optimal while simultaneously not constituting the forests of high conservation value. First of all, the population's basic demands (bark for firewood and wood-for-material purposes) should be met at the expense of forests where tree felling is permissible and only the remaining volume of wood resources should be given out for commercial purposes (excluding protected and protective forests).
5. As for the process of elaborating the forest policy, the following steps are necessary to be taken in a consistent way:

- To continue and complete inventory/categorization of Georgian forests;
- To approve the Georgian Forest Policy with a normative act, which will lay out that the Ministry of Environmental Protection and Natural Resources must within a certain period elaborate the Strategy and Plan of Actions of Implementing the Georgian Forest Policy and draw up a new Forest Code of Georgia;
- To elaborate the Strategy of Implementing the Georgian Forest Policy (strategy and plan of actions of sustainable forest management), which will draw upon the approved Georgian Forest Policy and the data of the inventory/categorization of forests;
- To draw up a new forest code.

1. The policy document, national strategy and plan of actions, a new forest code as well as each concrete mechanism of forest management must become a subject of discussions on the part of the wider public before their adoption and approval. Full-fledged (and not profane) public discussions must be held with participation of the wider public, specialists and representatives of scientific circles. Also, in case the remarks or opinions expressed by the public are not shared then the government must publicly provide arguments for not taking them into account at each particular case, in line with the requirements of the Arhus Convention.
2. During implementation of reforms the state must follow the requirements of those conventions and initiatives which relate to forests and which Georgia is part to. These are: The Convention on Biodiversity, Arhus Convention, EU directives, MCPFE, ENA-FLEG, etc. Alongside ecological requirements each of them draws due attention to participation of the public and transparency of processes.

1.3.2 Protected Areas

Present Situation

The first nature reserve in Georgia was established in Lagodekhi in 1912. A total of 14 nature reserves and five forestry-hunting economies were created during the Soviet period. Strictly protected areas amounted to 2.4 percent of the entire territory of Georgia, while the forestry-hunting economies accounted for 0.8 percent.

Any type of involvement in the nature reserves were prohibited by the law. Obtainment of resources, tree felling, hunting, extraction of minerals, construction works, tourism were forbidden. This principle, however, was violated in almost every nature reserve. At the same time a complex approach has not been employed when establishing the nature reserves. The emphasis was placed on protecting a particular species, while due attention was not drawn to other species or the ecosystem as a whole. The objectives for the establishment of the nature reserves were not correctly identified. A united legal base for the protected areas did not exist either. Because of the above-mentioned, a majority of the Georgian nature reserves was characterized with low ecological efficiency.

Monuments of living and non-living nature constituted another type of the protected objects. They were included in the Red Book of the Georgian Soviet Socialist Republic. Large and old specimens of certain trees were accounted for as living monuments of nature, for example a hollow oak in the Sagarejo District (named Eristos Oak, aged roughly 600 years), yew tree in the Akhmeta District (Tree Patriarch - 1,800 years old), etc., 30 objects in total. Non-organic monuments of nature were represented by caves, rock pillars, canyons and valleys, fossilized flora, volcanic forms, etc., 77 objects in total. Management of these monuments was not carried out. A part of them was located on the territories of state nature reserves. It was possible to impose legal responsibility (according to Administrative and Criminal Codes) for violating and damaging monuments of nature. In modern understanding, these monuments have no place in the Red Book, and they should have the status of protected areas. But since the Soviet government did not recognize such types of protected areas, their inclusion into the Red Book represented the only way to preserve and popularize them.

During the Soviet period the management of nature reserves and state hunting farms was carried out by the Main Department of Nature Reserves and Hunting farms. After the Soviet Union's breakup the Main Department of Nature Reserves and Hunting farms of Georgia became its heir[13], which functioned on the basis of a provisional statute from 16 July 1992 (the # of the government of Georgia of 16 July 1992 on Approving the Structure and Provisional Statute of the Main Department of Nature Reserves and Hunting farms of Georgia) till 9 October 1997 when the Decree #568 of the President of Georgia on the Statute of the State Department of Protected Areas, Nature Reserves and Hunting farms of Georgia came into force (prior to that the Law on the System of Protected Areas entered into force). Before 1996 no special law existed on the system of protected areas.

Formation of modern protected areas began in the 1990's with the help of international donor organizations. A scheme of the development of protected areas was drawn up, which served as the basis for further planning works.

In 1996 the Law on the System of Protected Areas entered into force. This law stated that protected areas of Georgia should be established in accordance with international criteria, namely the categories of International Union for the Conservation of Nature and Natural Resources (IUCN). (See the table)

Type of Protected Area	Purpose	Category (IUCN)
Strict Nature Reserve	Strict protection	I
National Park	Conservation and recreation of ecosystems	II
Natural Monument	Preservation of specific natural features	III
Habitat/Species Management Area	Maintenance through active intervention for management purposes	IV
Protected Landscape/ Seascape	Protection and recreation of landscapes/seascapes	V
Managed Resource Protected Area	Sustainable use of natural ecosystem	VI

[13] At different times it was subordinated to different ministries or was an independent agency

Apart from the above-mentioned it is possible to create a biosphere reserve and a world heritage site. Approval of both categories takes place after recognition by the UNESCO. The legislation also envisages inclusion of agricultural land plots into the list of wetlands of international importance, or Ramsar sites.

As was mentioned, following the adoption of this law the State Department of Protected Areas, Nature Reserves and Hunting farms of Georgia was created (Decree #568 of the President of Georgia).

The title of this state department was quite unclear and even odd. Nature reserves represent a category of protected areas, as was mentioned both in the law and in the department's statute. Five state forestry-hunting economies existing during that period were transformed into state habitat/species management areas, or another category of protected areas (Georgian Law on Fauna, 1996); state institutions were deprived of economic functions; the right to establish and manage a hunting farm belongs only to the private physical or legal entities. Deriving from this it was unclear why the words "natural reserves" and "hunting farms" remained in the title of the department.

In 2004, after the Rose Revolution, the State Department of Protected Areas, Nature Reserves and Hunting farms underwent reorganization and joined the Ministry of Environmental Protection and Natural Resources as a state sub-agency institution Department of Protected Areas.

At present Georgia has five national parks, nine state habitat/species management areas, 18 state nature reserves, three monuments of nature, one protected landscape. The total area of protected areas equals 467,221 hectares, which amounts to 6.7 percent of the country's territory. Seventy-five percent of it is covered by forests[14]. One of the protected areas of Georgia, namely the Borjomi-Kharagauli National Park joined the international network of protected areas, PAN-Parks, in 2007.

In the present situation, monuments of nature included in the Red Book of the Georgian SSR remain without a status. In order to preserve critically endangered species of flora and fauna a Georgian Law on the Red Book was created, following which a presidential decree approved the Red List. It is drawn up in accordance with modern requirements, based on the criteria of International Union for the Conservation of Nature and Natural Resources (IUCN). Unfortunately, granting of the status of protected territory Monument of Nature (III category of IUCN) to the Soviet-era monuments of nature in line with the IUCN criteria and the Georgian Law on the System of Protected Areas did not take place.

The extant protected areas were established at different times, through different mechanisms and legal acts. Part of the protected areas was established by acts of the Cabinet of Ministers of the Georgian SSR, others by resolutions of the government of independent Georgia, presidential decrees, or a special law. Accordingly, their legal status also differed. In 2004 in order to rectify this flaw all protected areas went under the subordination of the Ministry of Environmental Protection and Natural Resources with the status of legal entities of public law (see the Resolution #5 of the Georgian government, 12.06.2004, on Approving the Statute of the Georgian Ministry of Environmental Protection and Natural Resources, Article 8, Paragraph 4). Those protected areas that were not created through adoption of the special law (meaning the Georgian Law on Establishment and Management of the Protected Areas of Tusheti, Batsara Babaneuri, Lagodekhi, and Vashlovani – according to which the directorates of these protected areas were granted the status of legal entities of public law) were granted the status of legal entities of public law as a result of presidential decree.

Later on, in 2005, changes again took place in the Ministry's statute. As a result of these changes the protected areas no longer represent legal entities of public law of the Ministry. Instead, the protected areas were established in two types of legal forms. The directorates and administrations of some existing protected areas joined the Ministry's system in the form of legal entities of public law. And the rest of the protected areas represent territorial bodies of the Department of Protected Areas. Legal entities of public law established on the territories of the protected areas of Kobuleti, Borjomi-Kharagauli, Kolkheti, and Mtirala are called administrations, while the legal entities of public law of Tusheti, Batsara-Babaneuri, Vashlovani, and Lagodekhi are called directorates.

As for the directorates and administrations of the protected areas existing in the form of legal entities of public law, the titles as the Director of the Directorate of Vashlovani Protected Areas, the Director of the Directorate of Tusheti Protected Areas, the Deputy Director of the Directorate of the Protected Areas of… sounded quite odd. The titles themselves might not represent a serious problem, but the goal for which the protected areas

[14] www.dpa.gov.ge

were established in this form was not achieved: unfortunately, only by summer of 2007 it was managed to set the fees for tourist services in the protected areas.

On 27 April 2007 an amendment was made into the Georgian Law on the Establishment of Tusheti, Batsara Babaneuri, Lagodekhi and Vashlovani, according to which the legal entities of public law that managed these protected areas were titled as administrations.

Thus, according to the present statute of the Ministry, the legal entities of public law united in the Ministry's system are the following:

- Administration of the Kobuleti Nature Reserve, the Kobuleti State habitat/species management area, and the Kobuleti Managed Resource Protected Area
- Administration of the Borjomi-Kharagauli National Park and the Borjomi State Nature Reserves
- Administration of the Kolkheti National Park and the Kolkheti Managed Resource Protected Area
- Administration of the Tusheti Protected Areas
- Administration of the Batsara-Babaneuri Protected Areas
- Administration of the Lagodekhi Protected Areas
- Administration of the Vashlovani Protected Areas
- Administration of the Mtirala National Park

Territorial bodies of the Department of Protected Areas are:

- Administration of the Saguramo State Nature Reserve
- Administration of the Algeti State Nature Reserve
- Administration of the Sataplia State Nature Reserve
- Administration of the Ajameti State Nature Reserve
- Administration of the Kazbegi State Nature Reserve
- Administration of the Liakhvi State Nature Reserve
- Administration of the Bichvinta-Miusera State Nature Reserve
- Administration of the Ritsa State Nature Reserve
- Administration of the Pskhu-Gumista State Nature Reserve
- Administration of the Kintrishi State Nature Reserve
- Administration of the Iori habitat/species management area
- Administration of the Gardabani habitat/species management area
- Administration of the Korughi habitat/species management area and the Mariamjvari State Nature Reserve
- Administration of the Katsoburi habitat/species management area
- Administration of the Chachuni habitat/species management area

The protected areas were granted the status of legal entities of public with the aim to give them the possibility of getting income from tourism services (and also other incomes from the activities permitted by the law). Following the changes made in 2005 only the so-called "rich" protected areas remained as legal entities of public law, i.e. those that host the projects financed by big donors and where a certain tourist infrastructure is created as a result of these projects. The transformation of "poor" protected areas into territorial bodies of the Department bore the following logic: (1) They are not interesting in terms of ecological tourism since they have no infrastructure and will not get a non-budgetary income; and (2) They will have more guarantees to receive budgetary financing if they exist in this organizational form (there is an opinion that in case of downsizing the legal entities of public law will be the first to have their budgets cut down).

The protected areas whose administrations are legal entities of public law function on the basis of own statutes, while for the territorial bodies a united typical statute is approved (Order #439 of the Georgian Minister of Environmental Protection and Natural Resources of 6 June 2006 on the Approval of the Typical Statute for State Sub-agency Institutions of the Georgian Ministry of Environmental Protection and Natural Resources – Territorial Bodies of the Department of Protected Areas).

According to the typical statute, an administration is headed by director. The administration comprises one structural sub-unit – Protection Service. Apart from physical protection, the latter is tasked to carry out the measures for biological protection of forests (fighting forest parasites, diseases, etc.), research and monitoring, implementation of conservation and restoration measures, cadastre, inventorying of natural resources. It is

clear that such tasks are incompatible with one another, and are impossible to perform against the background of scant financing and capabilities that plague the protected areas. The administrative staff includes a post of Chief Specialist for Research and Monitoring, implementation of whose functions and duties requires a whole unit staffed with appropriately equipped and trained cadres: conservation and restoration works, drawing up of maps, monitoring, accounting of natural resources and elaboration of projects and proposals about their use. Such a task is not realistic.

As was mentioned, the main legislation related to protected areas comprises of the Georgian Law on the System of Protected Areas, Law on Fauna, the Georgian Forest Code. In 2005 an appropriate resolution of the Georgian government approved the Biodiversity Strategy and Plan of Actions, one of the strategic directions of which is protected areas. This document identified the problems related to the protected areas. In order to tackle these problems the document lays out a 10-year-long strategy and a five-year-long plan of actions. Even though certain steps were taken during the last two years this is insufficient to rectify the situation. One could single out four factors that briefly describe the problems of the Georgian protected areas:

1) Insufficient participation of the public during planning, establishing, and functioning of the protected areas. This brings about an overlapping between the interests of the local population and the protected areas. The real needs of the population are not taken into account. The public in no way participates in the management of the protected areas. Their environmental awareness is low. Frequently the population living nearby is hostile to the protected areas.

According to the legislation, for particular protected areas the Ministry establishes scientific-consultative councils. The purpose for establishing these scientific-consultative councils are interpreted differently in the laws: according to the Georgian Law on the Establishment and Management of Tusheti, Batsara-Babaneuri, Lagodekhi, and Vashlovani (the amendment of 27 April 2007), the councils are created to ensure participation of the public in the management of the protected areas; according to the Georgian Law on the System of Protected Areas (Article 21, the amendment of 27 April 2007), the Ministry established the scientific-consultative councils for the purpose of cooperation with governmental institutions and local self-governance bodies. The existence of two different interpretations in the two laws that came out on the same day creates confusion. The amendments made to the latter limited participation of the public in the management of the protected areas (27 April 2007). Several articles were withdrawn from the law, namely the ones that enabled representatives of population and public organizations to participate in central programs and consultative councils, in the regulation of non-budgetary finances allocated for the local functioning of the protected areas, etc.

So far the scientific-consultative councils have been established for the protected areas of Tusheti, Batsara-Babaneuri, Vashlovani, and Lagodekhi, and according to the appropriate presidential decree comprise of representatives of the Ministry of Environmental Protection and Nature Resources, the Department of Protected Areas, local government, non-governmental and scientific organizations. Staffing of the councils took place via a quite transparent mechanism. For this purpose the Ministry openly declared a call for candidacies, accompanied by certain criteria for the candidates' qualifications and experience. This procedure, however, still remains a pure formality. The councils are to convene once a month, but only one meeting has taken place in more than two years after their establishment. In reality they have no function and do not participate in the decision-making related to the protected areas.

2) Scant capabilities of the protected areas – insufficient financing and the absence of the material-technical base; budgetary sources and base are not enough for the protection of the territories and implementation of other activities as envisaged by the law.

3) Illegal obtainment of natural resources on the protected areas and flaws in enforcement; Protection Services of the protected areas are small in numbers, ill-equipped and armed, and have low salaries; The legislation based on which the physical protection is carried out badly needs refinement. It is not clear how the Protection Services of the protected areas, the Inspectorate of Environmental Protection, law-enforcers, and the Border Guard Department should cooperate. A bulk of the protected areas is located in the border zones. Visitors of the protected areas and even the staff are obliged to get the permit of being in the protected area from the Border Guard Department. The Law on the Physical Protection of Protected Areas should have been adopted before the end of 2004, though it is not elaborated at present.

4) Lack of professional cadres with modern training.

Against such a background, it is not only impossible to come up with the management mechanisms compatible to the modern requirements, but the main purpose of protected areas – to preserve biodiversity – is also forgotten. The emphasis is placed only on the development of tourism and receiving of income from the protected areas, though nothing has been done in this regard either, except donor-financed construction of certain infrastructure in some national parks. Scientific work is almost non-existent in the protected areas. Those national parks where big donors carry out programs are in a relatively better position (protected areas of Borjom-Kharagauli, Vashlovani, Lagodekhi, Tusheti, Kolkheti). Only a handful of research and conservation projects have been implemented in the protected areas, namely: reintroduction of bezoar goat in the Borjomi-Kharagauli National Park, monitoring of brown bear in the Vashlovani protected area, the project of leopard conservation in the Vashlovani National Park, the beginning of the reintroduction of Persian Gazelle in the Vashlovani protected areas. The latter is carried out by the Ministry in the confines of the financing of a World Bank project (state grant), while the rest are conducted by non-governmental organizations, with their own financing.

Development of eco-tourism in the protected areas is naturally useful and necessary. In addition to being a source of income it also has another (probably more important) value. Existence of natural parks, habitat/species management areas, and monuments of nature allows human beings to see the beauty of the nature with their own eyes and to share in the aesthetic, spiritual, and cultural values of biodiversity. This helps raise environmental awareness of population and the endeavor of nature conservation gains more support on the part of the public. But the development of ecological tourism should be a concomitant process of biodiversity conservation and not the main objective for the existence of protected areas.

The plan for the next three years of the Ministry of Environmental Protection and Natural Resources, presented in the Law on Budget of 2007, lays out two programs related to the protected areas:

The program Measures of Fire Safety and Protection from Parasites of the Protected Areas:

- To hire firefighters-watchmen in 19 protected areas for the period of high risks of fire (five months)
- To dig anti-fire ditches and conduct other necessary preventive measures
- To take measures for protecting the flora and fauna from pathologies

The program Development of Ecological Tourism

- To disseminate informational materials in Georgia and abroad
- To advertise on mass media outlets
- To create web-pages of the nature reserves
- To participate in tourism exhibitions and markets

One could see that the main problem that obstructs protection of the gene pool of flora and fauna and preservation of biodiversity, namely poaching, is left the state programs' attention. Strengthening of mechanisms and measures of physical protection is not planned. Protection of flora and fauna from pathologies, emphasized in the program, is a serious problem, though not as grave as poaching and tree felling. As for the development of ecological tourism, here the emphasis is made not on tourism infrastructure and interpretation programs, or issues of monitoring, but instead on PR-campaign of the protected areas. No state program is planned for educating the employees and raising their qualifications. And this happens against the background when the lack of knowledge about protected areas and biodiversity is obvious both in the central office of the Department and among the employees of the administrations of protected areas.

The issue of giving protected areas to private ownership is actively discussed. Allegedly this method allows solving the financial problems faced by the protected areas. It should be taken into account that such a practice does not exist in the world. The very names such as national park and state nature reserve point to the fact that they are national and state property.

From 1996, after elaboration of new legislation, several projects funded by large donors have been implemented in Georgia, through which establishment and development of the protected areas was created and financed. These projects were very important for the country, but it should be noted that because of various subjective and objective processes they were not effective enough to solve the above-mentioned problems related to the protected areas; a sound institutional and legislative base and an effectively functioning system of protected areas could not be formed.

Recommendations

(1) Expansion of Protected Areas: As was already mentioned, only 6.7 percent of the territory of Georgia constitutes protected areas and with this indicator Georgia lags quite far behind of European countries. And this happens when the value of Georgia's biodiversity is significantly higher compared to the European countries. Natura 2000 is an important instrument for conservation, systematically underlined in official documents of the European Commission and governments of European states. It must be underscored here that a site of Natura 2000 does not necessarily mean that human activities are prohibited there or an entry is restricted. In many cases, the sites facilitate traditional human activities and create new jobs and opportunities.

In 2004, through a project implemented by the Ministry of Environmental Protection and Natural Resources a list of candidate areas for the Emerald network was compiled and sent to the Secretariat of Bern Convention. In order to preserve the country's biodiversity, implement the European Neighborhood Policy, and harmonize various national processes it will be very important to consider creation of various types of protected areas for the candidate areas of the Emerald network.

World Wide Fund for Nature Caucasus Programme Office (WWF Caucasus PO) elaborated recommendations for the government of Georgia, according to which 15 percent of the Georgian forests need to be declared as protected areas of high category (I-IV categories of IUCN). The expansion scheme also determines migration corridors. This document could also serve as a basis for the expansion scheme. The recommendations draw on the results of several years of work by scientists and experts, on the basis of which important areas and migration routes were identified[15].

(2) Modernization of Protected Areas: The protected areas established in the Soviet period do not meet modern requirements. In some of them the extant mode of nature reserve cannot be implemented because of the small area and closeness to settlements. At the same time certain ecosystems are degraded to such an extent that their restoration requires an active management which the status of state nature reserve forbids. It is necessary to change the categories of some protected areas, in accordance with the existing ecological situation and geographic location. At the same time, the area of the high category protected territories should not be reduced in the country. For example, the Kazbegi Nature Reserve and the Algeti Nature Reserve could be transformed into national parks (i.e. lowered from the IUCN category I to category II, but increased in the territory and the present-day nature reserve becoming a strict protection zone of the national park in an extended form).

(3) Monuments of Nature: The monuments of nature included in the former Red Book of the Georgian SSR should be declared protected areas. Their management could be conducted also by local self-governance bodies, while monitoring by the Inspectorate of Environmental Protection.

(4) Introduction of New Types of Protected Areas: The experience of other countries and the local need has shown that management of protected areas could be conducted not only by one institution of the central government but also by self-governance bodies, regional governments, and governments of autonomous units.

It might also be possible for non-commercial environmental organizations and private entities to have the ability to establish protected areas in case control mechanisms are present. However, in such cases the law must differentiate protected areas of national, regional, and local importance as well as the criteria of their establishment. In order to implement all of the above-mentioned it is necessary to revise the Law on the System of Protected Areas.

(5) Adoption of the Law on the Physical Protection of Protected Areas: The international practice shows that if a poacher is armed better than a protector of protected areas than the fight against poaching is futile. Therefore, the protection services must have an appropriate authority and be armed and equipped well. The protection services of protected areas must be granted roughly the same authority as the Inspectorate of Environmental Protection. Organization of protection systems and identification of the bodies responsible for protection must be conducted in accordance with the mode (category) and belonging of the respective protected areas. If a protected area does not have the administration then monitoring could be carried out by a territorial body of the Ministry or a self-governance unit, while protection through inspection by the Inspectorate of Environmental Protection and the Police.

[15] Georgia's interest in and preparedness for development of protected areas was clearly expressed at a meeting of the Ministers of Environmental Protection of the South Caucasus in Berlin in March 2006, where the Georgian Minister of Environmental Protection and Natural Resources informed the audience about Georgia's aim to expand the protection status onto the 1/5 of the country's territory.

(6) It is necessary to establish a permanently functioning training center for the staff of the system of protected areas, where the employees will have an opportunity to deepen their knowledge and qualification without detaching themselves from work. It is also desirable to found secondary professional education institutions in the sphere of the management of protected areas and/or introduce special courses in already existing educational institutions.

1.4 Species

Present Situation

The diversity of the species of living organisms is very high in Georgia. Eighty-four species of fish, 12 species of amphibians, 52 species of reptiles, more than 300 species of birds, and 109 species of mammals are found in the Georgian fauna. Among them are endemics of Georgia and the Caucasus. The fauna of invertebrates is unevenly studied: some of the groups have been studied in depth, while for others only scarce data could be found.

About 4 100 species of vascular plants have been studied in Georgia (in total 6 350 species are in the Caucasus). Three hundred species are endemic to Georgia. About 600 species endemic to the Caucasus are also found. The central and eastern parts of the Caucasus mountain range are particularly rich with endemics.

Georgia's agricultural biodiversity, i.e. diversity of breeds of domestic animals and agricultural plants, is also rich. Our country is considered the cradle of many of them, including vine and grains.

All the aforementioned threats that affect biodiversity first of all have an impact on species. As a result, many of them face a real danger of extinction.

The Georgian legislation that regulates the protection and use of species comprises of the following laws: Law on Fauna (1996), the Forest Code (1999), Law on the Red List and Red Book of Georgia (2003), Law on Licenses and Permits, and other normative acts. These issues are also reflected in the Biodiversity Strategy and Plan of Actions of Georgia. Said legislation so far needs refinement. For example, a special law exists for fauna – the Law on Fauna. The issues of protection and use of plant species are partially regulated by the Forest Code of Georgia. For rare and critically endangered species there is the Law on the Red List and Red Book of Georgia and the presidential decree based on which the Red List was approved. But non-woody plants (herbaceous plants) have not been included into this list so far. Against the background of the absence of a special law on flora, herbaceous plants are virtually "unprotected." Among them are the species of commercial value, rare and critically endangered species, healing herbs, etc. Obtainment of rare and critical species for scientific purposes is not regulated either; no Permit of any sorts exists for such an activity.

Protection of species could be carried out in two ways: via in-situ and ex-site measures. The first comprises of the protection of habitat through creation of protected areas and introduction of various environmental restraints on activities. But attention is not paid to the protection of habitats outside the protected areas. The second consists of the conservation measures carried out in artificial conditions. These activities were mainly oriented at flora through the several existing botanical gardens (in Tbilisi, Batumi, Sokhumi, Zugdidi, Bakuriani). The use of fauna is regulated by the Law on Fauna and the Law on Licenses and Permits. There are contradictions between the two laws, however.

Nowadays, use of objects of fauna is permitted on the basis of hunting Permit and fishing license. The license to create hunting farms and the license to use cone of fir, and galantus bulbs and/or cyclamen tubers which are included in the appendices of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) are also issued. These licenses, like all other licenses of use are issued on the basis of auctions. The licenses are issued by the Department of Licenses and Permits of the Ministry of Environmental Protection and Natural Resources.

Hunting is permitted only on hunting farms. This restriction does not cover migratory birds. There is a list, approved by the law, of species which are permitted for hunting and fishing. Other regulations have also been introduced for pursuing objects of fauna. The obtainment of a given species is permitted only in the certain period set for this particular species (hunting and fishing season). Also a rule regulates those hunting and fishing weapons and instruments that are permitted. In general, it is forbidden to hunt animals during the period of breeding, with the weapons and instruments that might cause mass extinction, pollution or damage of the

environment, or that make animals suffer. Use of combat weaponry is prohibited during hunting. Amateur fishing does not require a license or permit. Deterrence and prevention of violations of fishing and hunting rules are exercised by the Environmental Protection Inspectorate.

One more aspect related to conservation of species is international trade. This procedure is regulated by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), which Georgia joined in 1996. In 1996 the CITES secretariat and the World Customs Organization signed a memorandum that acknowledged the critical role of customs services in preventing illegal trade in species of wild flora and fauna, and in their protection by doing so. Deriving from this, a close cooperation is necessary within the country among the national administrative body of CITES, the Inspectorate of Environmental Protection, relevant scientific institutions, and the customs service. The very duty of the latter is not to let in and/or let out samples of the species of flora and fauna included in the appendices of said convention without an appropriate Permit and certificate, and to verify the compatibility of the sample and the Permit document.

International trade inflicted a serious damage to Georgia's species. This concerns such species as Black Sea Bottlenose Dolphin (Russia used them for military purposes and circus shows), brown bear (chiefly because of the trade in bile). At the conference of parties of the convention, Georgia presented proposals on restricting the rules of trade in these species. Among them, the restriction adopted in 2002 on commercial use of live specimens of Black Sea Bottlenose Dolphin is still in force. Despite ardent opposition of Russia, the conference of parties adopted the Georgian initiative with the support of non-governmental organizations of the US and the EU, and international NGOs.

Problems

From the perspective of protection and use of species, there are numerous problems that require an immediate solution. First of all it is necessary to harmonize the laws, but this should not be conducted by neglecting the problems of conservation of species for the benefit of economic and institutional considerations. A national legislation stemming from the CITES convention needs to be elaborated, which is necessary for harmonization with the EU law and which represents the country's commitment.

Some aspects of the use of species of animals, which are related to customs and traditions, remain unsettled, for example falconry or traditional hunting on bock or bear. This even has the character of a ritual in some regions of Georgia. These traditions are not reflected in the legislation, and consequently a follower of traditions is considered a perpetrator and poacher. It is necessary to regulate this issue in such a way so as to strike a balance between the confining of the traditions within law on the one hand and protection of species on the other.

The procedure of obtaining a license for hunting migratory birds is cumbersome too. Even though its price is relative cheap, hunters tend to avoid obtaining of the Permit because of the complicated bureaucratic procedure. This is particularly difficult for those living in provinces.

One of the greatest threats to biodiversity in the world is invasive species. The Georgian legislation prohibits introduction of alien species into the nature, but it does not regulate how to conduct the monitoring of those species that were artificially introduced in the part and now inhabit Georgia (for example raccoon, nutria, raccoon dog) and how to take measures against them. The Soviet legislation did not recognize such prohibitions. On the contrary, foreign mammals with precious fur, fish of commercial use, and woody-plant species used to be introduced. In most cases, this did not bring about economic benefits. For example, the species with precious fur that inhabit cold longitudes do not give the fur of commercial value in the natural conditions of Georgia. On the other hand, an irreparable damage was inflicted to the biodiversity, which in many cases was reflected upon the economy. Crystal-clear examples of this are the introduction of Teleut squirrel in the Borjomi Valley, which led that ecosystem to an ecological disaster, introduction of raccoon in hollow forests, etc.

Illegal and extensive use of species represents a grave problem in our reality. The establishment of the Inspectorate of Environmental Protection and the increase of its authority are undoubtedly positive phenomena in combating poaching. The conservation needs of species, however, are not always given a due attention even when conducting legal activities. For example, obtaining of the species included in the Red List is prohibited, and licenses are not issued for this purpose, but when the licenses of forest use or extraction of minerals are issued, then an adequate attention is not paid to the fact that protection of species included in the list means not only prohibition of their obtaining but also protection of their habitat. This is laid out in the Georgian legislation too[16].

[16] Law on the Environmental Protection, Article 47, Paragraph 2: With regards to the critically endangered biological species of fauna and flora included in the Red List and the Red Book of Georgia, all sorts of activities including hunting, cropping, obtaining, tree felling, grass cutting (except for special cases) that reduces the number of flora and fauna, and worsens their habitat and life conditions are prohibited.

The mechanism of trade in galantus bulbs and cyclamen tubers also contains enough flaws, because a control is not exercised on whether the products to be exported are obtained in the wild (which is prohibited by the convention) or proliferated in artificial conditions. The legislation on the use of non-woody plants' resources is virtually nonexistent, which endangers biological diversity.

As for the state of agricultural biodiversity in Georgia, it is under a quite serious risk. During the Soviet period, with the purpose of increasing the production local species were replaced with foreign, more productive and homogenous species. Frequently this was conducting through forcing the population. In some cases during the Soviet period, extinction of aboriginal species was aimed at on ideological grounds (for example, Georgian Shepherd, or Georgian Gray Horse, the last species of which succumbed to a meat-raising program). Foreign agricultural plants like tea and citruses took up the lands of traditional agriculture and even natural eco-systems. The whole system of agriculture was changed and farmers in fact became hired employees.

In the post-Soviet period the imperfect land reform, scarce financing, and the absence of a raw materials base made farmers dependent on imported seeds, brought in by humanitarian missions or via governmental credits. In the majority of cases, they were of low quality and homogenous. Seed-banks and seed collections virtually did not exist. Such a situation threatened numerous endemic species with extinction, including unique species of vine and wheat. The country gradually loses a part of the cultural and biological heritage.

Monitoring of biodiversity is practically not conducted. A unified system of biodiversity inventory does not exist, because of which the process of data collection has a fragmentary character. Coordination does not take place between the bodies responsible for the state of biodiversity, while their employees lack appropriate qualification to conduct monitoring.

Recommendations

For the purpose of protection and sustainable use of species, following measures are necessary to implement:

1. In-situ protection of species, through expansion of the protected areas, as well as outside the protected areas through conservation of migration routes and the habitats distinguished by diversity[17]. The best way to protect species is to protect their habitat.
2. Facilitation of ex-situ measures, for instance, establishment of reserves of gene pool, implementation of reintroduction works
3. Refinement of the procedure of issuance of license for [hunting] migratory birds
4. Elaboration of the concept of traditional hunting and insertion of relevant amendments into the legislation (among them falconry and the concept of trophy hunting)
5. Reflection of the problem of invasive species in the legislation; approval of a "black list" of invasive species, study of the problem, and implementation of active management
6. Elaboration of the state strategy for conservation and sustainable use of the agricultural biodiversity of Georgia; preparation of the legislative base
7. Inventory the agriculture biodiversity of Georgia and compilation of the Red List
8. Elaboration and introduction of a unified methodology of biodiversity monitoring within and without the protected areas including the territories of economic forestry fund.

1.5 Biosafety

One of the risk factors facing the biodiversity of Georgia is spread of genetically modified living organisms, created through modern biotechnological methods, in the wild. This risk is related not only to loss of biological diversity, but also human health.

The acting legislation of Georgia does not regulate the issues related to genetically modified organisms neither with laws nor with legally binding regulations (except for the Georgian Law on Implementation of Biological

Article 53, Paragraph 1: an activity must not entail irreversible qualitative and quantitative changes in biodiversity or its degradation. Law on the Red List and Red Book of Georgia, Article 10 (Main Requirements of Protection of Critically Endangered Species), Paragraph 2: All sorts of activities including hunting, cropping, obtaining (extraction from the environment), Tree felling and grass-cutting… that might reduce the number of critically endangered species and worsen their habitat and conditions of life are prohibited.

[17] The EU legislation, in particular the EU Habitats Directive, the EU Birds Directive, and the Bern Convention oblige member-states to carry out certain measures for protection of species. The appendices to these documents lay out the lists of species and single out those that require strict protection measures on the EU territory. The EU's documents also provide recommendations to ensure sustainable use of species. A special emphasis is placed on the issues of fishing and hunting.

Processing of Agriculture, Chapter III, Article 8, which prohibits use of genetically modified organisms and their products as food additives for animals). The main source of the entry of genetically modified organisms to the territory of Georgia is transborder movement. There is no legislation that regulates movement of genetically modified organisms, their creation, use, and release into the wild; nor is a judicial base that defines in details the rights and responsibilities of the public in the sphere of living modified organisms.

It is known that several cases of import and introduction of genetically modified organisms occurred in Georgia. Because of the absence of monitoring and scientific studies, no data exists about their release; the level and degree of their impact upon ecosystems also remain unknown.

For the purpose of ratification of the Cartagena Protocol appropriate procedures were conducted in Parliament; the issue was discussed at committee hearings too, but it was turned down during a voting at a plenary sitting. As for the special law, the draft was also elaborated with participation of interested parties in 2004-2005, but could not be adopted because of various reasons, among them the adoption of the Law on Licenses and Permits, which completely changed the rules in this sphere, and which is often not compatible with international norms.

Recommendations

Measures that need to be taken in the sphere of biosafety in Georgia include:

1. Ratification of the Cartagena Protocol on Biosafety;
2. Elaboration of a legislative package regulating the sphere of biosafety, its public discussion and agreeing of the final text;
3. Elaboration of a state control mechanism and establishment of an appropriate controlling state structure with participation of public organizations;
4. Development of relevant technical base and training of cadres for the purpose of regulating genetically modified organisms in the country;
5. Inclusion of issues related to biosafety into educational programs; establishment of a system of public monitoring.

1.6 Conclusions

It is clear that the biodiversity of Georgia – on the levels of ecosystems, species, and genes – faces quite many problems and threats. A certain legislative base exists in the country, the foundations of which were laid after the adoption of the Constitution (1995). The ratification of the Biodiversity Convention by Georgia in 1994 was an important step forward, which was followed by Georgia's joining other conventions and international agreements. Despite of this, certain spheres remain which are either totally unregulated by laws (biosafety, agricultural biodiversity) or regulated poorly. Majority of laws are of declaratory nature while implementation mechanisms are flawed. Serious incompatibilities are found between the laws adopted at different times. This is felt particularly after the adoption of the Law on Licenses and Permits in 2005. This law, adopted with the aim of facilitating economic activities, upset the balance that more or less existed between environmental protection on the one hand and use of natural resources and activities having significant impact on the environment on the other; the right of the public to participate in the decision-making processes related to the environment was limited. All of this might in the near future aggravate various threats that endanger biodiversity, such as environmental pollution and excessive use.

It could be said that biodiversity conservation and environmental protection in general has never been a priority in Georgia; they were only declared when various political statements were made. As a rule, protection of biodiversity was pushed to the back whenever a project of economic development was placed on the agenda (for example, construction of the Kulevi Terminal, Baku-Tbilisi-Ceyhan pipeline, mining, building of infrastructure, etc). Budgetary financing for conservation of biodiversity was always scarce. One of the main hindering factors was uncoordinated and inconsistent activities of responsible institutions. Inefficiency of the implementation of laws has been obvious for years. Because of this, illegal use (tree felling, poaching) reached catastrophic scales. Incompatibilities between laws and inconsistency provided a fertile ground for corruption.

In 2005, the Georgian Biodiversity Strategy and Action Plan were belatedly, but still approved. Apart from the fact that the adoption of this document represents fulfilment of a convention obligation, it forms a united vision of the government on the issues of conservation and sustainable use of biodiversity.

One of the top priorities of the Georgian government's program for 2004-2009 (with the slogan: "for the united and powerful Georgia through economic growth, long-term stability and European integration") is Georgia's full integration into European and Euro-Atlantic structures. Development of the system of protected areas and facilitation of biological diversity are explicitly mentioned among the directions of reforms.

Thus, on the level of strategies, governmental plans, and political statements it appears as if everything is all right regarding conservation of biodiversity, but their implementation does not take place. Unfortunately, commitments taken under many international agreements, declarations, conventions, and treaties are fulfilled only on paper. Main factors responsible for this are:

- Low political will, said issue not being a priority
- Legislation not harmonized, weakness of regulations
- Faulty institutional arrangement
- Low level of transparency, non-participation of the public in decision-making process
- Scant financing, limited capabilities
- Absence of the personnel with modern qualification

Considering all of this, implementation of national strategies and international obligations is carried out imperfectly and as a formality. If we look over the current situation and the tendencies regarding various directions of biodiversity (progress and model of the reform of forestry, management of protected areas, trade in the species included in CITES appendices, protection of the Red Book species, etc.), we will find out that they have nothing in common with the European experience and the EU's directives.

One of the priority areas of the European Neighborhood Policy EU/Georgia Action Plan is strengthening administrative structures and procedures to ensure strategic planning of environmental issues and coordination between relevant actors. This is exactly what is envisaged by the Georgian Biodiversity Strategy and Action Plan in the field of biodiversity protection and management. Consistent implementation of this document could help to tackle the problems and avoid threats that Georgia's biodiversity faces today.

Georgia is certainly not a member of the EU, neither it is obliged to follow all the EU directives. However, as Georgia declares its strong will to integration into the European structures, it must meet certain requirements. Undoubtedly, direct transposition of different country models is not advisable; however administrative structures shall be ready if Georgia is to take steps towards accession. Moreover, accession is not the only reason to follow directives; this is also a mean to preserve biological diversity of the country. Preliminary selection of Natura 2000 candidate sites and their inclusion into the Emerald Network (such action had immensely positive effect on preservation of ecosystems and especially forests in the Europe), transposition of CITES and adoption of the national legislation on biosafety could have been significant steps towards this direction.

2. Management and Protection of Water Resources in Georgia

2.1 Introduction

Georgia is considered to be rich in water resources. It should also be noted, however, that water resources are unequally distributed, and are mainly accumulated in the western part of the country. Hence correct distribution of the water resources and supplying resource-poor eastern region with water remain one of the main tasks of water management. Aside from this, pollution of surface waters including transboundary pollution remains a serious threat in Georgia.

Nowadays the issues of management and protection of water resources are priorities in the field of environment protection in Georgia. The priorities of the Ministry of Environment Protection and Natural Resources for the year of 2007 include ensuring transition to the basin management of water resources. Apart from this, the issues of protecting surface waters from pollution are part of the Georgian National Environmental Action Programme.

The commitments Georgia undertook within the framework of the European Neighborhood Policy also mention issues related to water management. In particular, among the priorities of the field of environment protection in the EU-Georgia Action Plan are: elaboration of framework legislation and basic procedures and ensuring of planning in the field of water quality, improvement of the transboundary approach in the field of water management, and also active participation in the Eastern Europe, Caucasus and Central Asia component (EECCA) of the EU water initiative (EUWI).[18]"

Aside from this, harmonization of Georgia's legislation with the EU legislation constitutes an important component of the Agreement on Partnership and Cooperation between the EU and Georgia, which should ensure strengthening of economic ties between Georgia and EU member states and invigorating further cooperation[19]. The National Program of Harmonization of the Georgian legislation with the EU law places harmonization of the Georgian legislation in the field of water resource management and protection with the EU law among first-rate priorities. The action plan of the years 2004-2006 for implementation of the national program presents the EU's crucial directives in the field of water, with which the Georgian water legislation should be aligned.

As a non-EU state Georgia is not obliged to ensure compatibility with the EU law. Nor does the process of approximation per se imply a mechanical copying of European directives to the Georgian legislation. But to the extent that Georgia undertakes the commitment to come near to the standards of the EU law, the process of harmonization is often understood superficially and the complicated system of regulation as envisaged by the EU law is neglected.

The research objective presented in this chapter is to assess the current or prospective amendments to the Georgian legislation: to what extent the Georgian legislation ensures implementation of the main principles of water resources management as envisaged by the EU law, and what is planned in this regard.

2.2 Georgian Legislation on Water

Georgian legislation on water comprises rather numerous laws and legally binding regulations. Out of them the most important document that determines water policy is the Georgian Law on Water (1997). The Law on Water represents the fundamental document of the water legislation, which must ensure implementation of a unified state policy in the field of water protection and consumption; protection of water facilities and rational use of water resources with principles of sustainable development in mind; meeting the population's demand for clean drinkable water in the place; sustainability and sustainable use of water fauna; avoidance of negative impact of water and effective liquidation of consequences, etc[20].

Other critical laws regulating water are: Law on Environmental Protection, Law on Entrails, Law on Licenses and Permits, Law on Amelioration of Soils, etc.

[18] EU-Georgia Action Plan adopted within the framework of the European Neighborhood Policy in October 2006
[19] National program of harmonization of the Georgian legislation with the EU law
[20] Georgian Law on Water, 1997, Article 4

According to the Law on Environment Protection, state management of the use of natural resource means regulation of the use of natural resources, namely accounting, licensing, monitoring and control (Article 4). Deriving from the principles of "pay use of nature", fees are in place in for the use of natural resources. The amount of the fee for each natural resource, including water, is laid out in the Georgian Law on the Fees for Use of Natural Resources (2004) in accordance with the groups of water bodies and taking into account the type of the activity. Also, state regulation of natural resources is carried out via the system of licenses and Permits. The rules for use of water resources and for licensing are stipulated in the Georgian Law on Water, Law on Licenses and Permits, Law on Entrails, and Law on Amelioration of Soils.

Status of Water

According to the Georgian legislation, the water on the territory of Georgia is a state property and could be given away for consumption only. The law prohibits all sorts of actions that directly or indirectly impinge upon the state ownership of water[21]. Violation of the state ownership right on water is punished with appropriate fines as envisaged by the Georgian Code of Administrative Violations[22].

Water use is paid in Georgia. Bodies of the Georgian State Water Fund are provided for water use, namely surface and underground waters of Georgia: rivers, lakes, reservoirs, natural and man-made surface bodies of water, waters of channels and ponds, undergrounds waters (including springs and waters of continental shelf); glaciers and permanent snow cover); swamps; territorial waters of Georgia. In addition, use of bodies of water that are of particular state importance or of particular scientific and/or cultural value could be wholly or partially prohibited, as envisaged by the Georgian legislation[23].

Management of Water Resources

As was already mentioned, general water use in Georgia for non-industrial, individual, drinkable, household, aesthetic, recreation, healthcare and other needs, and without using such structures and equipment that have an impact on the state of water is free and does not require license[24]. Specific water use, which implies use of such facilities and technical equipment that have an impact on the state of water is paid and requires an appropriate license[25].

The Law on Licenses and Permits of June 24, 2005 sets types of licenses and permits for different activities and actions. Prior to the adoption of this law, licensing for water use was regulated by the Law on Water, whose Article 48 determined more than 10 types of water use, for which it was necessary to obtain the license, including extraction of water from a surface water body, discharge of wastewater into bodies of water, resort and sport purposes, log driving on bodies of water, establishment of hunting and fish farms, etc.

Adoption of the Law on Licenses and Permits limited the types of water use that require state regulation via licensing. In the field of use of water and related natural resources the law sets a license of use for fishing, use of underground space and extraction of minerals (including underground waters). As for the direct water use, the Law – unlike the Law on Water – requires a permit for two types of activities only: extraction of water from a surface water body, and discharge of water into a surface water body[26]. Correspondingly, amendments to the Georgian legislation are planned and carried out. Nowadays, the rules and terms of issuance of permits for the aforementioned two types of water use are regulated by the Statute on Rules and Terms of Issuance of Permits for Water Extraction from Bodies of Water and for Water Release into Bodies of Water, which was issued to implement the requirements of the Law on Licenses and Permits and approved by the Resolution #137 of 11 August 2005 of the government of Georgia. The permits are issued by the Georgian Ministry of Environment Protection and Natural Resources, and also by the Department of Environment Protection and Natural Resources, a sub-agency unit of the government of Adjara Autonomous Republic, in the cases determined by the Resolution #21 of 26 January 2006 of the government of Georgia on Delegation of Authority to the Department of Environment Protection and Natural Resources, a sub-agency unit of the government of Adjara Autonomous Republic, to Issue Licenses and Permits. The Ministry could grant the authority to issue permits to its own territorial units too[27].

[21] Georgian Law on Water, 1997, Article 6
[22] Georgian Code of Administrative Violations, 1984, Article 48
[23] Georgian Law on Water, 1997, Article 30
[24] Georgian Law on Water, 1997, Article 32
[25] Georgian Law on Water, 1997, Article 33
[26] Georgian Law on Licenses and Permits, 2005, Article 24
[27] Resolution #137 of 11 August 2005 of the government of Georgia on Approving the Statute on Rules and Terms of Issuance of Permits for Water Extraction from Bodies of Water and for Water Release into Bodies of Water

According to the Article 6 of the Statute, apart from the conditions for permit set by the relevant legislative acts of Georgia, an applicant might be requested to present additional information and relevant documentation like explanatory letter for the type of water use and parameters; master plan of the facility showing the system of water pipes; topographic map pinpointing the sites of water extraction or a conclusion from a relevant local environment protection body. In order to obtain a permit for water release [the applicant should also be requested to follow] the permissible standards of polluting materials released into the water body together with out flowing waters, as set by the ministry. Apart from this, the Law on Licenses and Permits stipulated that additional conditions for permits could be determined by representative bodies of local self-governance (Article 25).

Licensing for use of underground waters is regulated by the Statute on Rules and Conditions of the Issuance of License for Extraction of Minerals, approved by the Resolution #136 of 11 August 2005 of the government of Georgia. As in the cases of other types of licenses, the license for use of underground waters is issued through an auction (Article 3). The license-issuing body is the Georgian Ministry of Environment Protection and Natural Resources and the Department of Environment Protection and Natural Resources, a sub-agency of the government of Adjara Autonomous Republic (Article 2). For the use of minerals (including underground waters), concrete rules and requirements as well as quantitative, qualitative and temporal norms and rules are decided by the Ministry and approved by a separate legally binding regulation in each particular case (Article 3).

The control over the implementation of the conditions of licenses and permits issued by the Ministry is exercised by the Inspectorate of Environment Protection, a state sub-agency unit of the Ministry. The Inspectorate of Environment Protection is authorized to review cases of administrative violations and to make a ruling on imposition of an administrative fee. Also, in the cases as envisaged by the law, it is authorized to bring up the issue of canceling license or permit[28].

Punitive measures for a violation of license conditions envisage fining of the license holder. At the same time, the license issuer sets further dates for the license holder to meet the license conditions. If the punishment notwithstanding the license holder fails to meet the license conditions within these terms too, then the imposed fines will be tripled and further dates will be set; if they are still not met, then the fine will be tripled once more. And if the license holder still fails to meet the license conditions within the set dates, then the license issuer takes a decision to cancel the license. Violation of permit conditions by the permit holder incurs similar measures. In case the permit conditions are not met within the set dates after three rounds of fines, then the permit issuer takes a decision to cancel the permit[29].

Georgian Law on Water sets establishment of a state system for calculation of water and its use, and implementation of state cadastre, which means ascertainment of water bodies and the volume and quality of the water they contain, ascertainment of the data of their use, a scientifically proven distribution of water between users bearing in mind that the population's need for water for drinking and household purposes should be met first of all. Works to study underground waters and all other uses of underground waters are also subject to state registration and calculation, which is regulated by the Georgian Law on Entrails[30].

The Statute on State Registration of Water Use, approved by the Order #106 of August 12 1996 of the Georgian Minister of Environment Protection and Natural Resources, sets the state rules for calculation of water use for ministries, departments, and agencies; state, joint-stock, private, cooperative and public enterprises; organizations and institutions.

State registration of water use implies setting-up a system of regular monitoring of the quantitative and qualitative features of sources of anthropogenic influence on bodies of water. Afterwards its data should be used to plan water use and protection, to work out norms for water use and release, to determine the quality of water, etc. According to the statute, the water-consuming organizations are obliged to measure water extraction and release with water-meters and the equipment that checks the quality of the released water, while the Ministry of Environment Protection and Natural Resources must exercise state control over the correctness of the primary registration of the water extracted from/released into bodies of water by water users and over the finding of qualitative characters of the released water. On the basis of reports provided by water users, the Ministry must also carry out state registration of water, analysis of the data, and publication.

[28] Order #277 of 29 August 2005 of the Georgian Minister of Environment Protection and Natural Resources on Approving the Statute of Inspectorate of Environment Protection, a Sub-agency Unit of the Georgian Ministry of Environment Protection and Natural Resources
[29] Georgian Law on Licenses and Permits, 2005, Articles 21, 22 and 33
[30] Georgian Law on Water, 1997, Articles 76 and 77

Water Protection

According to the Georgian legislation, planning of water protection measures must be carried out on the basis of the strategy of sustainable development of the country; the national program of environment protection actions; regional, institutional and local environment protection action programs; and environment protection management plans of operating facilities, in accordance with the Georgian Laws on Environment Protection, on Water, on the Entrails, on the Fauna, on the System of Protected Territories and other normative acts[31].

During the planning and implementation of water protection measures, it should be ensured that bodies of water are protected from pollution, waste, shrinking and other negative influences that may inflict damage to the health of population, reduce the stock of fish, worsen the conditions of water supply, and induce deterioration of physical, chemical, biological features of the water, weaken the ability of natural self-purification, disrupt the hydrological and hydro-geological regimes of water, etc[32].

In order to keep the ecological balance in the environment, the Georgian legislation sets the qualitative norms of the state of the environment and the thresholds for permissible emission of dangerous materials and pollution of the environment with microorganisms, the norms of using chemical substances in the environment, etc. Qualitative norms of the state of the environment should be elaborated once in five years by the Georgian Ministry of Labor, Healthcare and Social Protection in agreement with the Ministry of Environment Protection and Natural Resources. In the field of water protection and use the Georgian legislation sets the following:

- Qualitative norms of the state of water: permissible norms of concentration of dangerous substances and amount of microorganisms harmful for human health and natural environment and
- Permissible norms of emission (release) of dangerous substances into bodies of water: norms of release of industrial, household-communal and other out flowing waters into bodies of water, which are ascertained for each particular source on the basis of considering its technological peculiarities and background pollution of the location to the extent that on-the-spot concentration of emission substances and microorganisms does not exceed the permissible threshold of concentration.
- Norm of loading bodies of water: quotas for extraction of water from bodies of water, which are set in each particular case on the basis of approved general, basin, and territorial complex schemes of water use and protection, and balances of water economy, taking into account the principles of sustainable development[33].

Apart from this the law envisages accounting, reporting, and assessment of the qualitative and quantitative indicators of the environment, which means creation of cadastres of natural resources and environment condition, compilation of statistics, inventorying, establishment of passport system and cartography[34].

Main rules of protecting surface waters of Georgia from pollution are laid out in the Rules of Protection of Surface Waters of Georgia, approved by the Order #130 of 17 September 196 of the Georgian Minister of Environment Protection and Natural resources, which regulates different types of entrepreneurship that could exert a negative influence on the condition of water and pollution of surface bodies of waters by point and diffuse sources of water. The document lays out main measures to avoid and counter pollution of surface waters: to set up norms for the quality of water in bodies of water; to set time limits for release of polluting substances into bodies of water; to set time limits for the economic activities that influence water conditions; to plan water protection measures; to conduct ecological examination of new equipment and technology, materials and substances, also of construction (reconstruction) projects of facilities; to exercise control on meeting the conditions set for release of polluting substances by point and diffuse sources of water; to monitor surface waters; to use economic leverage to reduce water pollution; the issue of responsibility in case water protection requirements and rules are violated.

The document sets the standards of water quality of reservoirs according to particular categories of water use (water use for drinking and domestic purposes; water use for economic/domestic purposes; water use for fishery purposes). For this purpose, appendices of the document lay out the set standards for the composition and characteristics of surface waters, which should be elaborated at appropriate scientific-research institutions. Besides, standards of release are set for each site of wastewater.

[31] Georgian Law on Water, 1997, Chapter III, Article 14
[32] Georgian Law on Water, 1997, Chapter III
[33] Georgian Law on Water, 1997, Article 84
[34] Georgian Law on Water, 1997, Articles 26, 28 and 29

Order #105 of 12 August 1996 of the Georgian Minister of Environment Protection and Natural Resources approved methodology of calculating standards of permissible norms of polluting substances released into water reservoirs alongside outflowing waters. The project for the permissible standards of release is prepared by the water user. Further standards for each water user are approved by the Department of Water Resources Protection of the Georgian Ministry of Environment Protection and Natural Resources.

Order #279/N of 16 August 2001 of the Georgian Minister of Labor, Healthcare and Social Protection sets the standards for the qualitative conditions of the environment. The order determines qualitative standards for the water of centralized, non-centralized, and surface water supply system, rules and standards of sanitary protection of surface waters and springs, and also determines hygienic rules and norms for the protection and use of coastal sea waters, etc.

Violation of water protection procedures: water pollution of different types, is punishable by appropriate fines as envisaged by the Georgian Code of Administrative Violations (Article 58).

State control and monitoring of water protection is exercised by the Ministry of Environment Protection and Natural Resources. According to the law, water user is obliged to conduct self-control and provide the ministry with the information on water use, volume and composition of wastewater, also inform about the cases when the standards of permissible norms of polluting substances are exceeded[35].

Protection and use of underground waters, protection of water fauna, exploitation of fauna, flora, forest, soil and other natural resources during water use is regulated by the Law on Water as well as by other relevant legislation: Law on the Entrails, Law on the Fauna, etc.

2.3 New Initiative in the Field of Water Management Policy

Draft Law on Water[36]

According to the new Draft Law on Water, management of water resources in Georgia should be based on the principles of basin management (Article 10). The Ministry of Environment Protection and Natural Resources should set the rule for preparing plans of management of river basins. Elaboration of the basin management plan, planning of water resource use, and management of river basins based on appropriate plans will be carried out by legal entities of public law, whose number, operational territory, and statute is approved by the Minister of Environment Protection and Natural Resources (Article 12 and 13). Legal entity of public law must also ensure to make an inventory of surface waters; inventory of all types of water users; create a network for quantitative and qualitative monitoring of surface bodies of water and carry out monitoring; to register permits of water extraction and water release issued by the Ministry of Environment Protection and Natural Resources; to monitor issued permits; to control the meeting of permit conditions; to protect river basin from illegal activities; to develop and implement plans for the protection against floods and droughts; to carry out riverbank protection works (Article 13). The state control over activities of the legal entities of public law is exercised by the Ministry of Environment Protection and Natural Resources (Article 12).

Local self-governance bodies on their part exercise management of water resources under their ownership. According to the draft law, the property of local self-governance bodies comprises of water resources falling under the groups of local importance (Article 9). Accordingly, in the field of the management of the water resources they own, self-governance bodies ensure: to set rules for water resources management; to monitor measures of rational use and protection of water; to prevent illegal use of water and willful economic activities on bodies of water; to control protection and use of water on the territory of local self-governance; to conduct state accounting of water on the territory of local self-governance; to conduct accounting of its use, etc.

Article #19 of the draft law lays out standards for use and protection of surface waters. The draft law envisages only the qualitative norms of the condition of surface water and ascertainment of permissible norms of release of polluting substances into surface bodies of water. Unlike the acting Law on Water, the draft law does not envisage norms of loading bodies of waters, which implies “quotas of water extraction from bodies of water, which are ascertained with the principles of sustainable development in mind on the basis of general, basin,

[35] Order #130 of 17 September 1996 of the Georgian Minister of Environment Protection and Natural Resources on Approval of Rules for Protection of Georgian Surface Waters from Pollution

[36] It is known that a new draft Law on Water is elaborated at the Ministry of Environment Protection and Natural Resources for more than one year, which should replace the acting law of the same title. The draft law has not yet been disseminated officially. Therefore the description or comments about the draft law are based on the version unofficially obtained in March 2007.

and territorial schemes and water economy balances of the approved use and protection of water in each particular case"[37].

The fifth chapter of the Draft Law, which touches upon water use, envisages those amendments that were made to the legislation regulating license and permit rules. According to the Article 32, two types of permits are issued for special water use: permit for water extraction from a surface body of water and permit for wastewater release to a surface body of water. Also, in order to get permits of water extraction or water release additional documentation might be required as envisaged by the acting legislation, for example, an explanatory note on the type of water use and parameters; a conclusion of the appropriate territorial environmental protection body; standards of permissible norms of polluting substances released alongside wastewater into the surface body of water, etc[38]., which the Draft Law on Water considers obligatory.

Water Policy

Of the policy-setting documents in the field of water, attention should be drawn to the two main documents, none of which are officially approved as of yet. The first is the draft concept of integrated water management[39], which according to official sources has already been mulled over and approved at a governmental session[40]. The other document is the draft concept of water resource management policy of Georgia, prepared by the Ministry of Environment Protection and Natural Resources.

Similar to the Draft Law on Water, both of these documents underline the necessity of implementation of basin management of water resources. Also, the fist document places particular emphasis on the importance of effective use and economic profit of water resources. A river is presented as a "single physical and economic object." Crucial importance for the formation of a river basin unit falls on a geographic principle that "a basin should be physically united" and an economic principle that "a basin should be economically sustainable."

The project of the Ministry of Environment Protection and Natural Resources aims to create a 25-year model of improved and effective management of water resources which must ensure: preservation of ecologic values and functions of waters of Georgia; preservation and improvement of quantitative and qualitative indicators of water; access to safe clean water; protection from and prevention of floods and droughts; preservation of hydrological mode.

The project mentions ineffectiveness of the current administrative model of water resources management. In particular, the project states that with the existing administrative model it is impossible to plan effective use of water resources within the confines of river basin with consideration of the interests of water users and preservation and protection of ecosystems. Accordingly, the priority direction of the water resource management policy presented in the project is to implement basin management of water resources and to strengthen appropriate legal and institutional foundations.

2.3 Compatibility of Georgian Water Legislation and New Initiatives with International and European Approaches

Even though Georgia actively supports the necessity of making the national legislation compatible with the EU law and the necessity of implementing integrated methods of water resources management in Georgia, in many cases the existing legal basis or planned amendment are only of superficial character and do not guarantee real implementation of the EU water policy and of the principles of sustainable water management in general.

As was mentioned, at present water pollution represents one of the serious environmental problems in Georgia. The quality of surface waters as well as of potable water is often unsatisfactory. Malfunctioning and in a number of cases absence of potable water supply and sewerage infrastructure are problematic too. One of the main features that distinguish the Georgian legislation from the EU law is that even within the confines of the extant regulation it is rather difficult to execute and implement the set standards. The effectiveness of EU

[37] Georgian Law on Water, 1997, Article 84

[38] Resolution #137 of 11 August 2005 of the government of Georgia on Approving the Statute on Rules and Conditions of Issuance of Permits for Water Extraction from Surface Bodies of Water and Water Release into Surface Bodies of Water, Article 6

[39] The document was not officially disseminated or made accessible to the public in some other ways. The opinions expressed here draw on an unofficially obtained presentation document of the draft concept, presented at a session of the government of Georgia

[40] Information on main activities of the Office of State Minister for Reform Coordination Issues for the year 2006, available at http://www.government.gov.ge/full_text.php?nid=1980

directives stems from the very fact that concrete measures are placed within strictly defined dates and the procedures of implementation are laid out clearly. The issues of accountability are in order too. The Georgian legislation gives much more room for maneuvering and evasion of obligations, especially provided that in many cases the body responsible for a particular action is not explicitly determined or sanctions are not envisaged in case provisions are not met.

Integrated Management of Resources

Like almost in the whole region of the Eastern Europe, the Caucasus, and Central Asia, Georgia too does not yet have the institutions necessary to implement integrated management of water resources. In the same vain, integrated management of water resources so far does not represent a foundation for national policy[41]. A 2006 report of the Ministry of Environment Protection and Natural Resources, however, mentions "ensuring the transition to basin management system of water resources" as a priority direction. The necessity to implement basin management system is also actively discussed in the water concepts prepared by the government of Georgia and the Ministry, and in the Draft Law on Water. It should also be noted here that when the matter refers to the system of basin management of water resources one should take into account the fact that basin management is only a part of integrated management of water resources, or more precisely, an instrument to implement integrated management. Therefore, it is necessary to consider the whole context of integrated management.

It should also be noted that the Georgian legislation so far does not envisage the procedures for transition to basin management of water: identification of basins, procedures of water management, involvement of interested parties, etc. The institutions necessary to implement basin management do not exist. Water management is still conducted in a centralized way.

Identification and Study of Basins

The aim of the united water policy of the European community, among the main issues of water management and protection, is to ensure: identification of Europe's bodies of water and their characteristics in the confines of river basins; and elaboration of an appropriate plan of water management and programs of the actions to be implemented for each body of water. Also, the framework directive on Water sets the timeframe for identification of concrete basins and a competent body for basin management. Identification of basins should be preceded by a thorough analysis of river basins, namely: analysis of characteristics of river basins; evaluation of the impact of human activities on the quality of surface and underground waters; and economic analysis of water. Analysis is carried out in terms of detailed technical characteristics whose list is provided in the appendices of the directive. Apart from this, member states should conduct an evaluation of the status of surface waters' sensibility. Considering the requirements envisaged by the directive, an evaluation of the quality of surface waters should be conducted on the existing data of analysis. For those bodies of water that do not meet the benchmarks of surface water quality, an optimization of monitoring programs and programs of prospective actions should be conducted.

It is noteworthy that to conduct this research member states were given the period of four years after the directive's entry into force, and the period of nine years to elaborate plans of basin management and programs of measures to be implemented.

According to the above-mentioned draft concept of integrated water management in Georgia, identification of basins has already been implemented in Georgia. Similar research works in terms of studying basin characteristics or assessing anthropogenic influence have not yet been conducted, however. Nor is the necessity to conduct such works envisaged by any legislative document.

As was mentioned, preliminary works for the identification of basins includes an economic analysis. The EU's approach in this regard, however, is somewhat different from the recently established viewpoint in Georgia which perceives water only as a source of economic profit. In particular, as discussed in the Appendix III of the EU's framework directive on Water, the goal of economic analysis is to ensure that the costs of water supply are covered, including the environment protection costs and the resource price, and bearing in mind the principle of "the polluter pays." According to the directive, by 2010 the economic policy of water must ensure implementation of mechanisms that facilitate rational use of water resources (Article 9, Appendix III). For this end, it is required to make a long-term forecast on the demand and supply of water, to determine the volume, prices and costs related to water supply; to estimate required investments; to develop the financially most convenient combination for the program of actions that is to be implemented under the directive.

[41] Status and plans of EECCA countries in fulfilling the WSSD (World Summit for Sustainable Development) target on IWRM (Integrated Water Resources Management) plans by 2005

It is noteworthy that as a result of amendments to the Georgian legislation the tax on polluting the environment with harmful substances was abolished. Thus, no mechanism is in place to implement the principle of "the polluter pays." The real costs of water supply, with the factor of environment protection taken into account, are not estimated either.

Thus, identification of basins requires thorough research, studying of many parameters included. Identification of a river basin in the Georgian draft concept of water is based, however, only on two main parameters: "a basin should be physically united" and "a basin should be economically sustainable."

It is also noteworthy that renewal of the analyses and assessment envisaged by the EU framework directive on water takes place at a certain frequency (Article 5). In comparison, bulk of the data currently existing in Georgia is obsolete and based on Soviet-era estimates.

It could be said that a legislative basis to ensure basin management of water resources has not yet been prepare in Georgia. Despite of this, a document prepared by Georgian-European Policy and Legal Advice Center (GEPLAC) refers to the water concept prepared by the Georgian government as the document based on the principles of basin management of water, according to which the amendments made to the Law on Water should harmonize the Law on Water with the EU framework directive on water 2000/60/EC, which could be considered a total nonsense at this stage. According to the same document the main problem that might arise with regards to this concept is possible debates that will presumably follow the issue of water ownership discussed in the concept. It is also utterly groundless to argue as if the implementation of certain crucial, long-term priorities of the national program of harmonization of legislation have already been implemented or are under way (for example, harmonization with the EU framework directive on water) and that so far changes have not been observed only with regards to the directives on municipal sewerage waters and on the quality of recreation waters[42].

As for the likelihood of giving out water resources in long-term use, it is again doubtful that the issue has been properly studied and prepared in Georgia. It is noteworthy that frequently the amendments elaborated on the basis of only theoretical profit (for example, market instruments) or success stories of other countries (as a rule, developed countries) without an inclusive analysis of the background situation is completely unjustifiable. For example, participation of the private sector is not reasonable when the country does not possess appropriate regulatory and expert resources[43].

Water Use

As was mentioned, the Georgian Law on Water envisages creation of the national system of water consumption accounting and doing the national cadastre. Because of the lack of finances, however, the cadastre is not carried out. During the issuance of permits for water use, the evaluation of the probable volume of the extracted water is carried out based on the old data and oral calculations. Apart from this, the correct distribution of water is not regulated. For example, one of the serious problems of Georgia is excessive extraction of water from headstreams (chiefly for electricity generation and water supply purposes), which reduces the volume of available water for the consumers down the stream (agriculture, fishery)[44]. Water accounting is done only on the basis of information provided by consumers and is imprecise.

Water Protection

The framework directive on water aims to reach a good quality of water resources by 2015. To this end, this and other related directives envisage concrete, time-specific measures. The framework directive on water requires from member states to develop the plan and action programs of basin management, with maintenance of water quality, protection from pollution, and sustainable consumption of water taken into account. Also the plan of actions should be renewed periodically. Member states should also develop a program of river monitoring in the confines of each basin. A list is provided of priority substances that pose a serious danger to the water environment and which must be gradually reduced and eliminated. Renewable quality requirements and physical, chemical and microbiological parameters are periodically set for potable surface waters and recreational waters. The minimum frequency of sample-taking and analysis is strictly determined too.

In Georgia the problems related to water protection measures, namely the problems of monitoring, analysis, information processing, periodical updates, etc., stem not only from the absence of a material-technical base,

[42] Implementation of the National Programme for Harmonization of the Georgian Legislation with that of the EU, GEPLAC, June, 2006
[43] Global Water Partnership, Integrated Water Resources Management Toolbox, 2003
[44] Status and plans of EECCA countries in fulfilling the WSSD (World Summit for Sustainable Development) target on IWRM (Integrated Water Resources Management) plans by 2005

but also from vaguely defined procedures and obligations of the legislation. In particular, the obligations regarding regular monitoring are not clearly defined. The frequency and terms of monitoring are not envisaged either.

Aside from this the current Georgian legislation cannot provide an appropriate regulation for the release of harmful substances into bodies of water. Likewise, no mechanisms exist to facilitate reduction of pollution. Taxes on pollution of the environment with harmful substances have been removed from the 2004 Tax Code, namely the Tax on Harmful Substances Released into Bodies of Water from Stationary Sources (among them, communal sewage and wastewater collectors) envisaged by the 1997 Tax Code (Chapter XI). Any alternative mechanism to the principle of "the polluter pays" has not been devised yet. At present regulation of the release of harmful substances into bodies of water is exercised only at the stage of granting the permit. According to the acting rules on permits, presentation of the ministry-approved permissible norms of polluting substances to be released by enterprise into a surface body of water are required only as an additional provision for permit[45]. As was already mentioned, however, the new Draft Law on Water places this provision among obligatory provisions for permit.

Reporting

The EU legislation place a particular importance on preparation of regular reports. They represent strictly time-specific reports on implementation of the legislation.

The Georgian legislation does not envisage preparation of such a type of reports. As for the preparation of extant mandatory reports, it bears quite a formal character. Analysis and evaluation of prepared reports are not carried out. The obligation (responsible body) and frequency of report preparation are not clearly defined. In general, reports do not have due importance and no measures are taken if they are not prepared.

2.4 Conclusions and Recommendations

At present the acting Georgian legislation on water or proposed concepts do not contain tangible changes towards harmonization with the EU legislation or implementation of integrated management of water resources.

The only innovation the new water concepts offer is the imitative to implement water basin management. The introduction of this term per se, however, does not mean harmonization with EU principles. Basin management on its part constitutes just a management unit and an instrument of integrated management of water resources. Integrated management of water resources should not be conducted in a river basin, as proposed by the concept of water document, but instead integrated management should be conducted through choosing a river basin as a unit of management.

In the governmental document of water concept an emphasis is diverted onto economic profit. Involvement of the private sector is considered an easy solution to some extent – when the state frees itself of the obligation to "take care for" water and delegates this task to the private sector. It has been overlooked, however, that involvement of the private sector does not alleviate the regulatory function of the state, but instead strengthens it even more.

Apart from this, the procedures necessary for the transition to the basin management of water, perception of the necessity of analyzing water resources, and mechanisms of their implementation are not discernible as of yet. As was mentioned, according to EU directives water management is related to a quite complicated system of regulation, which is accompanied by a sound system of monitoring and implementation. Water management, in EU's understanding, is a dynamic, result-oriented process, and not something like a mechanical implementation of the legislation. So far the Georgian water policy does not give an impression of possessing concrete objectives and setting the ways for their implementation. The legislation frequently leaves the room for maneuvering and non-implementation. In many cases, on the one hand this or that principle is mentioned, while on the other its implementation is not provided with strict obligations. In such cases, measures envisaged by the law might not be enforced because of various reasons, for example, the absence of financial-technical base, as was the case before. Elaboration of a functioning plan implies the very development of clearly defined and implementable procedures that takes into account existing situation, including financial limits.

[45] Resolution #137 of 11 August 2005 of the government of Georgia on Approving the Statute on Rules and Terms of Issuance of Permits for Water Extraction from Bodies of Water and for Water Release into Bodies of Water

Therefore the main objective is to understand the need for water protection and correct management of water resource, and not just a formal implementation of the commitments concerning harmonization. Otherwise, EU's principles will remain in the Georgian legislation as general concepts like many others whose implementation is good but non-implementation is not a problem either.

Thus the Georgian legislation on water requires important amendments for harmonization with the EU law. The same applies to the implementation of the principles of integrated management of water resources. At the same time, it is important that the processes are comprehended in depth and the changes do not acquire a superficial character.

For implementation of the principles of integrated management of water first of all it is indispensable to obtain the necessary information on the physical-chemical characteristics of water as well as social and economic aspects.

For the Georgian legislation to become more active, it is necessary to clearly define the bodies that are responsible for a particular action and to ensure accountability. It is also necessary that the legislation is dynamic, oriented towards concrete measures, and renewable.

It is also necessary to periodically review and renew the quality norms and the permissible concentration of polluting substances. This should become a dynamic process that is oriented towards achieving a concrete goal (protection of the quality of water), and not towards mechanic implementation of the legislation.

For the legislation to perform properly it is necessary to develop an appropriate, functioning system of monitoring. It is also necessary to ensure reporting and to take the preparation of reports with due seriousness. Relevant institutions should be established in order to implement the basin management system of water.

3. Preconditions for Development of Sustainable Energy in Georgia

3.1 Introduction

An analysis of the Georgian energy sector's potential shows that the country possesses large resources to establish a sustainable energy system. Georgia is rich with renewable resources, specifically small hydro, wind, geothermal energy sources and solar power. Despite the some progress achieved during the recent years the state of the energy sector still remains unsustainable. This is caused by an imperfect legislative basis and an energy policy that in the long run does not aim at setting up a sustainable energy system.

Following the break up of the Soviet Union, Georgia's energy sector was almost destroyed. This contributed heavily to the breakdown of the state's economy and to the increase of poverty among the population. This also had a disastrous impact both on the environment (degradation of forests, erosion, etc) and the health of the population (usage of low quality oil products).

In order to rectify the situation structural reforms have been conducted since 1994 which through liberalization, privatization and depoliticization of the energy sector aimed at attracting private investments, creating a competitive milieu, and increasing access to energy. Roughly 700 million USD has been allocated for implementation of the reforms and for rehabilitation of the destroyed or out-of-service energy-generating facilities. In 1994-2002 the funds were allocated by various international financial institutions (the World Bank, the European Bank for Reconstruction and Development) and bilateral agencies, but the corruption and lack of transparency persistent in the sector plus "ready-made receipts" by the international organizations led to the futile spending of hundreds of millions of dollars, while the state remained in a deep energy crisis.

As a result, following the Rose Revolution the government's activities were mainly directed to quick eradication of the energy deficit, although the problems and tasks haunting the energy sector are by far more diverse and difficult. It is essential for sustainable development of the country that the energy sector becomes a viable, effective, and self-developing sector that guarantees the states' security and sustainable development for the decades to come, with minimum costs and maximum protection of the popular interests.

The EU-Georgia Action Plan within the framework of the European Neighborhood Policy openly requires "energy policy convergence towards EU energy policy objectives" through elaboration and implementation of "a coherent long-term energy policy converging gradually with the EU energy policy objectives including security of energy supply."The main subject of research of this chapter is the power sector. We will attempt to analyze and assess the current and the expected changes in Georgia from the viewpoint of sustainable energy development.

3.2 Framework Documents Regulating Energy Sector

Long-term priorities of energy sector development are laid out in the document "Main Priorities of the State Policy in Georgia's Energy Sector", approved by the Georgian Parliament in 2006.

At present the main legislative act that regulates the energy sector in Georgia is the Georgian Law on Electric Energy and Natural Gas, which regulates "activities and relations of individual entrepreneurs, physical and legal entities in the spheres of management of electric energy system, wholesale trade in electric energy (power), electricity generation, transmission, dispatching, distribution, import, export and consumption, also in the spheres of supply, import, export, transportation, distribution and consumption of natural gas, and ensures the functioning and development of the electric energy and natural gas sectors of Georgia in accordance with the principles of market economy."

According to the legislation, Georgian Ministry of Energy represents the body that elaborated main directions of the state's policy and coordinates their implementation. The other main regulatory body is the Georgian National Energy Regulating Commission (GNERC). GNERC's function is to issue licenses and regulate tariffs in the Georgian electric energy and natural gas sector. At the same time the Commission is authorized to establish and approve the rules for technical and economic functioning of the system, including for terms license, and control their implementation.

In 2006-2007 significant changes were made to the Law on Electric Energy and Natural Gas in accordance with the Main Directions of the State Policy in the Georgian Energy Sector (hereafter Policy Document) approved in 2006. On the one hand, these changes like the Policy Document itself seem quite progressive, though there are certain problems and tendencies that should be discussed today to create foundation for the sustainable energy system.

3.3 Georgia's Energy Policy

According to the Policy Document, the main long-term objective is to "fully meet the existent demand for electric energy in the country through own hydro-power resources", "gradually, first by supplanting import and then by supplanting thermal-power generation." Another, longer-term objective could be discerned here, namely: "From a state that imports energy resources Georgia should gradually become a state that possesses high technical-economic characteristics, stable, competitive [and] flexible, independent energy capabilities."

It should be noted that the progressive aims of the policy are understood in the Document as the existence of energy resources per se and development of Georgia's export potential. On the one hand this casts doubt on the chances of achieving said goal, and on the other hand this greatly increases the risks of negative impact on Georgia's environment and population.

Below is reviewed separate aspects of the Policy Document and related legislative, political and infrastructural initiatives.

3.3.1 Energy Security

The main priority and objective of the Policy Document is to ensure energy security, which should be based upon performing the following tasks:

- Complete re-equipment of the technologically obsolete and physically worn-out technical base should be carried out;
- New power stations and the infrastructure for transmission of electric energy and natural gas should be built;
- Diversification of the imported energy resources (natural gas, oil, electric energy) should be achieved;
- Commercially profitable economic model of the sector should be established.

As shown above, the problem of energy security still boils down to the security of supplies. Expansion of reservoirs that store energy resources, strengthening of relations between states, and diversity of suppliers represents a component of energy security. It should be taken into account that reduction of the demand for energy, reduction of energy dependency, and sustainability of the system is the very first and chief objective of energy security, because the most important goal of the energy security concept is to minimize those risks and impacts on the economy and society that will occur in case energy supplies are interrupted, and not the existence of energy resources per se.

According to the Policy Document, ensuring Georgia's energy security is expected largely at the expense of building new energy facilities. As stipulated in the document, the field of hydropower constitutes the main direction of the sector. The government has already started certain work in this regard. At present the planned works include construction of Namakhvani Cascade (installed capacity of 700 megawatts), Khudonhesi (Khudoni hydropower plant with installed capacity of 638 megawatts), approximately 32 small and medium-size hydropower plants (installed capacity of 511.7 megawatts). Preliminary works [that is] technical-economic research on the Namakhvani Cascade of hydropower plants[46] and Khudoni hydropower plant[47] are under way.

It is noteworthy that various types of decisions are taken in parallel to the above-mentioned, which completely transcend the Policy Document's priorities. For example, two gas turbines with the capacity of 110 megawatts each were added to the Georgian energy system in 2006. The Ministry of Energy itself was the initiator of this project implemented by a company Energy Invest. Together with the aforementioned hydropower projects two more new initiatives become known to the public in summer 2007. The ministry expressed an interest in

[46] The state budget allocated 8.125 million GEL, according to the Government of Georgia's No. 176 decree of April 5, 2007
[47] Within the framework of the World Bank's pre-investment grant

building a coal power plant on the territory of the power units #6, #7, and # 8 of Gardabani and asked interested companies to present the terms, dates, presumable tariffs and technical-financial documentation of the construction works.

The other initiative which studies the feasibility of a nuclear power plant in Georgia is ever more interesting. A governmental commission has already been set up, which will study the rationality of building a nuclear power plant. Also, according to the disseminated information the government has already started negotiations with a French company "Areva" about building a nuclear power plant.

To some extent an impression is being made that the government's objective is to build as many energy facilities as possible and not ensuring real energy security. Implementation of such projects only for the sake of having certain energy-generating facilities is quite risky if we consider that there is no organizational or financial model of building new facilities[48]. Nor has been c onducted a Strategic Impact Assessment of Power Sector's Development on the Environment. This instrument should be employed to fully assess the existing potential in the country as well as environmental, social, and economical consequences of the planned activities, and to offer different scenarios for developing the sector necessary for creating a sustainable energy system[49].

A plan of the development of the Georgian electric energy sector at the lowest costs[50], elaborated with the assistance of USAID in 1998, aimed to help the government of Georgia to determine the scheme of capital investments in the electric energy sector till 2010. According to the plan, the first necessity was to restore large and medium-size hydropower plants of Georgia and to rehabilitate transmission lines. It should be noted that unfortunately almost nothing has been done in this regard prior to 2004. Even today, roughly 1,700 MW functions instead of the installed capacity of 2,700 MW, while the index of economic development is stably low.

3.3.2 Privatization and Economic Sustainability of the Energy Sector

One of the main directions of the Policy Document is gradual liberalization of the electric energy market, deregulation and introduction of a new model of market. Relevant legislative amendments were made into the Law on Electric Energy and Gas, and first steps were taken from the strictly regulated market to liberalization of the market via direct contracts, entry for third parties, deregulation of small hydropower plants, abolition of licenses for supplying natural gas, introduction of a graded tariff for the end consumer of low-voltage electricity, also introducing long-term tariffs for electricity sellers, etc.

The Policy Document stipulates that a tariff should protect consumers from monopoly prices, but neither the Policy nor the law contain any mechanisms that would prevent monopolies (state or private) from emerging on the market. In addition taking into account that anti-monopoly legislation is almost non-existent in Georgia, it will be really difficult in the electric energy and gas sector to facilitate competition, which constitutes one of the basic principles of market economy.

The Policy Document underscores the importance of transparency of privatization process in terms of attracting local and international investments and states that it is necessary "to carry out the process of privatization in electric energy and natural gas sectors in a transparent manner, so that sustainable supply of the end consumers of electricity and natural gas is guaranteed."

Unfortunately the privatization conducted in 2006-2007 is far from the aforementioned thesis presented in the Policy Document. For example, the overwhelming majority of hydropower plants were alienated in the recent years. In 2006 a privatization of six main hydropower plants (except Enguri hydropower plant) and three distributing companies was announced[51]. As a result of the privatization, the company Energy Pro turned out to

[48] Organizational and financial model of building new facilities, on whose basis major projects for the energy system development should be carried out: construction of Khudoni hydropower plant, a new transmission line with the capacity of 500 KW to Turkey, new hydropower plants, a new underground reservoir for gas, etc. Is the Ministry of Energy needed or not? Temur Mikiashvili, newspaper 24 Saati (*Hours*), 16.06.2006

[49] At present, within the framework of the World Bank's pre-investment grant which envisages preparatory works for the construction of Khudoni hydropower plant, a report is under preparation about Strategic Environmental Assessment (SEA) of the Georgian Electric Energy Sector. If we discuss in terms of technical assignment, one of the main objectives of the research is "to ascertain to what extent Khudoni power plant fits into the energy-generation scheme." The consultant company is just responsible to work out the energy consumption till 2010, prepare a plan of the lowest costs, and to calculate indirect costs of Khudoni. Also, it is not required to assess various alternatives (biomass, wind, geothermal, small-scale hydro, etc.) and to present a plan for developing the energy sector at the lowest costs.

[50] Burns & Roe Enterprises Inc.

[51] Two distributing companies (Georgian United Energy Distributing Company, and Adjara Energy Company) and six hydropower plants (Atshesi, Dzevrulhesi, Lajanurhesi, Rionhesi, Shaorhesi, Cascades of Gumathesi) were bought for 312.35 million USD by a Czech com-

own 62.5 percent of the Georgian energy market, although the process was absolutely not transparent. Both the selection of facilities and preparation of the privatization contracts and conditions were conducted without any involvement of the public (neither non-governmental organizations nor trade unions were involved).

Another example of non-transparent privatization is the cascade of Vartsikhe hydropower plants. It turned out that, for very nebulous reasons, the agreement between the Georgian Ministry of Economic Development and a company G.M. Georgian Manganese Holding Limited on purchase of the 100-percent-share owned by the state in Vartsikhe 2005 Ltd represents commercially confidential information.[52].

In this regard, the issue of privatization of so-called strategic facilities, for example, Enguri hydropower plant (whose output amount to 40 percent of the total energy generated in Georgia) and the Main Gas Pipeline, represents an even bigger problem. Majority of experts believe that the state should retain control on similar facilities, deriving from the concept of energy security, but the government periodically puts forward similar initiatives despite the already undertaken international commitments. At present the government of Georgia has undertaken a commitment not to alienate the Main Gas Pipeline before 2010, though at this stage it is hard to forecast subsequent processes.

Also, the existing tendency that alienation of energy facilities will lead to a quick and irreversible solution of the problems in the energy sector is quite dangerous. Moreover, according to disseminated information, there is an opinion in the government of Georgia that the state will not need the Ministry of Energy as an independent unit after all facilities of energy generation and distribution are privatized, and it will be united with the Ministry of Economy[53]. Experts negatively assess such steps and think that such an action will have a disastrous impact upon the Georgian energy sector.

3.3.3 Energy Efficiency and Facilitation of Renewable Energy Development

Nowadays, no strategic vision exists in Georgia regarding energy efficiency and renewable energy development, not to mention an absolute legislative vacuum in this regard. Here too, the Policy Document openly demonstrates that it does not aim to facilitate establishment of a sustainable energy system in Georgia in the long run. For example, the Policy Document acknowledges that “Georgia’s natural conditions allow for significant development of alternative energy sources,” but the same document also underscores that “use of traditional and alternative energy source should be placed in equal conditions,” which in principle limits the opportunity for wide development of renewable energy and absolutely contradicts the EU’s practice and principles of alternative energy development.

pany Energo Pro, and Kakheti Distributing Company was bought by TBC Group.

[52] In this regard, the court trial initiated by Green Alternative is not complete yet, because the Court could not manage to involve company representatives as the third party in the case, for the latter have no legal address in Georgia.

[53] Reorganization in the government: two ministries to be abolished?, M. Alkhazashvili, Tuesday, June 13, 2006, #108 (1128)

1. Energy efficiency

Unfortunately, an assessment of the overall energy efficiency of the country has not been conducted in Georgia as of yet. After the breakup of the Soviet Union, the energy consumption in Georgia greatly decreased and today amounts to 0.8–1 tonne of oil equivalent (toe), which is 2-3 times less compared to the world average. It should also be noted here that the decrease occurred at the expense of the reduction of energy consumption, and not at the expense of energy efficiency, while the figures of energy intensity are quite high both in the industrial and in the domestic sector[54]. For example, the figure of energy intensity in the Georgian economy equals 0.7 KGNE/USD, which twice exceeds the world average (0.32 KGNE/USD).

All of this should not be surprising bearing in mind the fact that both the industrial and the domestic sectors mainly use the Soviet-era equipment. At the same time the energy consumed by the industrial sector accounts for just 14 percent of the total end consumption, while the domestic sector consumes roughly half of the total end consumption. Such practice also contradicts to the international practice, where the industrial infrastructure accounts for 70 percent of the total end consumption of the energy.

According to expert calculations, "the increase of energy efficiency on supply and consumption side by just 10 percent will lower the dependence of the country on imported energy resources by approximately 20 percent.[55]" It should also be borne in mind that in 2001-2005 the energy generation in Georgia increased by 3.8 percent, while the demand surged by 26 percent. Correspondingly, if the state wants the fulfillment of the Policy's main task – to reduced dependency on imported energy – then development of energy efficiency and renewable energy is necessary.

Also, among the priority directions of the Policy such a component of sustainable energy as energy efficiency is mentioned only at the level of declaratory statements, "formation of legislative and institutional frameworks for increasing energy efficiency in industrial and household sectors," in the direction of effective use of energy. This direction also states that it is necessary to "study and implement the measures necessary to use heating and co-generation systems, as well as to use renewable energy sources," but says nothing, for example, about energy saving, implementation of energy-efficiency measures or management of consumer demand.

In short, there is an impression that such important sub-fields of energy as heating and energy efficiency are not considered part of the energy sector in Georgia at all.

2. Renewable Energy

Georgia has a quite large potential of renewable energy. First of all, this is related to a great capability for the development of micro hydropower. According to researches, development of micro hydropower is profitable in terms of environment protection too. Approximately 26,000 rivers are found in Georgia, the total length of which amounts to roughly 60,000 kilometers. According to researches conducted by USAID, UNDP, GEF and others, following an analysis of 300 rivers, it is possible to build roughly 1,200 derivation-type small hydropower plants, 700 of them in Western Georgia. The total installed capacity will be 3,000 MW, from which 2,000 MW falls on the Western Georgia. Annual output will be 16,000 Gigawatts/hour of energy, from which 11,000 GW/h falls on Western Georgia.

Development of windpower energy also has a large potential, with the technical potential of 4.5 TW/h. At present, the wind modes existing in Georgia have already been studied, appropriate zones have been singled out, and approximately 10 promising sites for windpower plants have been identified, with the total installed capacity of 1,450 MW and annual output of 4,160 GW/h.

It is noteworthy that the EU-Georgia Action Plan within the framework of the European Neighborhood Policy considers as a priority not only to adopt legislation on energy efficiency and renewable energy sources, but also to take steps for elaborating an action plan for their exploitation (including a financial plan) and to strengthen the institutions working on these issues[56]. According to the detailed action plan-matrix[57] for the

[54] In-depth review of Energy efficiency policies and programmes, Republic of Georgia, Energy Charter Secretariat, 2006

[55] Teimuraz Gochitashvili, Mindaugas Krakauskas. *Georgia in the context of EU energy policy*, Georgian Economic Trends, June 2006.

[56] European Union – Georgia Action Plan within the framework of the European Neighbourhood Plan (Chapter 4., 4.6.2), November 2006

[57] The detailed action plan-matrix was prepared for the implementation of the European Neighborhood Policy by the Office of State Minister for European and Euro-Atlantic Integration in January 2007. The document was based upon the action plans received from every ministry. The government of Georgia has reviewed the document twice but afterwards refused to approve it. "The main remarks were that the plan was very detailed and the government of Georgia would not be able to implement it, while excessive regulations in the plan would hinder formation of a free market." (Georgia and the European Neighborhood Policy, perspectives and challenges, Policy Paper No. 8, OSGF, Tbilisi, 2007)

years 2007-2010, elaborated under the guidance of the Office of the State Minister for European and Euro-Atlantic Integration, the Ministry of Energy plans to start elaborating "a working document in order to refine the extant legislative and regulatory base" and to prepare "relevant legislative initiatives." Neither the plan-matrix nor the 2007 strategy for implementing the European Neighborhood Policy say a word about working out an action plan on energy efficiency and renewable energy sources.

The aforementioned is not really surprising since the government thinks that practical measures, including implementation of pilot projects, are "matters of the market," and the market itself will regulate and develop energy efficiency and renewable energy. Taking into account the Policy Document's phrase that "use of traditional and alternative energy source should be placed in equal conditions" and that energy efficiency in fact is not considered a component of the energy sector, it is vague what incentive will remain for the private sector to develop these two directions.

It should be noted that in 2007, during ratification of the second loan agreement of Enguri hydropower plant rehabilitation, Parliament of Georgia took a commitment that by January 1, 2008 Georgia would have a complete legislative package on energy efficiency and renewable energy sources[58]. Despite of this, the large public knows nothing about the works undertaken in this regard.

3. Heating

Centralized heating systems went out of service in Georgia at the beginning of energy crisis. Nowadays virtually nothing is implemented in this regard, except for a pilot project by the Global Environment Protection Fund which aims to supply certain districts of Tbilisi with geothermal waters and which is virtually stopped because of the lack of co-financing on the state's part. No statistics exist in the country about how much of the consumed primary energy is spent on heating and hot water supply. It is noteworthy, that according to international statistics in average 25-30 percent of the consumed primary energy is spent on the very heating.

The electric energy system partially undertook the function of heating, which brought about rather grave results for the system. Apart from this, the use of large amount of oil, gas, and firewood stoves in high-rise buildings caused concomitant environmental problems, pollution of the air in residence places, deterioration of health, etc.

3.4 European Vector of Georgia's Energy Policy

As was already mentioned, The EU-Georgia Action Plan within the framework of the European Neighborhood Policy openly requires "energy policy convergence towards EU energy policy objectives" through elaboration and implementation of "a coherent long-term energy policy converging gradually with the EU energy policy objectives including security of energy supply."

It should be noted that the detailed plan-matrix[59] elaborated by the government of Georgia notes that the Document of Main Directions of the State Policy of the Georgian Energy Sector represents the very document that will approximate Georgia's energy policy with the EU's energy policy, and no other additional activities are planned in this regard.

Despite the certain positive changes which took place in the last two-three years in the Georgian legislation that regulates electric energy and gas there is still many problems when comparing the Georgian legislation with its European counterpart. According to experts, "the hierarchy of legislative and regulatory acts for the Georgian energy sector does not correspond to its European analogue. Legal powers are not equally distributed among political documents, laws, and legally binding regulations. One frequently finds declaratory statements, which are virtually impossible to implement for relevant institutions and mechanisms are absent. The energy legislation in force in Georgia does not create such a transparent system as the one offered by relevant European directives[60]." As an example, with the amendments made in 2007 the law already establishes the terms for receiving a license, which was a prerogative of GNERC before, and this should be considered as a

[58] Resolution of Georgian Parliament No. 4457 of March 15, 2007 on "Ratification of the Second Loan Agreement of the European Bank for Reconstruction and Development."

[59] The document was prepared by ministries for the implementation of the EU-Georgia Action Plan, under the guidance of the Office of State Minister for European and Euro-Atlantic Integration, at the end of 2006, but in the end was rejected by the government of Georgia for being a very detailed document.

[60] *Georgia in the Context of EU Energy Policy*. Teimuraz Gochitashvili, Mindaugas Krakauskas, Giorgi Abulashvuili. Georgian Economic Tendencies, June, 2006

step forward. The law, however, has not yet "established the rules for the entry of a generation facility into the market and for connection to a network, which are necessary for transparency and for avoiding discrimination. According to EU requirements, generation facilities are free from regulation and licensing and require authorization only when about to connect with a network, which facilitates creation of a secure and competitive market[61]." In Georgia license is issued for the following activities: electricity generation, dispatching, transmission, distribution, transportation of natural gas, and distribution of natural gas.

That the statement on Environmental Impact Assessment (EIA) is required for all activities could be considered as one of the positive sides of the process of licensing. But the law also notes that this statement "is obtained by the license issuer in accordance with the one window principle as determined by the Georgian Law on Licenses and Permits," that is through a simple administrative processing in 20 days. The purpose of this requirement, however, remains totally vague. One may wonder why it is required to have such a statement for execution of the aforementioned activities and how it should be used by GNERC when controlling adherence to the license conditions, since the opportunities of its subsequent use are not determined by law.

Usually in the EU member states, based on Environmental Impact Assessment of energy facilities the consent is granted before commencement of the construction of those facilities (construction of a new generation facility and transmission lines, installation of distributive infrastructure), while during the functioning of the facility an environmental management plan is prepared on the basis of the EIA report. The responsibility to implement this management plan is borne by the project sponsor, while the control is exercised by a relevant environmental body.

It is noteworthy that apart from legislative differences a difference between Georgia and the EU is more easily discernible on the policy level. For the EU the main priorities are harmonization of legislation, institutional compatibility and implementation of the energy security concept – in environmental, social, economic, and technical sustainability terms, while for the government of Georgia the foremost task is to rehabilitate energy-generating facilities and to build new facilities, with the aim of energy export.

According to experts, main directions of the government of Georgia do not conform to the requirements and goals of the EU's energy policy and do not correspond to the European strategy of sustainable, competitive and safe energy[62]. "The concluding part of the document laying out Georgia's energy policy presents the format of energy regulation and the principles of privatization, but says nothing about creation of a competitive milieu, which is a necessary precondition to solve the problems of energy efficiency and security. A part of the planned measures only describes the potential of various energy sources but does not ascertain the frameworks for their exploitation, and more importantly, does not determine their role in implementation of the goals of the energy policy[63]"

[61] Legislative-Regulatory Basis in the Georgian Energy Sector and Its Conformity with the Analogue of European Union. G. Abulashvili, European Neighbourhood Policy and Georgia, Opinion of Independent Experts, Tbilisi, 2007

[62] Green Paper, A European Strategy for Sustainable. Competitive and Secure Energy, Commission of the European communities, Brussels 8.3.2006

[63] Georgia in the Context of EU Energy Policy. Teimuraz Gochitashvili, Mindaugas Krakauskas, Giorgi Abulashvuili. Georgian Economic Tendencies, June, 2006

4. The EU's Energy Guidebook for Black Sea and Caspian Regions

On the basis of the Baku Initiative signed by the energy ministers of the European Union and the littoral States of the Black Sea, the Caspian Sea and their neighbors in 2004, the European Commission published so-called "energy guidebook" for this region. The document aims to a consistent convergence of the policy, legislation, and standards of the EU, South Caucasus and Central Asia states in the field of trade and transportation of energy supplies and related environmental issues. The cooperation should be carried out mainly in four directions:

1. Convergence of the energy markets of the parties based on the principles of the EU's internal energy market (among them non-discriminatory competition, strict environmental requirements, efficiency, reliability and safety including nuclear safety, integration of principles, further integration with the EU's internal market)
2. Strengthening energy security through the issues of import and export of energy resources, diversification of supply routes, transit and demand on energy supplies
3. Development of sustainable energy sector, which implies facilitating efficiency and utilization of renewable energy sources
4. Implementation of joint regional projects

An analysis of the guidebook shows that the Georgian energy policy has quite a long way ahead to converge towards the EU's energy policy objectives.

3.5 Conclusion

The EU legislation singles out three essential components for developing a sustainable energy sector: (1) Integration of environment protection, both during energy generation and energy consumption; (2) Security of supply; and (3) Development of competitive energy-systems – to ensure low costs for facilitating industrial competition with the aim of pursuing broad social-political goals.

While from above mentioned objectives only security of supply is a priority in Georgia, it should be noted that the steps taken for the security of supply do not conform to the EU's corresponding policy (energy efficiency, development of renewable energy, reduction of emission, etc.). If facilitation of competition is at least declared in the legislation, the integration of environmental issues does not seem to occupy the minds of the decision-makers within the sector. Therefore, the process of reformation of the Georgian energy sector is not directed to formation of a sustainable energy system that would become a heavy burden for the population and environment in the near future.

Deriving from the aforementioned it is necessary that an increase of energy consumption and a structuring of the energy balance in Georgia be planned on the basis of exploiting local, mainly renewable resources, which will draw on the principles of sustainable development.

EU-Georgian Action Plan within the framework of the European Neighborhood Policy includes elaboration of the Georgian energy policy and its compatibility with the EU's energy policy goals, and the gradual transition to the EU's domestic market principles of electric energy and gas. It is it necessary to elaborate documents of a sustainable energy policy of Georgia and a strategic action plan, taking into account the energy and sustainable development strategies of the EU and the requirements of relevant directives. These documents should be elaborated with participation of broad layers of society and should be obligatory to implement.

4. Georgia's Transit Transport Infrastructure Development: Environmental and Social Aspects

4.1 Introduction

The suitable geographic location of Georgia in central part of Caucasus, and increased economic cooperation trend between Europe and Central Asia countries, creates important factor to establish the West-East transport Corridor through Georgia.

In 1990-2002, the international freight increased, first due to the increased trade of oil and oil products that has significant impact on region. Together with increased incomes the important problems as illegal migration, drug and weapon trade, spreading different epidemic, invasion of foreign allies, increased prostitution, vibration and dust brought by heavy tracks, appeared.

After Soviet Union break out, during 1990-2002, in general rehabilitation of the transit and transport infrastructure almost have not been carried out. While decision making in this field was made without existence of sustainable development strategy, sustainable transport policy, that would give possibility to decision-makers rationally plan functioning of Georgia main transport axis and ensure sustainable reallocation of incomes.

As a result, in 1990-2002, the implementation of Georgia's transport and transit function plays more negative, rather than positive role for Georgian population. E.g. after Soviet Union breaks up and Georgia-turkey trade relations intensified, the new Customs was opened close to city Vale. The E 691 highway, that connects Azerbaijan, Georgia and Turkey, passes directly through the city Vale. It characterized by significant freight traffic. The number of the houses located on city major transit streets has been fully demolished due to the vibration, while others represent threat for life, however, people are forced to continue to live there. The additional problem in city is increased prostitution especially among youth.

By 2003 the Georgian transit infrastructure were characterized with inadequate infrastructure, with high rate of amortization, low traffic capacity, low level of services and traffic safety, negligent management system and non adequate tariff policy. All of that plays significant role, in slowing economic development, support increase of poverty, slow investments in regions, and cargo traffic.

After Rose revolution one of the main priority of Georgian government, includes reconstruction/ rehabilitation of motorways, as well as modernization of other transport infrastructure. However, all attention was shifted towards economic profits; while necessity to integrate environmental and social issues, has been again successfully forget by decision –makers.

In addition, the projects and programs elaborated by Georgian Government and International community , may in nearest future bring irreversible impact to Georgian Nature, if there would not be elaborated and employed specific measures and instruments, that give possibility to mitigate and/or avoid negative impacts of infrastructural projects.

4.2 Georgia and the EU Trans-European transport corridors

Since 1993, EU leads TRACECA program that aims to connect EU with central Asia, China and India through Black Sea, Georgia, Azerbaijan and Caspian Sea. TRACECA program was designed as technical assistance program that would give possibility to participant countries to carry out construction, reconstruction and modernization of railways, motorways, airport, and marine ports. Because of different projects the international trade through Georgia, first of all transit of oil and oil products from Central Asia to Europe has significantly increased.

1. Georgia's Transport/Transit Infrastructure

Railway – more than half of Georgia's railway income comes from oil and oil products transportation form Turkmenistan, Kazakhstan and Azerbaijan to Batumi and Poti ports. It is expected that freight turn over would increase from 8.6 million tones per year to 18.7 million tones to 2015. [64] Nowadays, Georgian railway exploitation line length constitutes 1329 km and includes 1422 bridges, 32 tunnels, 22 passenger transport station and 114 goods station.

Motorways – The Georgian motorways net consists form 1474 km of international road, 3392 national importance and 15429 km of local roads. The biggest majority of national and local roads are in very poor state.

Ports – Georgia has three major ports on the Black Sea coast – Batumi, Poti and Sokhumi. The Batumi and Poti ports are major ports, that along with transportation of huge amount of oil and oil products, also serve as one of the biggest turnover point for all three South Caucasus countries. In 1999, close to Poti, was constructed Supsa oil terminal, that is supplied with oil through Baku-Supsa oil pipeline, while another oil products terminal constructed in adjacent of Poti – Kulevi Oil terminal supposed to be become operation from 2008.

Air transport – Tbilisi International airport has been reconstructed twice. First in 1996, it was reconstructed with support of EBRD for 20 million USD loan. In 2006 through 27-27 million USD loans of EBRD and IFC, was financed rehabilitation of runways and construction new international cargo terminal. It is also planned to construct 35 mln USD worth new cargo terminal in Tbilisi airport[65]. In 2007, EBRD /IFC also allocate 15 million USD for reconstruction of Batumi airport. In addition, there were number of working airports as Kutaisi, Poti and Senaki.

Nowadays, EU continues to support development of East West Transport Corridor through Georgia. The number of the documents adopted within the European Neighbourhood policy framework[66], as well as High level Transport Group (HLG) report, that should lay foundation for EU strategy on" extension of the major trans-European transport axes to the neighbouring countries and regions[67]" are clear proof of abovementioned.

list projects and priority axis of HLG report, makes apparent that Georgia represents important part of number of corridors: 1) the one of priority corridor – South-East Axis, that will connect EU through Balkans and Turkey with Caucasus and Caspian Sea regions, as well as with Egypt and Red Sea. In frame of this axis, HLG recommends Railway rehabilitation project from Poti and Batumi to Azerbaijani border. 2) Marine transport axis connects Baltic, Mediterranean, and Black Sea and with inland road connects with Caspian Sea. Within the transport corridor the projects of Batumi and Poti ports are proposed, 3) the central axis connects the centre of EU with Caucasus through Ukraine and Black Sea.

Consequently, Georgia-EU Action Plan, that has been signed in 2006, prioritize transport sector, in a way "to ensure effective cooperation in the areas of energy and transport between the EU and the states in the Black Sea and Caspian regions in the framework of the "Baku Initiative"[68].

Georgia-EU Action Plan also requires to "continue implementation and refinement of the national sustainable transport policy for the development of all modes of transport and related infrastructure as well as where appropriate approximation of legislative and regulatory frameworks with European international standards, in particular for safety and security issues;" together with a need "to improve integration of environmental considerations into other policy sectors."

Looking to ongoing transport infrastructure projects in Georgia, it is clear that Action plan recommendations well fit today's' reality and needs to be implemented as soon as possible.

[64] http://web.worldbank.org

[65] Britain's SPM and Tbilisi airport signed agreement on construction of a new cargo terminal in Tbilisi International Airport in March 2007. According to the document, the cargo terminal will be built within a year. see: http://www.neurope.eu/ articles/71735.php; http://www.aci.aero/aci/aci/file/ADN%20-%20Momberger/ACI-ADN%20April07.pdf

[66] Documents include:1) EU_Georgia Action plan under ENP, 2006 2) Council Decision granting a community guarantee to the European Bank against losses under loans and guarantees for projects outside the community, Brussels, 2006, 3) Ministerial Declaration on Enhanced energy co-operation between the EU, the Littoral States of the Black and Caspian Seas and their neighboring countries, 30 November 2006, Astana and etc.

[67] High Level Group on the "extension of the major trans-European transport axes to the neighboring countries and regions""

[68] The Baku Initiative is a policy dialogue on energy cooperation between the European Union and the littoral states of the Black Sea, Caspian Sea and their neighbors. The initiative was announced on 13 November 2004 at the Energy Ministerial Conference in Baku. Second Ministerial Conference was held in Astana on 30 November 2006.

According to some experts[69], there is the ongoing work to elaborate and implement the sustainable transport policy. However, due to the existing legislation and policy approach, it is very doubtful that the elaborated policy will be sustainable. Nowadays, the environmental and social aspects are fully ignored and not integrated neither during elaboration of policy, as well as during planning and implementation of infrastructural projects.

4.3 Infrastructural policy environmental and social aspects

The quality of the infrastructure in country is considered as one of the preconditions for economic development and growth. Itself infrastructure could be divided in two categories, as environmental infrastructure and economic development, service provider infrastructure.

Environmental infrastructure such as municipal water supply, sanitation, or solid waste management facilities delivers environmental and public health benefits directly to people and businesses. Policies that encourage investment in and maintenance of these types of infrastructure contribute directly to environmental welfare.

Other types of infrastructure designed to store or control water, such as hydroelectric dams, flood control structures, transportation canals, and dredged harbours can have very negative direct environmental effects such as destruction of fish and wildlife habitat, interference with migration patterns of fish and birds, and release of chemical contaminants into the water column. Policies that require environmental safeguards to be designed in to infrastructure projects of this nature can avoid or mitigate environmental losses while in parallel, delivering the same energy, and transportation.

Infrastructure also interacts with the environment by virtue of the services that physical structures deliver. The most common example is transportation infrastructure, where roads or airports, for example, can result in direct environmental damages from land clearing, runoff, noise, and emissions from cars and airplanes. Nevertheless, transportation infrastructure also delivers mobility services to people and businesses, enabling development to spread over wider areas, sometimes with the unintended effects of even greater land disturbance, noise, and emissions. Land use policies that govern growth patters and best management practices to protect waterways from runoff contaminated with chemicals and metals, can be effective ways to protect the environment and deliver mobility.

Transport infrastructure is important for the urban mobility services it delivers, but effective transport development also can have the effect of reducing airborne emissions per capita by enabling urban, peri-urban, and ex-urban residents to avoid using their cars in favour of reduced-emissions surface or sub-surface light rail. Even diesel buses deliver significantly greater passenger-miles per ton of air emissions than do cars. Effective vehicle inspection and maintenance policies or high-occupancy vehicle restrictions on certain motorways can further reduce air pollution without reducing mobility benefits.

The integration of environmental aspects in infrastructure policies could be done through number of the different ways, through adoption of environmental legislation, capacity building in environmental agencies, improved information and transparency, training both at the community level and within infrastructure agencies, and systematic use of strategic environmental assessments (SEAs) at the national and sectoral level. Through using of SEA, it is possible to address the wide range environmental issues and effectively reduce the negative impacts and/or increase environmental, as well as other type of benefits. During the SEA, process the infrastructure planning done through consultations with local public, consideration of both direct and induced impacts, and appropriate land uses in different environmental zones. These exercises at the end reduce negative social impacts and follow up environmental costs.

Unfortunately, the less attention has paid to integration of social goals in infrastructural policy. Most infrastructure policy during this period has focused on broad economic objectives, such as effective delivery of service flows that result in GDP growth or proper pricing of infrastructure services to assure efficient allocation of financial resources to infrastructure investments. While the distributional effects of infrastructure is almost ignored and as a result, increased efficiency may well have been delivered at the expense of jobs, the quality of employment, or access to infrastructure services.

[69] see http://enp.ge/data/file_db/download/engversion_final_AV.WwkTBxK.pdf

The recent researches suggest more strongly that infrastructure privatization and market reforms have significantly reduced delivery of basic energy, transportation, health, and sanitation services to poor households and disadvantaged groups. The "broadening" of infrastructure policies supports to overcome the negative social impacts of infrastructure development. Specifically, economists suggest a re-examination of infrastructure pricing, public subsidies, regulatory design, and spatial access policies[70].

4.4 The mitigation mechanisms for environmental impacts during planning and implementation of infrastructural projects

The implementation of the infrastructural projects, including transport/transit infrastructure development/rehabilitation in some extent has negative impacts on environment and society. In a way to mitigate the environmental and social impacts of the development projects, and particularly infrastructural projects, the countries have introduce number of different tools and procedures including Strategic Environmental Assessment and Environmental and Social Impact Assessment.

EU adopts relevant directives 90/313/EEC – on the freedom of access to information on the environment, 85/337/EEC amended 97/11/EC assessment of the environmental effects of those public and private projects which are likely to have significant effects on the environment, 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment – the 'strategic environmental assessment Directive'. Through those instruments it is possible to reduce the social and environmental impacts to minimum.

It should be underlined Georgian Government adopted Harmonization Action Plan 2004-2006[71], the National Program for Harmonization of the Georgian Legislation with the EU Law considers as priority to harmonize Georgian Legislation with above mentioned directives. Consequently, Georgia-EU Action Plan signed in 2006 underlines necessity to strength, structures and procedures „to carry out environmental impact assessments" and „strengthen administrative structures and procedures to ensure strategic planning of environment issues and co-ordination between relevant actors". In addition, according to Action Plan it is essential to elaborate procedures and legislation that would improve access to environmental information and ensure public participation in environmental decision-making, including implementation of Aarhus Convention.

However, the environmental and related legislation changes of 2005-2007 in principal confront the abovementioned EU directives, as well as Georgia EU Action Plan.

Another obstacle for reduction of environmental impacts during planning, implementation and exploitation of infrastructural is none-existence of sustainable development strategy. In addition, Government considers any assessment tools (especially those involving public participation in the decision-making) as an option for unnecessarily prolonging administrative procedures and therefore hindering investments in the country. All of those together with incomplete environmental legislation lay foundation to unsustainable development.

Nowadays, Georgian legislation requires construction and environmental impact permit for number of infrastructural projects, including international and national significance roads, railway, airport and marine ports development. However, according to the legislation changes 2005, leads to the situation that Public (state-owned) are Exempt from EIA. In addition, Ministry of Environment can exempt any project form EIA procedure, while law on State Support to Investments, makes possible for any person to start implementation of activity without conducting EIA and obtaining permit on condition that he/she will fulfil these obligations in the future. For that purpose physical of judicial body should request the special interests investor status[72]. It should be underlined that while law requires post-factum preparation of EIA, based on state requested, caring out EIA procedure later has no sense.

It should be underlined that Georgian Government prompt approach towards infrastructural projects, exemption from EIA procedures, and facilitation of issuance of permit documents directly undermines quality and safety of the projects, not to speak about environmental and social implications.

[70] Infrastructure Planning and Development: Environmental and Social Considerations of Sectoral Reform, www.epiq2.com/pubs/infrastructure_brief.pd

[71] http://www.eu-integration.gov.ge/eng/legislharmonization.php

[72] According to the law to get status the investment amount should exceed 8 milion GEL (around 4 mln. EUR) , or 2 million GEL (1 mln Euro) for the investments in mountainous region.

The one of the major problem related to infrastructural project development relates to miscategorisation of project environmental status. Nowadays, Georgian legislation recognizes only two categories of the project: the one that needs full Environmental Impact Assessment procedure, and another category that do not require any environmental impact assessment procedures at all. In general, it creates misunderstanding and creates additional problems. E.g. for rehabilitation of 1 km of road of international significance, project sponsor should undergo under the same procedures, as in case of the construction of new road (preparation of full Environmental Impact Assessment report, arrangement of public hearings and etc). Meanwhile, the numbers of activities like (gold & oil extraction) are fully exempted from EIA procedure.

In addition, even in cases when State and/or project sponsor do not tries to avoid EIA procedure, its implementation is just formality rather than real tool to reduce and mitigate environmental and social impacts. The one of the major problem is restricted public participation in decision-making process as the permit issuance body (ministry of Environment) is neither obliged nor entitled to ensure public participation in the decision-making on granting the permit for impact on the environment.

Instead the project sponsors are obliged to inform and consult public on the draft EIA report, i.e. before application to the ministry, while the ministry is also not obliged to inform public on the decisions on granting the permits.

The issuance of the environmental impact permit conducted under the simple administrative rules in 20 days term that means that all connected procedures as Ecological Expertise and issuance of environmental permit should be done within that timeframe.

The all above mentioned negatively impact the EIAs quality, as neither project sponsor nor state agency is interested to carry out full scale environmental impact procedures.

Despite the number of attempts to promote application of SEA in Georgia, still Georgian legislation does not define any similar mechanism or tool. As a result, planning of the infrastructural projects are chaotic, often based on private interests (including some officials), that creates big threat to Georgian environment, supports violation of Georgian and International Environmental laws that Georgia is party for[73].

4.5 The mitigation mechanisms for social impacts during planning and implementation of infrastructural project

The Social Impact Assessment according to the best international practice represents the part of the environmental impact assessment process. Georgian legislation do not regulates social impact assessment and mitigation of social impacts.

The number of International Financial Institutions and/or Transnational companies usually presenting integrated environmental and social impact assessments according to best practice. However, even in this cases it is unclear according to the law who should review the Social Impact Assessment plans, and do there is any responsible state agency to control its implementation.

In accordance of Georgian Constitution the right to property is recognized and guaranteed and “the abrogation of the universal right to property, of the right to acquire, alienate and inherit property shall be impermissible”. The Constitution allows deprivation of property for the purpose of the pressing social need”, only in cases as expressly determined by law, under a court decision or in the case of the urgent necessity determined by the Organic Law and only with appropriate compensation”(article 21). The only law that regulates compensation of material damage during the infrastructural projects, is the law on rule of expropriation of property for public purposes.

[73] In 2006 Ministry of Environmental Protection and Natural Resources (in partnership with the Netherlands Commission for Environmental Impact Assessment) implemented project on introduction of Strategic Environmental Assessment (SEA) in Georgia and established SEA task took further steps for its adoption as interest to this instrument has reduced.

However, law envisage compensates only material damages with regard of registered property. The Georgian legislation do not recognize any rights of the people that have no formal legal title to land or other assets (like tenants, squatters, natural resource users, communities and vulnerable groups), despite the fact that it could be used by above mentioned groups traditionally. In addition, the Law do not require provision of relevant compensation in case of dismantled infrastructure or distorted services.

The legislation therefore does not request early notification and consultations to potentially affected people, as well as do not requests preparation of Resettlement Action Plan. The way of expropriation of property includes the Decree of President that appoints the expropriator (physical or judicial person), that should pay relevant compensation in accordance with court decision.

4.6 Transit Transport Infrastructure Case Studies in Georgia

Case Study: E 60 East-West Highway Rehabilitation/Enlargement Project

The East-West Highway represents the part of East-West Corridor identified as priority direction by EU High Level Group on Transport. Nowadays, there is ongoing rehabilitation /enhancement (from two lanes to four lanes) of E 60 highway from Baku to Poti. The project implementation involves Azerbaijani and Georgian Governments, as well as World Bank, EBRD and ADB.

The implemented program represents "the significant reconstruction of national and international motorways"that will increase freight transit between Black Sea and Caspian Sea regions. According to the best practice carrying out this type of the project, it requires prior preparation of SEA[74], that will study impacts of increased transport load on regional environment and adequately reflect social impacts. However, neither international financial institutions, nor regional governments are keen to conduct this exercise on regional level, and even on national level works carried with high level of deficiency.

In Georgia, Georgian Government and World Bank carry out E 60 highway reconstruction works. The East-West highway includes route form red bridge (Georgian/Azerbaijani border) through Tbilisi to Poti at the Black Sea and then south to Sarpi (Georgian/Turkish border).

In 2005-2006, Government from state budget funds reconstructed 15km road from Nataktari to Agaiani and allocates funds for reconstruction Sveneti-Ruisi part. Meanwhile, World Bank credits „East-West Highway Upgrade" aimed modernization of E 60 highway Againi-Sveneti part from two lanes to four lanes, with separate carriageways for the two directions of traffic, separated from each other by a dividing strip (central reserve) in accordance with Trans-European Motorway (TEM) standards.

Within the World Bank First East-West Highway Upgrade Project[75] 19 million USD was allocated for upgrade of 13 km between Agaiani and Igoeti. Moreover, within the Second East-West Highway Improvement Project it is planned to modernize Igoeti –Sveneti section and construct bypass of Agaiani, for 35 million USD[76].
In total, around 60 km of E 60 should be modernized on this stage by Government and Bank. In addition, World Bank within the Infrastructure pre-investment facility[77] proposed around 1 million USD, for technical assistance, involving pre-feasibility technical-economic studies, preliminary project works and environmental assessment of Nataktari-Againi Road reconstruction.

According to Georgian legislation the rehabilitation/upgrade of motorway represents the project of the A category and requires full-scale Environmental Impact assessment to get Environmental Impact permit It should be mentioned that as the project is implemented by Road department of Georgian Ministry of Economic Development, according to the Georgian Law on License and Permit it do not requires Environmental Permit (Part 1, Chapter 1, Clause 1, second part,).[78]

[74] E.g. 2001/42/EC directive, requires preparation of SEA of all programs and plan in following areas, agriculture, Forestry, Fishery, Energy, Industry, Transport, Waste management, Water resources management, Telecommunications, Tourism, urban and country planning, or land use issues.

[75] http://web.worldbank.org/external/projects/main?pagePK=64283627&piPK=73230&theSitePK=40941&menuPK=228424&Projectid=P083110

[76] http://web.worldbank.org/external/projects/main?pagePK=64283627&piPK=73230&theSitePK=40941&menuPK=228424&Projectid=P094044

[77] http://web.worldbank.org/external/projects/main?pagePK=64283627&piPK=73230&theSitePK=40941&menuPK=228424&Projectid=P098850

[78] Upgrading of Agaiani-igoeti Section of the E60 East West Highway , Environmental Management Plan, Tbilisi December 2006, Ministry of Economic Development of Georgia, Department of Roads of Georgia

However, it becomes clear for Road Department as it start implementation of the project on Agaiani-Igoeti section in 2006. During rehabilitation - reconstruction of Nataktari-Againi section, that has been implemented also by Roads Department, the Georgian Government exempt the project from EIA, despite the fact that law on licenses and Permits has been already enforced in 2005[79].

Meanwhile, according to the Bank the Agaiani-Igoeti section of highway "is not environmentally sensitive", and it attributes to category B according to the WB classification, that requires require the preparation of a site specific EIA (including EMP). The same is supposed to be done with regard of Igoeti-Sveneti section.

The revision of all existing materials clarifies that decision to prepare site specific EIAs, for different sections of highway, represents classic example of manipulation with project category and avoiding preparation of full environmental impact assessment.

According to the World Bank Safeguard Policies, if project has significant environmental and social impacts (upgrade of two lanes to 4 lane, involuntary resettlement), it should be considered as A category, that involves preparation of full Environmental impact assessment, as well as preparation of resettlement action plan, even in case of economic resettlement[80].

Environmental scoping report prepared by consultants for Igoeti-Sveneti section underlines that "Article 4(1) of Directive 97/11/EC unambiguously requires that the projects considering "Construction of a new road of four or more lanes, or realignment and/or widening of an existing road of two lanes or less so as to provide four or more lanes, where such new road, or realigned and/or widened section of road would be 10 km or more in a continuous length" must be subject to EIA"[81]. Aarhus Convention requires the same.

Despite of all abovementioned, World Bank and Georgian Government decide consider upgrade E60 highway not as one large project, but as number independent projects. According to the World Bank explanation, it decides to prepare "investment projects for approximately 40 km road. However, we will be financing these by three different credit projects. Therefore, we will address three road sections of approximately 40 km road separately. In addition, we consider that some sections may need to deal with resettlement, while others will not. So, in order to be more efficient we think we may need to consider sections individually"[82].

A s a result, three independent Environmental Impact Assessment reports were prepared and Resettlement Action plans for each section of highway, and not for whole planned activity, upgrade of E60 highway , and/.or at least upgrade of Natakhtari-Agaiani 60 km project. "This is so called salami approach[83], through formal division of projects in different sectors that allows for the commencement of construction piece by piece, without a proper EIA of the whole project. Salami Tactic is a practice that is often used by IFIs and governments during the major road projects that often raise the dissatisfaction of the local communities"[84].

The Resettlement Action Plan prepared for Agaiani-Sveneti section of E 60 within the World Bank Project frame, clearly reflects the existing differences between Georgian legislation and World Bank standards, as well as weaknesses of Georgian legislation. It should be mentioned that in this concrete case existing legislation gaps where filled in accordance of World Bank Involuntary Resettlement Action Plan, 4.12. However, it is very dubious that Georgian Government will continue to use the Bank standards in further E60 upgrade projects (if there would not be any Bank assistance), that will bring us towards situation when the project impact on local people would be much wider.

[79] Georgian Government Decree 327, 4th July 2006, " To exempt Roads Department contractor LTD ZIMO from EIA procedure.
[80] World Bank Involuntary Resettlement Policy 4.12,
http://wbln0018.worldbank.org/Institutional/Manuals/OpManual.nsf/tocall/CA2D01A4D1BDF58085256B19008197F6?OpenDocument
[81] Environmental assessment for Agaiani-Sveneti Section of E60 highway, Bonifica, 2006
[82] letter from World Bank Infrastructure Specialist, T.Sulukhia, to CEE Bankwatch and CENN, October 15, 2004
[83] "The splitting up of major infrastructure projects into smaller sections for EIA purposes ("salami-slicing") is a common tactic which serves to downplay environmental impacts and allow the construction of the least controversial sections, thereby buying time and creating political pressure for the completion of the whole project", lost in Transport, 2007, CEE Bankwatch Network
[84] e.g. WWF European Policy Office submission to Public consultation on the report of the High Level Group on the extension of the main trans-European transport axes to the neighboring countries and regions and the way forward, 10 March 2006,ec.europa.eu/ten/transport/external_dimension/hlg/2006_02_17_tent_consultation/doc/stakeholders_contributions/environmental/02wwf.pdf+salami+tactic+HLG&hl=ka&ct=clnk&cd=1&gl=ge

Case Study: Rehabilitation of Samtskhe-Javakheti Road

One of the major proposals of Georgian Government to Millennium Development Corporation[85] was "Integration and Development of the Samtskhe-Javakheti region by building a road from Tbilisi to Samskhe-Javakheti, one of the poorest regions in Georgia, where the predominantly ethnic-Armenian population is virtually cut-off from the rest of Georgia, physically and economically"[86]. The Millennium Challenge Georgia Fund allocated 102 million USD, for rehabilitation of Samtkhe-Javakheti Road (around 236 km)[87]. The Project is implemented in accordance with World Bank Safeguard policies.

The project was classified as A category project, that may have significant impact on environment and full Environmental Impact Assessment procedure has been undertaken. It should be underlined, that opposing to the E 60 upgrade, the project aims only rehabilitation works and construction of few bypass. Despite the fact that project from the beginning was divided in number of sectors, the EIA was done for full road project[88]. In addition, the EIA in detail considers the environmentally sensitive sectors, including the Lake Kartsakhi that may be affected by the project. The list of mitigation measures within EIA is comprehensive and valid, e.g. with regard the lake Kartsakhi alternative route design has been proposed.

However, number of the issues still raise concerns with regard overall EIA system in Georgia. E.g. in 2007 through CENN was distributed the letter of local Non-Governmental Organization from Tetritskaro, that negatively assessed the public hearings carried out and request new hearings arrangement. According to the statement, the majority of attended people (mainly from neighbourhood regions) were interested in employment opportunities within the project that prevents the project sponsors to make presentation about EIA and its findings, as well as to answer on directly affected (Tetritskaro) peoples questions. Together with that local group was directly questioning accessibility of EIA full documentation

While the MCG corporation creates special web and hotline (in three languages – Georgian, Armenian and Russian), that quite positive step forward, but nowadays almost 90% of region's population have no access to internet. In addition, just placing the full EIA documentation only in regional governors and local "sakrebulos" offices is not enough. The Corporation does not satisfy request of local group, argued that it was last public hearing and during the EIA procedure it provides full information to public.

The problem is that Georgian Legislation does not recognize the scoping procedures, as well as all responsibility towards public participation and consultation process has been shifted towards the project sponsor before submitting application to the Ministry for the permit. As a result, the current legislation makes the public participation a mere formality –"ensuring" the publicity "outside" the license issuing body.

Consequently, it should not been surprising that Corporation had no interest to satisfy local group request, as it has not been interested in qualitative public hearings, rather just to fix the fact that it carry out public hearings. The reasons, for that formal approach is legislation that push publicity "outside" of license issuing body, that represents clear violation of Aarhus Convention and restricts public participation, as well as public consultation within the decision making process.

Case Study: Tbilisi and Batumi airports

In 2006, EBRD and IFC gave 54 million USD to TAV Urban Georgia for implementation of Tbilisi International Airport project. It aimed construction of new international passenger's terminal rehabilitation works of runaways in Tbilisi, as well as modernization of equipments and systems in Batumi Airport.

In line of EBRD and IFC safeguard policies the project has been classified as B category, that requires preparation of Environmental Analysis, while according to the Georgian Legislation project required full environmental impact assessment to get environmental permit.

The process carried out at the end 2006 exceed all expectations, as the environmental impact permit issuance procedure takes only one week, within that timeframe was done public announcement, arranged public hearing, carried out ecological expertise and was issued permit.

[85] The Millennium Challenge Corporation (MCC) is a United States Government corporation designed to work with some of the poorest countries in the world. Established in January 2004, MCC is based on the principle that aid is most effective when it reinforces good governance, economic freedom and investments in people. MCC's mission is to reduce global poverty through the promotion of sustainable economic growth., http://www.mcc.gov/about/index.php

[86] http://www.cgdev.org/doc/mca%20monitor/GeorgiaCompactSummary.pdf

[87] http://www.mcg.ge//?l=2&i=1443

[88] not site specific EIAs for different sections, as it happens in E60 upgrade

It is clear that public has no sufficient time to study EIA documentation[89] in prior of project approval by Ministry of Environment. However, Caucasus Environmental NGO Network (CENN) reviewed presented EIA and submitted its comments to Ministry of Economy, where project sponsor applied to get construction permit.

According to the CENN comments, document is very "unclear" about possible activity suppose to carried by project sponsor, option includes as construction of new airport, as well as new passenger terminal and reconstruction of existing airport. In addition, a document highlight that presented documentation represents EIA report for Airport exploitation phase (page 80).It is questionable, why project sponsor prepares airport exploitation phase EIA report, when it asks ministry of Economy construction permit".

The presented EIA do not includes least cost analysis, the number of important issues, as safeguard measures to avoid technological catastrophes, fuel/ hazardous materials storage and handling, emergency response plans, have been presented in short and superficially. Altogether, the major part of the report represents "The project on limits of emission of hazardous substances in atmospheric air", while itself EIA part has less space, that itself speaks about of the quality of document.

It should be mentioned that number of the social and environmental aspects have not been studied. E.g. "Traditionally, all radioactive waste in Georgia was stored at a burial site near the Tbilisi airport, however since 1982 there have been no new deposits at this site."[90.] However, EIA do not addressed that problem.

IFC stated that "TAV Georgia has presented plans to address [these] issues and to demonstrate that the operation of the Tbilisi airport will, upon implementation of the specific measures comprising an associated Environmental Action Plan, comply with applicable Georgian environmental laws and regulations, relevant international norms, and World Bank Group policies and guidelines."[91] However, it becomes impossible to access environmental management plans and make any judgment over the issue. The only statement in an unofficial airport site says that "Environmental Impact Assessment (EIA) has been undertaken in accordance with national requirements and an Environmental Management Plan (EMP) is being developed to ensure that the construction and operation of the new international terminal will meet International Civil Aviation Organization (ICAO) standards of safety and environment and applicable Georgian and EU and World Bank/IFC environmental standards."[92]

However, the new airport constructed under "International standards", several time becomes under the public scrutiny[93] During the opening ceremony the rainwater flooded the terminal, while after one week it had lost a third of its roof. According to Academic Vakhtang Davitaia (dean of Tbilisi Technical University Architectural Planning department) , the cause of the damage to Tbilisi Airport terminal was its hasty construction and not a natural conditions[94]; "naturally, through the prompt construction of this type of the buildings the problems were expected. I fear, that more serious mistakes could appeared e.g. during earthquake. It is impossible that building constructed with the biggest rush has no defects[95]".

In case of Batumi airport, no EIA has been presented. However, there were number of problems associated with the airport project, including erosion of the adjacent areas (airport is located on Sea Coast), close to the Batumi land field.

Dutch Commission on Environment Impact Assessment report[96], underlined that , "during the inspection of the Batumi coastline in February 2007, the Commission could clearly observe the effect of coastal erosion, causing damage to several houses and buildings, especially in the area just north of the airport (village of Adlia)."

[89] The announcement on availability of Tbilisi Airport EIA was done on Friday, with Public hearing on Monday.
[90] E506 TBILISI WATER SUPPLY AND SANITATION PROJECT ENVIRONMENTAL ASSESSMENT AND ENVIRONMENTAL MANAGEMENT AND MONITORING PLAN, December 14, 2001, FILE COPY, K6 it, World Bank
[91] www.ifc.org
[92] http://www.airport.ge/Environmental.HTM or (http://cc.msnscache.com/cache.aspx?q=72813125308255&mkt=en-US&lang=en US&w=64a3c9c0&FORM=CVRE)
[93] The new airport's fight with Mother Nature was the focus of the Georgian media's attention for the first time on February 18, when the roof started to leak after light rain. The following day the Director of the Airport resigned, though without giving a reason. Airport's roof airborne after winds by Anna Kamushadze, 26 February 2007, The Messenger
[94] The Turkish company appeared to the press later, announcing that the major problems had been resolved. They declared that a group of workers were on the roof attempting to stop further damage. Passengers and visitors to the airport were not evacuated, though they were told to be careful of flying debris as they left the building. ..A TAV representative commented to Rustavi 2 that they couldn't predict such high winds (which were not strong enough to uproot trees, cause any damage to property in the city centre, or prevent flights from taking off and landing) would come to Georgia. Airport's roof airborne after winds by Anna Kamushadze , 26 February 2007, The Messenger
[95] 24 hour, www.24 saati.org
[96] http://docs1.eia.nl/os/i00/i0069/a69rr.pdf

According to Commission conclusions, “the coastal stretch to be immediately protected is located between the airport and 2,000 m north of it. Assuming that the initial height of the beach profile is 7 m and that the erosion rate is approximately 7 m/yr, then a total volume of 100,000 m^3 is required to protect this section for the first year to come. Although structural sediment mining is advised against without further studies, it is considered feasible and not harmful that for the emergency measures this quantity of material should be extracted once only from the sediment.

The Commission “recommended, as an emergency measure for one year, to use coarse bed material from the Chorokhi River and to place that along the eroding beach. The coastal stretch to be immediately protected is located between the airport and 2,000 m north of it.”. However, Commission underlines that this is the short-term solution, and sediment mining in Chorokhi river bed (in light of construction of dams cascade on Turkish side) should be once only measure and “recommends to start the environmental assessment/feasibility study at very short notice in order to develop a long-term sustainable coastal protection scheme”

Case Study: Kulevi Oil Terminal and the Access Railway

Kulevi Terminal at the Black Sea Cost (operational from 2008) will transport three types of oil products (raw oil, diesel fuel and mazut (black Oil)) annually. The products will be supplied through railway from Azerbaijan and then shipped. There were constructed through harbours that could allow receiving simultaneously two tankers. The volume of Terminal reservoirs is 380 cubic meter, while turnover is expected to be around 15-20 mln tone per year. Nowadays the terminal occupies more than 300 ha of Georgian Black Sea Coast that formerly represents Ramsar protected area.

The Construction of Kulevi Oil Terminal started based on Presidential Decree 1081, 199 8 September. The construction was started with violation of Georgian National Legislation[97] and International Environmental Law. The violations also include: privatization of state lands without prior notification of Ramsar Convention Secretariat, there were no attempt to prove urgent state interest, Georgian Parliament do not ratify changes with regard of Ramsar protected areas borders, and EIA was not been prepared prior to construction.

In 1999 project sponsor purchased 100 ha of the land for construction, where from 30ha was wetlands territory[98]. For the terminal that supposed to carry out annually 6-10 tones of oil product, the railway access road was planned through Kolkhety National Park Territory.

Due to the Georgian NGOs efforts the different International organizations, including World Bank has been involved in case[99]. In September 2001, the project sponsor group[100] been forced to stop project finance, while simultaneously Georgian Prosecutor office opens criminal case against LTD Railway and LTD Terminal 2000[101].

Since the Rose revolution, the terminal construction reopened. The major sponsor becomes Black Sea Terminal (Georgian Investment Company chaired by Badri Patarkastishvili) and International Consortium , that includes former main sponsor Argo Mar Oil. [102].

[97] The construction starts without construction and environmental permits.

[98] One example is the construction of the Black Sea oil terminal close to the settlement Kulevi at the Black Sea coast. The area it occupies and the infrastructure it requires, including a deep water navigation channel for tankers and a railway for land transport, destroy and damage areas of global importance. These damaging activities also take place in areas that are designated as the Kolkheti National Park (KNP) and as the Central Kolkheti Wetlands Ramsar Site (N°893). The government justifies its choices with “urgent national interests”.

[99] Since 1998 World Bank and Global Environmental Fund implemented Integrated Coastal Management Zone project, that creates foundation for Kolkety National Park. World Bank senior management required from Georgian Government to stop Kulevi Terminal Construction. In 2001 Georgia has been visited by High level mission, and in 2002 hired consultant company CEFAS. The company studied EIA of Kulevi terminal and all related researches, that was prepared by Zenith Gamma Consulting for project sponsor. Based on studies, company prepare recommendations for Georgian Government. According to the CEFAS conclusion, the prepared EIAs for Railway and Marine part of Kulevi Terminal were with significant deficient. The report includes the list of mitigation and compensation measures, that should be undertaken in marine and inland parts of the project.

[100] ArgoMar Oil and LTD Georgian Railway

[101] The Rustavi 2 TV program “60 minute” carried out journalist investigation about Kulevi Oil terminal and discovered that around 60 million USD was washed during the construction process.

[102] Despite the enormous project total costs (around 1 billion USD) the information with regard of the project sponsors and shareholders were scarce. ArgoMar Oil was established in Austria, then it was reregistered in Cyprus, while in 2006 it was on liquidation process, www.compnet.at/html/index394.html [05.04.2006]). At the present time the only office of ArgoMar is registered in Azerbaijan.

In 2005 the Georgian Government adopted decree [103], based on the Document "The confirmation of urgent state interest of the construction of oil terminal in river Kobi estuary" developed by Ministry of Economy. According to that Decree the above mentioned constructed was announced as urgent state interest and welcomes draft of presidential decree that grants directly 41.37 ha of land plot to LTD "Black Sea industry" [104]. Based on this document it becomes possible to start construction of 12km access railway road "Kolkheti-Kulevi" on the territory of National Park[105].. In parallel, was prepared EIA documents for access railway road and Marine part[106].

The Coastal Zone integrated management centre, funded by World Bank, assess the presented EIA documents as non adequate, not considering alternatives, without clear list of impacts and proposed mitigations, with low level of public participation and the major problem of crossing of National Park by Railway road, that represents violation of National legislation.[107] The same assessment were done by Ramsar Secretariat, that underlines that EIA for Terminal Marine Part and mitigation measures plan is not detailed and unsatisfactory.

Early 2007, the agreement on purchasing Kulevi Oil Terminal from B.Patarkastsishvili by Azerbaijani State Oil Company (SOCAR) was signed[108]. Same time new project sponsor announced that Georgian Government agrees on construction of Oil refinery in Kulevi. In 2007, Georgia president under the direct purchasing rule granted 301 ha of the land to Black Sea Industry, as for expansion of terminal as well as for construction railway access road.

According to Ramsar Convention, in case of withdrawal and/or reduction of territory from protected areas list, it is obligatory that Party replaced it with the territory of same ecological significance. In August 2005, the consultation mission of Ramsar Convention once more underlined that it is necessary to study in detail the impact of the terminal construction and operation on Ramsar sites[109], and prepare detailed Action plan for damage compensation. However, until now it is not clear what the stages of works are and when Ministry together with project sponsor supposed to carry out undertaking International obligations.

4.7 Conclusions and Recommendations

The non-existence of sustainable transport development policy in Georgia, accompanied with the deficient legislative basis, especially weak with the environmental and social impacts mitigation mechanisms, results in inconsistent practice.

Nowadays, the usage of transit potential of country and development of transport infrastructure represents the interest of Georgia and International Community, including EU. In order to gain all benefits from that development Georgia should forecast not only political and economic aspects and results, but also environmental and social outcomes and ensure its integration on all level of decision-making. The particular attention must be paid

[103] According to Georgian Government decree #209 of 25 May, 2005 " Declaring Urgent State interest with regard of construction of Kulevi oil and oil products marine terminal and access railway road"

[104] "Green Alternative" sent request to Prime-Minister to provide the document prepared by Ministry of Economic development, that becomes the basis for this particular decree, as well as the copy of the agreement with regard of this document from the side of Ministry of Environment. The Government Chancellery promptly send the answer (letter 35, 20.06.05) with attached document and so called agreement letter copy.
However, during the public meeting in Ministry of Environment ,13th July 2006, it becomes clear that the document send by Government Chancellery was rejected by Ministry of Environment. Under the same title another document was presented by Ministry of Economy that receives final approval of the Ministry only at 5th July 2006. It means that, during the cabinet meeting, 25 May Minister of Environment agreed on the issue, that for agreement was submitted to ministry 2 months after.

[105] "Another construction that infringes on Georgian environmental laws, World Bank agreements, and the Ramsar Convention is the establishment of a railway for oil transport to connect existing infrastructure with the Kulevi terminal. The new 12.5 km long railway will start from an existing track close to the city of Poti and run along the border of the KNP", The Golden Fleece in trouble - the endangering of the Kolkheti peatlands (Georgia), Matthias Krebs & Hans Joosten, available at: http://www.imcg.net/imcgnl/nl0601/nl0601_4.htm

[106] It should be mentioned that despite the fact that Public hearing has been conducted in Ministry of Environment, with regard of EIA report to Kulevi Oil terminal Marine Part and railway access road, itself the EIA documentations has not been distributed, despite the assurance of project sponsor that documentation will become publicly available it never have been implemented.

[107] " Some arguments with regard of the Kulevi Terminal Railway Access Road EIA report" letter to head of department of licensees and permits, Ministry of Environment, from the director of Integrated Coastal zone management, 30 June, 2005

[108] http://www.today.az/news/business/34842.html

[109] Endangered ecosystems can only be conserved by an effective and powerful nature protection system like the Kolkheti National Park. Long-term support of the National Park could be made available through the establishment of a specific Heritage Fund, financed by the Black Sea Terminal Ltd and managed by wetland and marine experts and representatives of the Government (MOE), the Black Sea Terminal Ltd., and environmental NGOs (Salathé 2005).

to effective expenditure, direct benefits for the population of the country and minimum damage to environment and the public.

For successful implementation of transport infrastructural projects in Georgia It is necessary to harmonize Georgian legislation with the relevant directives of EU that would give possibility to introduce and implement all horizontal measures in accordance with best international practice.

Any Transport program must be preceded by strategic environmental assessment, not to mention the necessity of integrated social and environmental assessment at the project level.

The relevant state bodies should permanently carry out monitoring of implementation of environmental, as well as social action plans and provide its results to wider audience.

The public participation and organization of public meetings must be guaranteed regarding the strategic decisions, as well as with regard of the disputable issues of the concrete projects.

As the infrastructural programs are usually implemented faster than environmental programs, it is necessary to avoid negative impact both on the existing and planned protected areas, for example, on the protected areas included in the Emerald Network (which is an analogue of Nature 2000) and the areas protected under Ramsar Convention.

5. Water Infrastructure of Georgia - Problems and Solutions

5.1 Water management in Georgia

Water resources of Georgia

Georgia is the richest country in the South Caucasus in terms of available water resources. Water balance calculations suggest that, theoretically, Georgians have four times or more water available per capita than their neighbours in Armenia and Azerbaijan. Distribution of water resources in Georgia is uneven, however, in large part due to the range in precipitation from thehumid western part of the country to the semi-aride east. Georgia has 860 lakes and reservoirs with total area of 170 km2 and 26,000 rivers with total length of 59,000 km.

The country lies in two major water basins, with the western portion of Georgia draining to the Black Sea and the eastern part to the Caspian Sea. The Rioni River is the largest tributary to the Black Sea in Georgia, draining approximately 20% of the country. Additional contributions to the Black Sea come from smaller rivers such as (moving southerly) the Kodori, Enguri, Supsa and Chorokhi. Drainage to the Caspian Sea is dominated by the Mtkvari River. While the main stem of the Mtkvari drains 23% of the country, other rivers such as the Iori and Alazani to the north of the main stem join Mtkvari downstream in Azerbaijan. With the Mtkvari originating in Turkey, and tributaries joining in Georgia from Armenia, the Mtkvari is clearly the most important transboundary water resource to Georgia and its neighbors.

Legislation

The existing water legislation in Georgia is considered to be comprehensive and detailed with more than 30 laws and statutory acts. Besides general environmental legislation, which defines the basic environmental and sustainable development principles, there are a number of legal documents which manage natural resources including water resources. The most important law among the laws regulating water resources is the Law on Water, which includes the requirements for pursuing common state policies in protection and consumption of water resources, rational consumption of water, providing population with clean water, avoiding the adverse impact of water and effective elimination of the results of such an impact, etc.[110].

Institutional setting

The regulation of water resources falls within the competence of several state agencies, authorities of autonomous republics and local self-government bodies in Georgia.

State management and protection of water resources as well as state control and the creation of a common monitoring system is the prerogative of the Ministry of Environmental Protection and Natural Resources[111]. The Ministry defines the state policy in the sphere of protection and consumption of water resources, thresholds of pollutants in effluent waters, the Ministry also issues permits for consumption of water resources, conducts state inventories of water consumption and controls the compliance with water protection and consumption rules[112].

The Ministry of Labor, Public Health and Social Safety conducts state, sanitary supervision of compliance with sanitary-hygienic norms and sanitary-epidemiological rules[113]. The Ministry defines and approves sanitary-hygienic rules and norms, including norms for the quality of the environment and the maximum concentration of pollutants in drinking and recreational water (water from the water supply system, surface waters and waterside waters), the Ministry also conducts state supervision of these issues[114].

The authorities of the autonomous republics (within the limits of their competence) are responsible for the protection and consumption of water resources on the territories of those areas. Besides, they are responsible for the management of surface waters of national significance located on the territory of those autonomous republics. The authorities of the autonomous republics must take part in the elaboration of complex measures for the protection and consumption of water resources as well as elaboration of hydro-economic balances. They are also obliged to supervise the protection and rational consumption of water resources on their territories, conduct state inventories and registration of water consumption, etc.[115].

[110] Law on Water, 1997, article 4
[111] Law on Protection of the Environment, 1996, article 13
[112] Law on Water, 1997
[113] Law on Environmental protection, 1996, article 13
[114] Decree #279/n by the Minister of Labor, Public Health and Social Safety, August 16, 2001
[115] Law on Water, 1997, article 11

Local self-government bodies are obliged to supervise the measures directed at protection and rational use of water resources under their jurisdiction, control protection and consumption of water resources, elaborate complex measures for protection and consumption of water resources as well as elaborate hydro-economic balances. They are also obliged to supervise the protection and rational consumption of water resources on their territories, conduct state inventories and registration of local water consumption[116].

5.2 Water supply and sanitation infrastructure of Georgia

5.2.1 Short description of infrastructure

At present, all 85 cities and districts of Georgia are provided with centralized water systems. Totally there are 156 major water intakes. Drinking water is mainly withdrawn from the ground sources. A total design capacity of the ground drinking water sources is 3.1 million m^3 a day. Wastewater discharge systems operate in 41 cities and districts, 30 of which have wastewater treatment plants with a total design capacity of 1.6 million m^3 a day (including regional treatment facilities in the Gardabani district with a capacity of 1.0 mil. m^3 a day, which serve Tbilisi and Rustavi).

The total length of waterways and water distribution networks in Georgia is 9,500 km, and the length of wastewater networks and sewers is 4,000 km. In general, the sanitary and technical condition of the water intake of most water supply facilities is inadequate, which is apparent from regular outbursts of mass water-borne infections. Today many water intakes have no protected sanitary zones. 60% of water facilities and 50% of wastewater networks and sewers are beyond their service lives.

Maintenance and repair works have not been carried out at most of the water utilities for a long time. This has resulted in frequent accidents in water and wastewater systems, leading to drinking water losses and contamination of the receiving and ground water bodies. The average water losses in Georgia reach 30-50% of the volumes supplied. Most of the settlements of Georgia receive water with interruptions. There is no accurate registration of water produced and consumed. The situation is worsened by a lack of laboratory water control, which means that supplied water often does not comply with State Standards or sanitary and epidemiological requirements.

The more alarming problems exist in collection and treatment of domestic sewage and industrial wastewater. The energy crisis which ensued on the dissolution of the Soviet Union, and significant electricity tariffs increases due to a lack of financing, have negatively influenced almost all wastewater treatment facilities of the country. The technological processes were interrupted, the microorganisms used for biological treatment were lost, and pipes and conduits were clogged up. Therefore most of the wastewater treatment facilities have become disabled and the wastewater is discharged untreated into the open water bodies, ultimately causing contamination of rivers and basins of the Black and the Caspian Seas. This contamination of water resources is the main reason for mass intestinal and infection diseases in Georgia.

Lack of a well thought-out sectoral policy, the lack of institutional set-up and regulation are among the main reasons for the technical and financial problems in the water and sanitation sector in Georgia. Since the 1990's there has been almost no national water sector management system in Georgia nor a united water management policy, due to a critical political and economic crisis.

At present, agencies which could be responsible for the development and implementation of the sector policy and water and wastewater reforming programmes, sector regulation, development of sector investment programmes and resource mobilization for their implementation (budget financing and/or external loans), hardly tackle these issues. There is no clearly defined state sector policy and, consequently, no state body is responsible for its implementation. The fact that water and waste water sector rehabilitation is not among the priorities of economic and social policy is also reflected in a low level of budget financed capital investments. There is no adequate regulative framework for tariff policy which could ensure a sufficient level of income for water and wastewater utilities and affordability of water and wastewater services for low-income households. Therefore, the available funds are obviously insufficient to cover the justified costs of the utilities.

Currently the social factor (assessment of the acceptability of the tariffs) is not taken into account in the process of tariff design and no grass roots activities are conducted with the purpose of raising people's willingness to

[116] Law on Water, 1997, article 12

pay for the services. In most cases water and wastewater utilities performance is regulated by outdated SNiPs and overly tough environmental norms, which leads to excessive capital and operating costs. Comparing these norms and standards with those applied in foreign countries confirms the possibility for more effective use of the available resources. Relevant methodological acts and by-laws need to be developed or updated to reflect the new reality. Currently there are no united water and wastewater utilities coordination centers in Georgia which could provide methodological and practical assistance to the utilities in implementation of the competent and unified policy and introduction of modern technologies and techniques.

One of the most acute problems the sector is facing is the lack of professional human resources, both at the managerial level and specialists of water supply and sewage enterprises, and at the level of municipalities and ministries.

The main consumers of water supply and sewage disposal services are the population, budget organizations, industrial enterprises, public utility enterprises and the private sector. Relationships, obligations, rights and functions between the water supply and sewage sector and other subjects of legal relations in Georgia are regulated by contracts between water utilities and service consumers. The contracts form a basis for relationships between them. The facilities of engineering infrastructure and other main assets of the water supply and sewage systems of Georgian towns and settlements are, for the major part, municipal property. Relationships between municipalities and water utilities are built on contracts for utilization of municipal infrastructure on the basis of economic control rights.

5.2.2 Water supply systems and water quality in Georgia

The data on water quality in Georgia is collected by the Environmental Baseline Monitoring Center of the State Department of Hydrometeorology. The data are transmitted and treated manually. According to the Department of Hydrometeorology, 131 sampling points are chosen in Georgia for baseline water quality monitoring in the rivers and reservoirs. Due to a lack of funding, only 26 points are monitored at regular basis (i.e., samples are taken and analyzed each month), another 26 at irregular basis (i.e., samples are taken and analyzed 2 or 3 times per year), and the remaining 70 points are not monitored at this time. The collected data are provided by Department of Hydrometeorology to the Ministry of the Environment of Georgia.

The State Department of Hydrometeorology of Georgia regularly collaborates with the following agencies at national level: Ministry of the Environment, Ministry of the Agriculture, Ministry of the Energy, Ministry of Urban Planning, Institute of Hydrology, Hydro-project Institute, Tbilisi State University, Georgian Technical University, National Agency on Climate Change, and various private and non-governmental organizations.

The Georgian Department of Hydrometeorology regularly provides meteorological information to the World Meteorological Organizations. Hydrological information is only sent upon the request on the WMO. Coordination also occurs with the various International organizations with an interest on the water issues.

The infrequency of monitoring, and questions as to the quality control on sample collection and analysis compared to international norms, complicates any ability to draw conclusions on true ecological health and threats to Georgian water resources.

Based on published and unpublished data and qualitative interpretations by experts, one can draw some tentative observations:

- Ambient surface water quality probably exceeds Georgian (and comparable international) norms many times over throughout the main stems of both the Rioni and Kura rivers;
- The main stem of the Kura is reportedly affected downstream from the cities of Borjomi, Gori, Tbilisi and Rustavi;
- Tributaries to the Kura of concern include the Vere river in the Tbilisi area, the Alazani river downstream from Telavi, the Mashavera river downstream from Madneuli, and the Suramula river downstream from Khashuri;
- Relatively greater impacts on the Rioni river are reported to be downstream from Kutaisi and at Poti near the Black Sea;

- Groundwater quality at the source is believed to be very good but essentially no data are available to support this claim. Data are insufficient to assess whether more vulnerable groundwater (such as in alluvial deposits) is being contaminated by municipal, agricultural or industrial pollution;

- Ambient water quality has improved somewhat since the break-up of the Soviet Union, not from the introduction of pollution control technologies, but from dramatic reductions in industrial production and subsequent waste - water discharges; and
- Relatively high nutrient readings (especially ammonia) in surface waters are likely to result form untreated discharges of municipal waste water. Synthetic organic chemicals, oil products and metal contamination probably originate from industrial sources since only 10% of industrial discharge is treated.

The Ministry of Environment and Natural Resources Protection receives annual reports of water use. For example, in the year 2000 reports on 90% of total national water use reached the Ministry, with 345 users reporting. Total water use was 2,010 billion m3 with 39% going to irrigation, 36% to thermal power production, and 25% to municipal water supply. From this total, 398 million m3 was returned as permitted discharge, predominantly as municipal waste water (71%) and cooling water (27%). The slowdown in industry is apparent since less than 2% of discharge volumes came from industry. One note, however, is that these data are not controlled for accuracy through independent surveys by the Ministry, and users typically estimate rather than measure use, so there may be significant inaccuracies and inconsistencies. The Ministry also receives records from hydropower stations (nearly 100 stations withdrawing almost 15 billion m3 per year), though such “once-through” use is considered nonpolluting.

As it was mentioned above, drinking water is provided through centralized systems in all 85 cities and districts of Georgia. The top four systems in terms of population served are Tbilisi (1,272,000), Kutaisi (241,000), Rustavi (159,000) and Batumi (137,000). Centralized distribution to some extent is present in approximately 870 smaller towns and villages. The Ministry of Labor, Health and Social Affairs estimated that, in 1999, 75% of Georgians living in urban areas were served by centralized systems delivering water to individual dwellings. Of the remainder, 8% received water from taps in their yards, 3% from public taps, 10% from unprotected springs, and the balance through other means. The situation in rural areas was quite different, with 37% being served by unprotected wells and springs, 20% by water piped in their yards, 13% from public taps, 10% piped to individual dwellings, 13% from rainwater harvesting, and 4% from protected wells and springs.

Water abstracted from underground sources in Georgia is usually delivered to the network without treatment; however, in most of the large cities disinfection is applied. In medium and small settlements water is not disinfected at all or disinfected only seasonally, for reasons mainly related to financing of chlorine procurement and problems of the technical operation of chlorination facilities.

Since Georgia’s independence in the early 1990s, due to financial constraints maintenance and repair works at most of the water utilities have been neglected. This has resulted in poor sanitary technical conditions in water utilities, thus resulting in outbreaks of water-related illnesses.

The quality of drinking water is of particular concern. The Ministry of Labor, Health and Social Affairs has been able to maintain a minimum level of water system surveillance, though questions of quality control do arise, and this must be taken into account in interpreting official statistics. Test methods, especially for microbiological constituents, are not directly comparable to World Health Organization recommendations. Drinking water standards were set by the Ministry of Labor, Health and Social Affairs in August 2001, and were generally adapted from old Soviet norms.

In total (and depending on data source), approximately 18% to 24% of samples collected from centralized water systems in the years 2000 and 2001 violated Georgian norms for chemical and microbiological constituents. Samples from 13 towns and cities exceeded microbiological norms by 50% or more.

Perhaps a more direct measure of concern regarding drinking water is the occurrence of water-borne disease outbreaks. Water-related diarrhoeal illnesses affected Rustavi during 1997-1998 with 1902 reported cases and in 2000 with 450 reported cases. Outbreaks between 1997 and 2000 also affected Kobuleti (3582 cases in 1997-1998), Khashuri (244 cases), Borjomi (294 cases in 1997-1998), Poti (267 cases in 2000) and five other cities (361 cases). Outbreaks of amoebiasis have occurred in Tbilisi each year since 1997, with a total of 2423 cases up until 2001. Senior officials in the Ministry of Labor, Health and Social Affairs in charge of epidemiological surveillance believe that there is significant underreporting of illness (i.e. most people affected do not

visit their clinics and the illness goes unreported.) Therefore, they believe that the actual number of cases is far greater.

Outbreaks of water related illnesses have occurred in Tbilisi each year since 1997, with a total of 2423 cases up until 2001. Senior officials in the Ministry of Labor, Health and Social Affairs in charge of epidemiological surveillance believe that there is significant underreporting of illness (i.e. most people affected do not visit their clinics and the illness goes unreported.) Therefore, they believe that the actual number of cases is far greater.

5.2.3 Problems in wastewater treatment

Wastewater collection systems operate in 41 cities and districts, 30 of which have wastewater treatment facilities with a total design capacity of1.6 mil.m³/day (including regional treatment facilities in the Gardabani District with a capacity of 1.0 mil. m³/day, serving Tbilisi and Rustavi). All wastewater treatment facilities were designed and constructed as mechanical and biological treatment plants. The total length of the wastewater networks and sewers is 40,000km.

Wastewater is collected through centralized municipal sewerage systems, and in most cases, due to relief peculiarities, flow to the treatment facilities by gravity. At present, none of the treatment facilities operates with the design capacity. Biological treatment is not employed anywhere. At best, wastewater is treated only mechanically.

Municipal waste-water plants, too, were often constructed poorly and, due to inadequate operation and maintenance, have degraded further. The case of the regional treatment plant in Gardabani (serving Tbilisi, Rustavi and Gardabani) is instructive in this regard. According to unpublished reports (prepared in 1999 for a possible donor grant), while the plant was initially designed to treat 1 million m3 per day, only an estimated 600,000 m3 per day pass through the plant. This reflects the fact that only 43 out of 100 connections to the sewer collectors were actually installed. The rest of the waste water (estimates range from 30% to 50% of the total) from Tbilisi discharges directly to the Kura River without even rudimentary treatment. Some components within the treatment plant (such as the sludge digesters) were never completed. Needed improvements to waste-water collection and treatment systems are extensive and encompass all components.

In the settlements without treatment facilities, wastewater is discharged directly to the receiving water, usually through several outlets. In the settlements where wastewater treatment facilities exist and operate, only mechanical treatment is applied (if any). In the settlements where wastewater treatment facilities do not operate, wastewater is discharged directly into the receiving water either through emergency outlets passing the treatment facilities or after all or a part of the technological chain without treatment.

All wastewater treatment facilities were constructed before 1990. The design technology is now outdated and does not comply with modern requirements, especially with regard to sludge treatment. Moreover, the technology relied on almost free electric energy and natural gas.

The energy crisis which followed the dissolution of the Soviet Union, the significant electricity tariff increase and the lack of financing have negatively influenced almost all Wastewater Treatment Facilities of the country. The technological processes were interrupted, the microorganisms used for biological treatment were lost, and pipes and conduits were clogged up.

For today the water and wastewater infrastructure is in rather poor condition, many facilities are being destroyed, and the equipment is completely worn out and partly lost that can increase the spread of water-borne diseases. Concern has been expressed that waste water from health centers and hospitals, including those that treat patients with tuberculosis, may not be disinfected at municipal plants. Possible “hot spots” include: (1) the Kvabliani river and its tributary the Otskhe River downstream of Abastumani village; (2) the Mtkvari river and its tributaries the Borjomula River and the Gujaretistskali river in the Borjomi region; (3) the Mtkvari river and its tributary the Ksani River in the Mtskheta region; and (4) the Vere river within Tbilisi city limits. Water quality and health data to assess the validity of these concerns are lacking.

5.3 Consumer rights and water tariff

In Georgia the main consumers of water supply and sewage disposal services are the population, budget organizations, industrial enterprises, public utility enterprises and the private sector.

The facilities of engineering infrastructure and other main assets of the water supply and sewage systems of Georgian towns and settlements are, for the major part, municipal property. Relationships between municipalities and water utilities are built on contracts for utilization of municipal infrastructure on the basis of economic control rights.

There are no approved methods or procedures of calculation of water and wastewater tariffs in Georgia. In practice principles of development and approval of tariffs are almost similar at all water utilities in Georgia, and are established separately for water supply and sewerage. Each city and district has its own tariff rates for all consumer categories.

In case of a lack of water metering devices, the payment for water supply services is calculated on the basis of *norms*. A norm of water consumption per capita for domestic consumers of Tbilisi Water LLC is 800 l/day/capita. For domestic consumers of water companies in other cities it varies between 60 and 500 l/cap/day.

The tariff approval procedure consists the following steps: The Water and waste water utility calculates the tariff and confirms the necessity of changing it, taking into account the market changes and sector demands; Then it submits the documents to the city administration for consideration by the relevant departments; The revised and updated version is submitted to the legislative assembly of the city/head of the municipality, where a special expert commission is established to assess and produce a statement, based on which a new tariff is approved and further registered in the Ministry of Justice; And finally the information is made public through publication in the official press.

Tariffs for water and wastewater services in 2003-2004 in cities of Georgia remained unchanged. In Tbilisi the tariff per m3of water in 2004 was equal to GEL 0.04 for households (the average annual exchange rate in 2003 was: 1 USD= 2.16 GEL), and wastewater tariffs were GEL 0.01, GEL 0.05 (incl. VAT) in total. Monthly payments for W&WW services based on norms amounted to GEL 1.2 per person. The tariffs for other consumer categories in Tbilisi were GEL 1.2 per m3 of water and GEL 0.4 per m3of collected and treated wastewater respectively.

In other selected cities of Georgia the average household water tariff per m3 was equal to GEL 0.11 per 1 m3, and GEL 0.56 per 1 m3 for other consumers. Wastewater household tariff averaged GEL 0.07 per 1 m3. The average monthly W&WW payment based on norms amounted to GEL 0.40 per capita per month.

Water and wastewater services tariffs vary widely between different cities and districts of Georgia and depend on the geographical location of the area served by W&WW utilities. If a settlement is situated on the plane, it has gravity water networks, and the cost of services provided is less than in the settlements where water is pumped, and where energy costs are therefore higher. Thus, the costs of services and the tariff rate are higher for such towns.

In 2003-2004 the average W&WW tariffs did not exceed 4 US cents (in the equivalent GEL), including Tbilisi, and 10 US cents on average in Georgia excluding Tbilisi; i.e. they remained very low compared to international standards. The W&WW tariffs did not include depreciation costs, as inclusion of this component in full could have resulted in a sharp increase of the existing tariffs.

At present in Tbilisi the tariff per m3 of water since 2007 equals to GEL 2.40 for households. The new tariff has resulted from the city council's decision to double the tariff on water from 1st January, 2007.

The level of cost coverage from household tariffs in all selected settlements of Georgia was very low. The approved household tariff in Tbilisi covers only of 29% of water and wastewater service costs. Other cities experience the same. The figure below indicates the level of cost coverage from household tariffs in several cities.

Cross-subsidizing of household water and wastewater tariffs is applied everywhere in the republic. Exceeding tariffs for other consumers is more than 10 times higher in some cities. The biggest difference between tariffs for households and other consumers is observed in Batumi, Tbilisi, Kobuleti, Kaspi and Kutaisi. In other settlements the difference is smaller; up to 5 times.

It is also worth mentioning that the difference in wastewater tariffs for households and other consumers exceeds the difference in water tariffs in all places. For instance, the difference in Batumi is 40 times for water and 50 for wastewater.

In 2007 the Tbilisi Water Company started to install collective water meters in some Tbilisi districts. Vashlijvari district was one of the districts where installation of collective metering was completed.

According to research, conducted by the Green Alternative, in May of 2007 despite the fact that collective bills showed that consumption was much lower (Gel 1.99 per capita) people were still paying fixed water fees of 800 l of water per day per person (Gel 2.40 per capita), representing a clear violation of citizens' rights.

5.4 MDG-7 achievement in Georgia

In September 2000, 189 UN-members accepted the Millennium Development Goals (MDG), having established clear time-bound objectives, achievement of which will promote progressive development. Georgia is one of the countries which signed the Millennium Declaration, thus undertaking the integration of the Millennium Development Goals into the national development strategies, as well as periodical reporting on the goal achievement progress.

Following the undertaken obligations, on 26 August 2003, the Georgian Government Decree on establishment of a governmental commission for preparation of a MDG implementation report was signed. The commission was headed by the Prime Minister of Georgia. The five working groups were set up in accordance with the relevant development goals: Poverty and development, education, health, environmental protection and gender equality. The working groups included representatives of ministries and agencies, as well as experts from NGOs and international institutions. After the revolution of November 2003, a new Georgian Government renewed the commission and assigned its activity on a permanent basis (Governmental Resolution No. 7, 31 March 2004).

One of the goals (Goal 7) of the Millennium Development is sustainable environmental development. The aim is that, before 2015, the number of the population who do not have sustainable access to safe drinking water and "basic sewerage" should be reduced by half. In spite of the fact that the MDG (including those related to water supply and sewerage) were formulated in 2000, the baseline year was accepted as 1990.

Sustainable drinking water access in MDG terminology means:

- Access to an adequate amount of safe water (including treated surface water, as well as untreated but not polluted water sources, such as springs and wells);
- In urban areas, water sources may be a fountain or a stand-pipe tap located no further than 200 m4 from a dwelling;
- It is assumed that rural households should not spend considerable time to get water;
- An adequate amount of water is a volume corresponding to physiological/metabolic, hygienic and domestic consumption requirements.
- Access to "basic sewerage" in MDG terminology means:
- Defecation facilities preventing the contact of people, animals and insects with the excrements;
- Appropriate facilities are understood in MDG as simple, but protected cesspools and toilets discharging into the sewerage piping;
- To ensure effective performance, the facilities should be duly constructed and operated.

However, the accessibility of a service is not always an indication of its sustainability and safety. Hence, the MDG costing methodology should be based on a system of indicators, reflecting population access to *sustainable and safe* water supply.

In order to achieve the water related MDG-7 it is necessary for Georgia to:

(a) Provide drinking quality water for the consumer through distribution networks of the centralized water supply system

(b) Provide access to the centralized water supply system for the consumers who have not had it so far.

In order to comply with the items it is necessary to perform an overhaul and rehabilitation of the pipelines, to raise their conveyance capacity to the level which permits supplying the consumers with the necessary amount of water sufficient, at least, for satisfying their physiological and hygienic needs.

Typical obstacles for MDG achievement in Georgia is connected with the lack of financial resources for the investments and possible affordability problems of water tariffs for the poor. Affordability is a key barrier for the poor to get access to the Water and Wastewater infrastructure. If service affordability is not taken into account, it will be very difficult to provide Water and Wastewater services to the population with low incomes.

To overcome the obstacles it is necessary to attract financial resources in the framework of national priority action programmes for water and wastewater infrastructure and to take into consideration affordability of water tariffs for poor. Another problem in water and sanitation management is lack of transparency and public participation in decision making process.

5.5 Description of water projects in Georgia

Kobuleti water project[117]: 20.35 million Euro Kobuleti water project was submitted in EBRD in April 2007 with the objective to rehabilitate water supply and wastewater treatment services. Investment program comprises investments to rehabilitate the water network as well as to upgrade the wastewater services. The project will install meters to all customers and will include a financial operational performance improvement programme for the company as well as support to the city.

EBRD was supposing sovereign loan of EUR 1.5 million to the Republic of Georgia to be on-lent to the Kobuleti Water Company. The project was also assuming Grant co financing come from the following sources: Millennium Challenge Corporation/Millennium Challenge Georgia (USA) EUR 5.55 million, Ontwikkelings Relevante Export Transacties (Holland) EUR 5.28 million, World Bank/ Global Environmental Facility EUR 3 million and a local contribution of 3.62 million.

Despite the fact that the project was supposed to be approved in July 10, 2007 by the EBRD board the status of the project is still unknown for the public.

Kutaisi water project[118]: 11 million Euro Kutaisi Water Project was approved and signed in July 11, 2006 by the EBRD. The objectives of the project were rehabilitation well fields, transmission pumping stations and the water supply network; installation water meters for 100 percent of households and assistance the Company to improve its financial and operational performance.

EBRD was supposing up to EUR 3.0 million loan to the Republic of Georgia to be on-lent to the Kutaisi water company.
Despite the fact that the project was approved and signed by the board of EBRD the status and results of the project is still unknown for society.

Poti water project[119]: 8 million Euro Poti water supply project was approved and signed by the EBRD in July 11, 2006. The project was aiming performance improvement and commercialization of the Company and establishing the new tariff policy and installation of meters should also create an economic incentive for the rational consumption of water.

EBRD was supposing sovereign loan of up to EUR 3.5 million on-lent to the Company. City of Poti contribution was of up to EUR 1 million and grant financing of up to EUR 3.54 million. It should be noted that the Grant portion is needed in order to keep affordability within acceptable levels.

[117] http://www.ebrd.com/projects/psd/psd2007/37560.htm
[118] http://www.ebrd.com/projects/psd/psd2006/36491.htm
[119] http://www.ebrd.com/projects/psd/psd2005/35601.htm

Tbilisi water project[120]: In April 2007 municipality owned Ltd "Tbilisi Water" submitted Euro 25 million project in EBRD. The project was aiming introduction of collective metering for residential blocks and preparation a public-private partnership for the Tbilisi Water Company. Despite the strong opposition of civil society related to lack of transparency and ignorance of public participation in decision making process, EBRD approved the project in July 10, 2007.

A few days after the EBRD's approval of the Tbilisi water project, Tbilisi City Hall and the Ministry of the Economy announced a tender[121] for the Tbilisi water company not envisaged by the EBRD project and making completely unclear processes in the water sector.

It is important to mention on international experience in privatization of water supply and sanitation system. As experience shows in case of selling water supply systems tariffs on water can be risen. For example, the universal experience of water privatization in the UK was a sharp increase in the cost of water. On average, prices rose by over 50% in the first 4 years in England and Wales. In addition a review of the Drinking water Inspectorate (DWI) reports in 1998 concluded that there were still weaknesses in companies' performance and in the ability of the DWI to enforce standards by taking action.

In 1995 the study was carried out by the consultancy ITT comparing the costs of water provision between Swedish and UK cities of comparable size. The study revealed that Swedish companies enjoyed considerably lower costs than their private British counterparts. Furthermore, the average return on the capital invested by Swedish companies was positive allowing for full cost recovery, but accounted for nearly a third of that noticed in England.

Transparency and public participation

According to the United Nations international covenant on the "right to water"[122]: "The right of individuals and groups to participate in decision-making processes that may affect their exercise of the right to water must be an integral part of any policy, programme or strategy concerning water. Individuals and groups should be given full and equal access to information concerning water, water services and the environment, held by public authorities or third parties."

Despite the fact that a number of requests were made to the EBRD by the Green Alternative, Tbilisi City Council and Tbilisi Water Company to provide the feasibility study and audit of the water company included in the project, and to organize public consultations regarding some components of the project, neither nor were disclosed the feasibility study and the audit report of the water company nor were public consultations held.

According to the Pre-feasibility study of the project[123], international firm of accountants was obliged to make a full Credit Analysis of Tbilisi but till today it is unknown if such analysis was performed at all.

In addition it is also unknown for society why the government made decision to privatize profitable organization. While in the country there does not exist any regulation body controlling such water related issues as water tariffs etc. it might become the main reason of failure that would have negative impact on Tbilisi citizens.

According to EBRD project summary document before signing the project feasibility study, describing company's full financial, technical, economical and environmental review and audit report of the project were supposed to be made.

Despite existence of such conditions the project was approved by the EBRD without making either feasibility study of the project or audit report of the company. The only document that was made by the project was Pre feasibility study of the project.

Collective metering

One of the goals of the project is to meter blocks of flats so that one water-meter will measure the amount of water used. As a result the fee for water has to be paid collectively by the residents of the block based on the number of family members.

[120] http://www.ebrd.com/projects/psd/psd2007/37321.htm
[121] http://www.economy.ge/geo/main.php?news=128
[122] http://www.law.wits.ac.za/humanrts/gencomm/escgencom15.htm paragraph 48;
[123] Pre feasibility study of the project: Article 12, page 122;

It is noteworthy to mention the approach of the project regarding the individual metering. According to Pre feasibility study of the project the company is not obliged to install individual metering and collective metering is the only solution in this situation because installing individual metering would be far more expensive for consumers. Moreover, "The company should be quite clear that its responsibility ends at the property boundary; it has no responsibility for internal plumbing, even in common areas"[124].

Maybe the water company is not obliged to repair internal plumbing free of charge but in this case it is quite vague whose responsibility is repairing of pipes in the blocks and who will take responsibility on quality of these works. Taking into consideration the fact that plumbing is the major source of losses, repairing the internal plumbing is very important issue for achieving a positive environmental impact.

It also should be noted that the water company is obliged to bill consumers. The amount of water bill should be determined according to water-meter. So it can be sum up that the water company is obliged to install individual water meters for fair distribution of water bills. One of the main problems of collective metering is the cutting off of users that pay honestly for water that will increase tension among neighbors.

According to pre feasibility study the idea of individual metering was rejected with the claim that in Tbilisi each apartment needs four water meters[125], thus significantly increasing the project costs. However, it is not clear why four water meters were mentioned when there is only one incoming water supply per household in the whole city (hot water has not been provided to Tbilisi citizens for almost 17 years).

Regulation Problems

At present there is no regulation agency in the country responsible for issues such as control of wastewater etc. There is no clear methodology of water tariff setting and it is also quite vague how city councils are making decisions on water tariff (Economic calculations are never attached to city councils decisions).

In addition it is also unknown for society why the government made decision to privatize profitable organization and how the government is going to make supervision over the privatized objects.

Legal Violations

After project approval by the EBRD the Tbilisi City Hall and the Ministry of the Economy announced a tender for the Tbilisi water company not envisaged by the EBRD project. It is vital to note that the tender was announced without any decision by Tbilisi City Council, thus violating the Georgian Law on Privatization[126], and rendering this privatization illegal.

5.6 Conclusions and Recommendations

Summarizing all above-mentioned, it could be concluded that, the lack of a well though-out sector policy, the inadequacy of the institutional set-up and regulation are among the main reasons for technical and financial problems in the water and sanitation sector in Georgia. Therefore, elaboration of national policy for water use and protection should be an issue of the highest priority for Georgian government.

Also special strategy for the improvement of Georgia's Water and Wastewater sector should be elaborated. It is expedient to assign responsibility for the development of a strategy for the improvement of Georgia's Water and Wastewater sector to a specially created intergovernmental Coordination Committee consisting of representatives of the Ministry of Economic Development, the Ministry of Finance, the Ministry of Environmental Protection and Natural Resources, the Ministry of Health Protection, Labour and Social Security of Georgia, representatives of water and sanitation utilities and non-governmental organizations concerned. At the same time, the process should be transparent and open for all interested parties.

The experience from other countries should be considered in the course of the development and implementation of the policy/strategy. Also, foreign technical assistance and donor funds for the development of the strategic should be attracted as far as possible.

[124] Pre feasibility study of the project, Article 9.4.2, paragraph 3;
[125] Pre feasibility study of the project, Article 9.4.2, paragraph 4;
[126] Georgian Law on Privatisation Article 3(5);

6. Natural Disaster Risk Reduction in Georgia: Institutional and Legal Framework

6.1 Introduction

Natural hazards turning into disasters have increased dramatically, both in terms of frequency, complexity, scope and destructive capacity. The majority of the 20 most devastating natural disasters since 1950 have occurred during the last 10 years. Natural disasters are estimated to have claimed about 3 million lives around the world in the past two decades, as well as severely affecting the livelihood of about 1 billion people.

Natural hazards are naturally occurring physical phenomena caused either by rapid or slow onset events having atmospheric, geologic and hydrologic origins on global, regional, national and local scales. Natural disasters are the consequences or effects of natural hazards. They may represent a serious breakdown in sustainability and disruption of economic and social progress. Climate change as well as decadal variations in storms contribute to the increasing number of disasters, but the main causes of disaster are related to other factors such as population growth, urbanization, alteration of the natural environment, substandard dwellings and public buildings, inadequate infrastructure maintenance as well as poverty exacerbation. As such, disasters are to a large extent human-induced.

Development and human disaster is closely interlinked. Developing countries and poor people are more vulnerable to the effects of natural hazards and suffer the greatest losses in terms of lives and livelihoods. Disasters may setback social investments aiming to ameliorate poverty and hunger, provide access to education, health services, safe housing, drinking water and sanitation, or to protect the environment as well as the economic investments that provide employment and income. The economic losses resulted from disasters may exceed contributions from international development sources in many developing countries, and in some cases they even exceed the annual gross domestic product.

The international community is gradually stepping up activities to prevent disasters and increase the preparedness to cope with natural hazards. In the past 10 years, concepts associated with disaster reduction have advanced in both scope and sophistication. There is evidence of greater official and public understanding that the threat of combined political, economic and environmental consequences of disasters demands more effective means to address vulnerability to current and emerging risks.

Due to complex mountainous relief and climatic conditions **Georgia** is highly disaster-prone country. In the past it has frequently experienced serious natural disasters such as earthquakes, floods, droughts, landslides and avalanches. According to the Georgian scientists, environmental degradation has significantly exacerbated natural disasters, threatening livelihoods and well-being of increasing number of communities. Even though Georgia is highly vulnerable to natural hazards because of its topography and geological sensitivity, as scientists state, due to extremely high anthropogenic pressure, it is impossible to differentiate between natural and human-induced catastrophic processes. Georgia's current fragile social, political, and economic environment, rapid urbanization, and improperly maintained infrastructure increase the level of vulnerability and contribute to the impact of disasters. Among anthropogenic factors that are the major causes of increasing natural disasters, the scientist name: current agricultural practices and urbanization trends, large-scale infrastructural projects and mining industry.

According to the same scientists, the current geo-ecological situation in Georgia is critical. Landslides, mudflows, floods, river coast and seashore abrasion, droughts and forest fires are natural disasters that are most frequently occurring in Georgia during last years. Around 3000 settlements (which comprise 80 percent of the total number of settlements in Georgia,) in total with 400 thousand families experienced different degree of risk of natural hazards during last 30 years and more than 50 thousand families were resettled. It has been estimated that annual losses caused by natural disasters comprise USD 150-200 million on average. The damage inflicted by natural disasters in 2004 amounts approximately USD 300 million. In addition to ever so increasing economic losses and population's vulnerability to disasters, resettlement of population from disaster-prone peripheral villages to safer places is also noticeable. This on the one hand, leads to overpopulation of the urban areas and on the other, hinders balanced development of the country and jeopardizes territorial unity and security interests (as the majority of the bordering regions are located at the disaster-prone areas).

With Georgia's turbulent history of internal conflicts in the decades, natural disasters have not historically ranked highly among the Government's perception of risks. Disaster management in general and interrelationship between environmental management and vulnerability to disasters is clearly a critical issue for Georgia, however understanding of the problem and the solutions is either missing or balanced by other conceivably more pressing concerns, such as for instance, resolution of conflicts or ensuring fast economic growth. Only a dedicated group of specialists, such as scientists, technicians and civil engineers, a few non-governmental organizations and professionals working within the government's specialized emergency management and civil defense structures are concerned about natural disasters.

The Government's engagement in natural disasters has increased during last 3-4 years due to the floods and landslides in the Western Georgian regions in April/May 2005. East Georgia was also affected but less severely than in the West. As part of its response to the floods the Government established a national coordination structure, including a high-level Commission under the chairmanship of the Prime Minister and an Operational Centre in the Emergency Situation and Civil Safety Service of the Ministry of Interior. The Central Government provided funds for emergency road repair and the removal of debris caused by the floods. In the affected areas, local authorities responded relatively quickly to the emergency through the mobilization of reservists and the provision of food and other relief aid.

6.2 Legal Framework for Disaster Risk Reduction in Georgia

In recent years, many countries have moved their disaster reduction agenda forward through progressive legislative reform, often as a result of a major disaster. This is the case with Georgia too. As said above, the Government's engagement in natural disasters has increased during last years as frequency and magnitude of natural disasters amplified. Although adoption of the Law on Protection of the Population and Territory from Natural and Technological Emergencies in June 2007 can be considered is important step towards improvement of the legal framework regulating natural disaster risk management, legislation in disaster risk reduction remains fragmented and inconsistent, there is still lack of clarity over the respective roles and responsibilities of different actors. In this chapter major legal acts regulating natural disaster risk reduction are described shortly.

Legal definitions

Despite certain progress in lawmaking related to natural disaster risk reduction, none of the legal acts define such important terms and concepts as hazard, disaster (natural or technological), risk, disaster risk reduction, resilience, vulnerability, etc. The term "natural disaster' is mentioned in the Law on Environmental Protection (1996), however definition is not provided. There is an attempt to provide such definition in the Law on Protection of the Population and Territory from Natural and Technological Emergencies; however the law does not cover such aspects, as for instance scope of the hazardous event, its duration, magnitude of the impacts, geographical boundaries, etc. Moreover, without providing any interpretation, the law assigns natural disasters the status of "emergency situations". Described lack and ambiguity of definitions creates confusion and impedes the ability of the Government to formulate effective response to sudden onset natural disasters.

The Law on Environmental Protection

As mentioned above the law on Environmental Protection of 1996 introduces the term "natural disaster", however it does not provide any further interpretation. The law also introduces term "ecological disaster/catastrophe", however law does not clarify differences between natural (or human-induced) and ecological disaster.

The Law on Environmental Protection also requires provision of information concerning expected or previous natural and man-made accidents and other ecological catastrophes. Surprisingly, the legislation obliges the citizens to provide the relevant state agencies with the aforementioned information, but says nothing about the state agencies informing the public.

The law also implies the possibility of the declaration of a state of emergency by the president of Georgia in the event of ecological catastrophes, epidemics and epizootics. In practice the dissemination of information under such circumstances is done according to the situation. The law provides for very general requirements according to which there should be a plan for emergencies, preliminary action plans at state and industrial levels. This kind of general requirement that has no enforcement mechanisms is naturally not met. The only positive provision set out in the law in this sphere is that if the information is important in terms of protection of public safety, it can be revealed even if it constitutes a state secret.

It is stated in Article 17 of the law that the ecological insurance should be provided in Georgia, including mandatory ecological insurance for ecologically hazardous activities. The law also states that the detailed requirements for ecological insurance should be provided in Georgian legislation, however such legislation has not been elaborated until now.

Chapter 11 of the law is completely dedicated to regulation of ecological disasters. This chapter does not contain term "natural disaster"; however the used term is the closest in comparison to terms used in other normative acts (dangerous natural phenomena, natural catastrophe, natural emergency, etc). Article 42 (emergency situation in the events of ecological catastrophes) establishes that emergency situation should be announced on all territory of Georgia or its part in the event of ecological catastrophe. It is also stated that the zone of special ecological state or ecological disaster zone shall be established on the area where emergency situation has been announced.

Articles 43 and 44 introduce definition of both zones. Zone of special ecological state should be announced in the area where environment has deteriorated and human health, flora and fauna is endangered as a result of certain activities or natural disaster. Zone of ecological disaster should be announced in the area where due to certain activities, emergencies, natural disasters or catastrophes ecological balance has been undermined and human health is endangered. According to the law the president of the country is entitled to announce certain territories as zones of special ecological state or ecological disaster, the president is also entitled to cancel such zones. The regime of both zones should be defined by legislation of Georgia, however such legislation has not been elaborated until now.

The Regulation on the Permit for Impact on Environment

Many scholars note that instruments of environmental management can be counted among effective risk reduction measures, therefore in this chapter the current system of Environmental Impact Assessment (EIA) and relevant regulation is discussed shortly.

In order to mitigate the likely consequences of planning and related economic decisions on the environment and human health the Regulation on the Permit for Impact on Environment was adopted in 2005. It has replaced the Law on Environmental Permit of 1997 which was aimed at prevention of possible negative impacts on the environment and public health due to various types of industrial activities at early planning stages as well as during implementation.

According to the Law on Environmental Permit, the activities defined by the law and dealing with relocation, construction or sectoral development programmes and projects, including the implementation of infrastructure development, reconstruction and the technical renovation of enterprises, projects and programmes for protection and use of natural resources, etc. require an environmental permit. The activities were divided in four categories depending on the scale of activity and significance of environmental impacts. The project proponents were requested to conduct EIA (or limited environmental study, depending on the category of activity) before application to the Ministry of Environmental Protection and Natural Resources for the permit.

The situation has radically changed when a new Law on Licenses and Permits and Regulation on the Permit for Impact on Environment was adopted in 2005 (the latter was adopted to enforce the provisions of the Law on Licenses and Permits; it defines relatively detailed requirements for issuing the permit). As mentioned above Regulation on the Permit for Impact on Environment replaced the Law on Environmental Permit. Now after changes introduced by the aforementioned law and regulation, the EIA system currently existing in Georgia is effective neither in terms of providing public with the information and ensuring public participation, nor in terms of helping decision-makers to take informed decisions on the activities that have adverse environmental effects, to say nothing of post decision-making monitoring and control. Now the Georgian EIA legislation does not comply with the requirements of Aarhus Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, as well as to the relevant EU directives.[127] The areas of particular concern include:

1. Applicability of EIA – EIA is applicable to private projects/activities listed in article 4 of the recently adopted Law on Permit for Impact on the Environment. Public (state-owned) projects are exempt from EIA, while the majority of the activities listed in the abovementioned article can in principle be implemented only by the

[127] Council Directive 85/337/EEC of 27 June 1985 on the assessment of the effects of certain public and private projects on the environment; Council Directive 97/11/EC of 3 March 1997 amending Directive 85/337/EEC of June 1985 on the assessment of the effects of certain public and private projects on the environment.

public institutions. Furthermore, The Law on State Support to Investments makes possible for any person to start implementation of activity without conducting EIA and obtaining permit on condition that he/she will fulfill these obligations in the future.

2. Type of activities subject to EIA/Screening – article 4 of the law gives exhaustive list of activities subject to EIA; the list does not include such activities/projects as for instance, mining, nuclear power stations, agricultural and food industries, wood, paper, leather and textile industries, certain types of infrastructural projects (many of those activities are considered to trigger natural disasters). There is little screening of projects subject to the EIA process, putting an excessive burden on the Ministry of Environmental Protection and Natural Resources (authority responsible for reviewing EIA reports (state ecological expertise) and granting the permit for impact on the environment) and the developers of small and medium size projects which have no significant environmental impacts. The list of activities subject to EIA (article 4 of the law) does not comply with Annex I of the Council Directive 85/337/EEC and Annex I of Aarhus Convention. The law also does not include open-ended provision on activities that may be subject to EIA as it is foreseen under the Council Directive 85/337/EEC (Annex II activities).

3. Scoping – scoping stage is absent in the legislation; That is why the EIA reports submitted for receiving the ministerial consent are of extremely low quality.

4. Public participation – The Ministry of Environmental Protection and Natural Resources is neither obliged nor entitled to ensure public participation in the decision-making on granting the permit for impact on the environment. Instead the project developers are obliged to inform and consult public on the draft EIA report, i.e. before application to the ministry. Ministry is also not obliged to inform public on the decisions on granting the permits.

The Law on Emergency Situations

The Law on Emergency Situations of 1997 deals explicitly with issues of disaster and emergency management. This law focuses on natural, technological and ecological disasters as well as conflict and civil strife. The law gives the President of Georgia the authority to declare a State of Emergency, which must be approved by the Parliament within 48 hours.

Article 4 of the law includes several provisions relating to the need to maintain public order in emergency situations, such as limiting the right of free movement of civilians, the temporary confiscation of firearms and the need to ban mass gatherings and to control the media. Article 5 defines body which should be in charge of coordination the works for preventing and liquidating the consequences of the state of emergency – the National Security Council of Georgia.

Article 13 of the law refers to the population affected by disaster and emergency management. The article specifically stipulates that the government is obliged to provide dwelling premises and compensation to the citizens to whom the damage was inflicted during the state of emergency, or during implementation of preventive or liquidating measures. Government is also taking responsibility to assist disaster affected individuals in finding job or provide any other type of assistance. According to the law, conditions for granting of residential premises, providing compensation for damage and rendering other necessary assistance shall be determined by the President of Georgia according to the legislation. It is not clear though until now what type of assistance the government may provide and how damage should be calculated as Georgian legislation do not provide for any other provisions detailing those stipulated in the Law on Emergency.

Law on Protection of the Population and Territory from Natural and Technological Emergencies

As mentioned above, adoption of the Law on Protection of the Population and Territory from Natural and Technological Emergencies in June 2007 is an important step towards improvement of the legal framework regulating natural disaster risk management; however it only addresses emergency preparedness and response stages of disaster risk reduction cycle. It does not take a holistic approach to disaster risk reduction and it is still missing explicit definitions of key terms. Below some of the important provisions of the law are discussed.

The law provides legal basis for both natural and human-induced disasters. Emergency situation is defined as follows: situation at certain territory which has resulted from a natural disaster, fire, catastrophe, where the state of environment has deteriorated, or ecological balance has been undermined and the health and life of people, flora and fauna is endangered and the environment is damaged. The zone of emergency situation is defined as a territory or an area of water, where the emergency situation has occurred. The risk of emergency

situation is probability or frequency of occurrence of emergency situation, which is defined by relevant indicators of risk. Emergency prevention is defined as set of legal, organizational, economic, engineering-technical, sanitary-hygienic, sanitary-epidemiological and other measures, implemented to monitor and control environment and hazardous industry facilities, as well as forecasting of emergency situations or in the event of its occurrence, for the preparedness and mitigation of the results.

According to the law the process of announcement of emergency situation is regulated by the law on Emergency Situations, while in the event of declaring of war – by the Law on Warfare. This provision raises certain concerns regarding applicability of the law; specifically, it is not clear when Law on Protection of the Population and Territory from Natural and Technological Emergencies is applicable, if announcement of emergency situation is regulated by the Law on Emergency Situations, while in the event of declaring the war – the Law on Warfare.

It is noteworthy to mention, that regardless introductory declarations, the law is mainly focused on organization of measures after the natural disaster has taken place and less oriented towards preventive measures and natural disaster risk reduction. This is confirmed by the fact that Article 4 of the law states, that one of the purposes of the law is prevention of natural disasters, however according to the definition of emergency situation the law extends to on-going or occurred natural disasters, elimination of the results of natural disasters. This means that there is certain conflict between definition and the objective.

Paragraph 4 of Article 8 states that the authorized person should provide information in timely manner; it is not clear however what is considered to be the “timely” and when one can say that the information was provided with the delay. It is also not clear who is authorized to evaluate whether information was submitted with delay or not.

According to the Article 5, elimination of impacts of emergency situations is responsibility of central and local authorities, as well as legal entities. In case they are not capable to respond adequately to the emergency situation with their own resources, “organs of a unified system” should take part in elimination of the results of the emergency situation. It is important to mention that Article 5 does not provide any explanation to what is meant under “organs of a unified system”. This is explained later in Article 13 which states that the Department of Emergency Management of the Ministry of Interior, its structural divisions in Abkhazia and Adjara Autonomous Republics, local bodies of governance and emergency situation management divisions under them are meant under the unified system. Article 11 of the law states that the Government of Georgia shall establish Special Commission on Management of Emergency Situation which should take coordinating role within the unified system. Article 14 of the law further adds that in the event of emergency situation, executive authorities of Georgia shall establish special subdivisions for management of emergency situations to promote functioning of the unified system.

According to paragraph 5 of the same article executive authorities as subjects of the unified system, shall implement their activities on the basis of relevant legal acts, National Response Plan approved by the President and Civil Defense plans. One important issue remains unclear. According to the article, executive authorities are viewed as subject of the unified system, provided by article 13 of the law, while the same article specifies, that subject of the unified system are not generally executive authorities, but the Ministry of Interior and the local bodies of self-governance. This means that apart from the subjects of the unified system provided by article 13 of the law (the Ministry of Interior and the local organs of self-governance) other executive authorities also are involved through implementation of the National Response Plan and Civil Defense Plans approved by the President.

Article 17 of the law introduces the right of the public to carry voluntarily life, health and property insurance for natural disasters in accordance of the rules defined by the Georgian legislation. It should be mentioned however that Georgian legislation does not provide for any such rules, neither law states when they should be adopted. Here it is noteworthy to also mention the UNDAC mission’s report of 2005, which states that the draft law on mandatory insurance for natural disasters which envisages financial support for those living in high risk areas was drafted but not yet adopted.

Finally, there two articles in the law which raise questions as to what legislator meant under the mechanisms introduced by those articles. Article 23 of the law states that the state expertise in the field of protection of territory and population from emergency situations is implemented in accordance with the rules established by the Minister of Interior. The law does not specify what kind of expertise it is, what the subjects of expertise can

be or what the outcomes might be.

According to article 24 of the law states that safety declaration is used to address those issues that are related to the protection of territory and population from emergency situations and that should be implemented by the unified system. The law provides neither any further interpretation to what is meant under safety declaration or what are procedures to obtain it, nor who should obtain it, why and where.

To summarize, the Georgian authorities are taking certain steps to improve legislation regulating natural disaster risk reduction, however efforts are scattered and uncoordinated. Lack of clarity in existing legislation over the respective roles and responsibilities of different actors can hamper the delivery of relief assistance. Therefore clear and detailed procedures must be in place to ensure that all actors effectively play their respective roles and that resources are used efficiently.

6.3 Institutional Framework for Disaster Risk Reduction in Georgia

For the effective and efficient disaster risk reduction it is certainly important to have comprehensive legal framework in place; legislative measures are, however, often weakened by the absence of adequate means of carrying them out. For this, appropriate institutional frameworks and arrangements are needed. These comprise all organizations or institutions with a recognized role to play in disaster reduction, the mechanisms for co-ordination between them, their human resources, funding, equipment and supplies, leadership and effectiveness. It is widely believed that a strong, well located or central agency/authority for disaster and risk management is a key element in the institutional framework, providing a visible focal point for the management and reduction of risk as well as efficient emergency response. It is vitally important that such agencies demonstrate leadership and professional competence, and earn the confidence and support of stakeholders at all levels. In practice, such commitment is often lacking.

In this chapter institutional framework for disaster risk reduction in Georgia is discussed briefly. Key issues for institutional development of the disaster risk reduction system in Georgia are also discussed shortly; those critical issues were identified during the United Nations Disaster Assessment and Coordination Team (UNDAC) mission to Georgia in 2005 to assess the institutional structure and arrangements in place for disaster preparedness and response.

Until July 2004, two bodies within the Government of Georgia shared responsibility for disaster risk management. The main coordinating body was the Standing Commission on Emergencies and Civil Defence under the National Security Council. This body ultimately sanctioned all disaster response by different ministries and advised the President on issues relating to international assistance. Operational responsibility rested with the Department of Emergency Situations and Civil Defence, under the Ministry of Internal Affairs. The Department had offices in Tbilisi and regional branches country-wide. The National Guard had similar functions to the Department of Emergency Situations and Civil Defence, and the differences between the two entities were not clearly defined.

The Department of Emergency Situations and Civil Defence was dissolved by a Ministerial decree in June 2004 following a decision to restructure the Ministry of Internal Affairs. On 31 December, 2004 a national emergency management authority, known as the Emergency Situations and Civil Safety Service was established in the Ministry of Internal Affairs by ministerial decree. Its functions are broad and include the following: development of a civil defence plan and a national plan for emergency response; provision of training for emergency managers, fire-fighters and personnel to be deployed in international rescue operations; monitoring and forecasting of potential hazards; emergency response coordination; participation of rescuers advising Government on disaster management policy.

In addition to the institution described above, the Regional Policy and Emergency Affairs Service at the Prime Minister's Office plays a significant role in overcoming the consequences of disasters. This Service is responsible for the overall coordination of disaster response between different levels of the central and regional governments. The Head of the Service acts simultaneously as a secretary to the Ad Hoc State Commission, established on 3 May 2005, for the flood response, which is chaired by the Prime Minister. The Commission also includes a working group, headed by the State Minister for Reforms Coordination, to propose actions for disaster prevention, management of river basins and more specifically institutional development of river-bank strengthening facility.

In general, decision-making remains problematic throughout the emergency phases as the link between the Commission and the National Coordination Centre was never clarified. Several donors and international agencies noted the difficulty in obtaining clear guidelines on priorities from the Government. Although local authorities undertake detailed assessments, it is not clear if information reaches Tbilisi. Moreover, the capacity to analyze the data and establish priorities appeared to be missing. Little guidance is provided on the location of the areas most affected by the disasters creating difficulties in determining where assessment teams should be deployed.

The Ministry of Foreign Affairs has an obvious and important role acting as a facilitator between the international community and the government with respect to international assistance. During the recent floods, however, donors and agencies experienced difficulties in obtaining clear information from the government on the urgent needs and priorities.

The efficient, effective and timely management of a major disaster is largely dependent on the rapid collection, analysis, prioritization and dissemination of incident information and the ability to translate these into positive executive and response actions. As UNDAC mission notes in its report, there is little evidence of an efficient, effective and reliable system to meet the strategic and tactical response requirements at national, regional and local levels. The most solid existing structure is the Emergency Situations and Civil Safety Service Coordination Centre in Tbilisi. The Centre, however, requires significant improvements in terms of procedures, methodologies, physical space and equipment, as it will be unable to support or sustain a prolonged major emergency or disaster response operation in its present form.

Some coordination mechanisms exist at the district and municipal levels, but in general terms the concept of a Coordination Centre is not consistently replicated at the required level, under agreed standards and procedures. The mission states that actions are taken on an ad hoc basis. The absence of clear-cut standard operational procedures and of a designated facility hampers the response operations and often results in inadequate decisions on the use of resources.

The Center for Monitoring and Prognosis under the Ministry of Environmental Protection and Natural Resources is also assigned role in natural disaster risk management system. The Center is primarily responsible for monitoring and prognosis of natural hazards, conducting risk assessments, suggesting recommendations on risk reduction measures.

6.4 Conclusions and Recommendations

1. Natural disasters are increasingly regarded as a problem that requires concerted action and long-term commitment by the international community. International donor organizations should take a responsibility to ensure that all activities and programmes carried out under the development cooperation do not make the country more vulnerable to natural hazards or contribute to intensifying the negative impacts when disasters strike. Donors should also be well placed to contribute in promoting disaster reduction more actively, because they already play an important role in various related fields, such as environmental protection, promoting peace, democracy and human rights.

There are several international organizations that already have an important role in disaster risk reduction in Georgia such as for instance, United Nations Development Programme, the World Bank, Swiss International Development Agency; It is important that those organizations build partnerships and networks to avoid overlapping actions in promoting disaster risk reduction principles in the programmes and projects they fund, as well as to avoid building parallel structures when supporting agencies that work on disaster issues.

The focus should be on enhancing the country's capacity and willingness to ensure integration of disaster reduction into development and environmental management policies, develop legislation, strengthen environmental and natural resource management (i.e. addressing the underlying root causes of disasters, through improved natural resources management and protection of environment) and in developing and implementing contingency plans.

2. Some of the key challenges for effective disaster reduction are endorsement at all political levels and mainstreaming of disaster reduction in development and budgeting; the main responsibility in this lies with the government. Multidimensional approaches are needed, including mainstreaming and creating a culture of risk reduction in all development sectors, strengthening resilience to cope with natural hazards and disasters, and measures for mitigation of the damaging impacts of disasters.

3. Incorporating disaster reduction in development policies, taking a proactive stand, will require development of a comprehensive agenda for action. An important part of the agenda should be national policy formulation – deciding on the key themes and the geographical and regional focus, and development of an operational work-plan with objectives, priority activities and indicators. Another important step for development of an agenda is adoption of a national action plan for disaster risk reduction in Georgia. It should start with carrying out basic activities such as risk assessment, developing an information and knowledge base, identifying the stakeholders and clarifying roles and responsibilities, and creating consensus about goals and objectives.

4. Proactive stand to reduce the toll of disasters requires a comprehensive approach that encompasses both pre-disaster reduction and post-disaster recovery. Such an approach involves the following set of activities: (a) risk analysis to identify the types of risks and their magnitude; (b) prevention and mitigation to address the structural sources of vulnerability; (c) risk transfer to spread financial risks over time and among different actors; (d) emergency preparedness and response to enhance a country's readiness to cope quickly and effectively with an emergency; and (e) post-disaster rehabilitation and reconstruction to support effective recovery and to safeguard against future disasters. Although progress is noticeable over time in some of the areas, Georgia needs to take substantial steps in all of these areas. Capacity building – in the broad sense – is required in all above listed areas and at all levels – national, local government, civil society, and community.

5. An institutional framework for natural hazards and disasters needs to be thoroughly defined, with clarification of roles and responsibilities. In addition, activities to strengthen the internal capacity of the institutions on disaster risk reduction will be required, including training and competence building and development of support systems, such as guidelines and tools for information handling, quality assurance, monitoring and evaluation.

6. Although adoption of the Law on Protection of the Population and Territory from Natural and Technological Emergencies is an important step towards improvement of the legislation regulating disaster risk reduction, but still, it only addresses emergency preparedness and response stages of disaster risk reduction cycle. Hence, there is need to develop and adopt legal framework which will take a holistic approach to disaster risk reduction, establish explicit definitions of key terms (such as hazard, disaster, risk, resilience, vulnerability, etc.), emphasize linkages to national economic, social and urban development plans, environmental and natural resources management and instruments, assigns roles and responsibilities at all levels, contains guidelines for emergency planning, provides for anti-seismic measures, and includes sanctions for non-compliance.

7. Education and training are key components in disaster reduction. Schools and academic institutions have an important role to play in developing knowledge and awareness on disaster safety. Therefore it is important to integrate disaster reduction into school programmes, develop awareness raising campaigns and support schemes that include strengthening of coping capacity and resilience towards disasters at the local community level.

The Association Green Alternative is nongovernmental non for profit organizations, established in 2000.

The mission of Green Alternative is to create framework for economically viable and socially desirable alternatives to protect environment and unique biological and cultural heritage of Georgia; and to advocate for social justice and public participation in decision-making.

It pursues this mission through the public awareness raising campaigns, resistance to environmentally and socially destructive programs and project, promotion of the principles of equity and justice in society and support to local industry and community development. Association tries to increase public participation in decision-making process through the capacity-building of local NGOs and grassroots, help in know how transfer and developing easily replicable visible pilot projects benefiting local peoples.

Since its establishment GA monitors activities of International Financial Institutions in Georgia, works on Biodiversity, Energy/Climate Change and Poverty Reduction issues. During the last few years spectrum of the organization's working area has been considerably widened and includes protection of environmental and social-economic rights of local communities; work on illegal logging and trade of wildlife, and work on improvement of Environment policy (waste, water and etc) and Sustainability issues, facilitates the public participation in decision-making process and access to justice on environmental matters; The Association has long track record of successful campaigning on national and international level with regard of development projects, as well as working on policy issues by means of lobbying, advocacy and public advocacy. Green Alternative works on capacity building of the local groups in regions and facilitates their direct involvement in the campaigns.

Green Alternative is a part of CEE Bankwatch Network, the one of the most effective environmental campaigning organizations in Central and Eastern Europe. We closely collaborate with Friends of the Earth International, various green or gray organizations worldwide.

In 2004 Green Alternative received the Goldman Environmental Prize as the recognition of organization's incredible work for environmental protection, social justice and equity.

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