

Project idea

Prevention of negative impact on environment (rivers' basin) caused by exploitation and transport of mineral resources

The countries participating in BS-ERA.NET Pilot Joint Call are rich with mineral resources containing huge reserves of coal and iron-ore, manganese, mercury, titanium, chromium, nickel, bauxite, uranium, phosphate, sulphur, peat etc. The mining and production of industrial minerals and mineral products is conducted on the territories of those countries.

Most rivers and tributaries from the Danube River Basin, Donbas Basin, Tisza River, Dnepr, Rioni, etc. empty in Black Sea. Consequently, the problem of water pollution is the subject of the great importance that arises and increases the threat of the Black Sea and its coastal zone ecology and tourism development. It should be mentioned that the tourist routs and protected territories are located not only on the Black Sea coastal Zone, but also on the Basins of above mentioned rivers.

Likewise Bulgaria, Moldova, Ukraine, Romania and other countries, the similar problems exist in Georgia and it can be characterized as follows:

The Caucasus takes the most important place amongst 200 unique ecological regions worldwide. The International Organization of Nature Protection considered the Caucasus to be the region of global value by biological, landscape and cultural diversity.

The Caucasus and Georgia which is one of the countries amongst the Caucasus countries that owns the territories on the coastal zone of the Black Sea is rich with endemic and relict species. 21% of plant species are endemic. From 395 species of timber plants 61 is endemic in the Caucasus and 43 in Georgia. 322 bird and 105 mammal species have been studied and described in Georgia. Most of them are endangered and are placed in Red Book. The conservation of biodiversity is conducted according to the system of protected territories. Its diversified and high esthetic valued natural, historical and cultural environment is integrated in different categories of the protected territories, such as Nature Reserves, Managed Reserves, Nature Monuments, National Parks, Protected Landscapes, etc. On the protected territories of Georgia, that correspond to I and II categories of the International Union for Conservation of Nature (UNCN) the space of 283 000 ha is allocated.

Ecological corridors, so called buffer zones are created amongst the protected territories corresponding to the International Union for Conservation of Nature (UNCN) IV category-the diversified territories. These are partially altered territories and include the habitats where the farming traditions are (or have to be) maintained and advanced; sustainable utilization of resources are (or have to be) introduced. There are 10 eco corridors in the Caucasus, 4 of which imply the territories of Georgia. They are:

1. The main range of eco corridor (4.68 million ha) including the upper and middle zones is situated from the Black Sea to the Caspian Sea. The corridor lies along Russia, Georgia and Azerbaijan borders.
2. The western Minor Caucasus corridor (2.99 million ha) which is situated in the western part of the Caucasus and lies along the Black Sea coast from the north-east of Turkey to south-west of Georgia and ends in the central part of Georgia.
3. Javakheti (0.42 million ha)-located in northern part of Armenian-Javakheti range, where the borders of Armenia, Georgia and Turkey are connected.
4. Iori-Mingechauri (0.97 million ha)-located in the central part of Transcaucasia range, on Georgian and Azerbaijan border.

It is important to maintain the clearness of fresh waters and seas for region ecological safety preserving purposes. Ecological safety of river basins greatly depends on the clearness of seas and entirely on environment.

One part of the main rivers in Georgia – the Mtkvari, the Alazani, the Iori flow into the Caspian Sea, one of the most important water reservoirs; the second part –the Chorokhi, the Rioni, the Tskhenistskali, the Khobistskali, the Enguri, the Kodori, the Bzphi, in the Black Sea, in one of important water reservoirs in Europe.

In Georgia, where the greater part of rivers did have unique drinking properties, are extremely polluted nowadays. Pollution of rivers threatens the safety of the Black Sea and accordingly Europe. The great successes in environmental safety will be achieved by the cooperation of the Black Sea Basin countries that have the equal problems. On our opinion, initially it is necessary to conduct the complex researches and work out the action programs for river basins environmental protection and its implementation that is the most important part in whole management and eco safety of the Black Sea Basin.

As well as in other countries on the Black Sea Basin countries in Georgia the number of international projects have been conducted and implemented regarding eco safety in Georgia.

Despite there are a lot of environmental activities to be implemented in our country. It is important to elaborate action programs for solving river basin environmental protection problems, what is an essential part in rivers general management. In our opinion, initially such pilot plan should be elaborated for the river Rioni that is the most full-flowing and polluted river in the west Georgia causing the Black Sea pollution.

Among pollution sources of the river Rioni should be separated the worldwide richest manganese enterprises located on river's tributary river Kvirila in Chiatura Municipality. The river Kvirila is the most polluted river in Georgia and belongs to the fifth category of polluted rivers. According the emerging ecological threats Chiatura manganese mine is on the first place in Georgia. The dust emerged while manganese mining, processing and transportation are toxic and ecologically harmful. The dust, as dangerous waste emerges in air and as rain it flows in Kvirila. Additionally, the industrial waters from manganese mines processing enterprises flow in the river Kvirila, what increases the rate not only of manganese but also the phenol, nitrogen and heavy metals.

The source of the Rioni pollution is Zestafoni ferroalloy factory; Tkibuli coal mining enterprises; Kvaisi barite and polymetallic processing enterprise; Terjola oil processing and asphalt factory; oil waste at Port Poti; city enterprise, household waste and unfiltered sewerage system allocated at the river basins; intensive agriculture, teschenite, granite, bentonitic clay, chalcedony, quartz sands, mines of different type limestone and inertive materials.

The river Rioni basin includes important parts of as the regions, towns and villages of western Georgia, Imereti, Samegrelo and Racha, as conditionally protected territory of Racha, Borjom-Kharagauli National Park, Ajameti natural reserve, Sataflia natural reserve, Katsoburi managed reserve, Kolkheti National Park and Black Sea Resort territories, tourism centers and tourism routs most part of which is ecologically endangered by the river Rioni.

It should be mentioned hereby, that environmental awareness is very low as in the population of the river Rioni basin as in the whole Georgia. Trees, among them endemic and relict ones are chopped down illegally in the whole territory of the river Rioni basin, including protected territories, that damages rivers and at the same time the nature of the western Georgia.

Solution of the above mentioned problems falls in one of the important priorities of European Neighbor Policy Action Program (ENP AP). Namely, Action Program of Article 4.6.3. Environment Protection

considers to take measures for the purpose of creating relevant conditions for environment effective management and to start its realization:

- To continue the regular report preparation on environment conditions;
- To strengthen structures and procedures for the purpose of carrying out the environment influence estimation.

To take measures for avoiding environment worsening and protecting human health, also providing rational development of natural resources in accordance with the obligations of Johannesburg Summit:

- To work out draft legislation and base procedures, also, planning provision mainly in environment protection sector – air quality, water quality, waste recycle, nature protection.

It is also important to involve relevant organizations in the process of the realizing mentioned initiatives. Furthermore, regional collaboration strengthening appears on of the priorities of European neighbor policy. The fifth priority sphere of the action plan includes ‘stimulating the participation in collaboration initiatives in Black Sea Region including south Caucasus, concerning the e.g. environment protection, education, border management, transport and parliament fields’. At the same time ‘strengthening mutual and multilateral collaborations between Black Sea Region and the Black Sea, the Baltic Sea and The Caspian Sea regions’.

Partnership and Collaboration Agreement (PCA) pays great attention to the settlement of the above mentioned problems. Article 57 – the purpose of the environment-collaboration is to struggle against environment damage, namely:

- Biodiversity protection, stable usage of protected areas and biological resources and management;
- Sufficient monitoring of the environment pollution level and environment condition estimation;
- Struggling against local, regional and trans-border air and water pollution;
- Ecology restoration;
- Environment education.

One of the aims of the working plan of European Partnership Platform II, 2009-2010 is:

- Air, water, waste management, seaside border line management and biodiversity;
- Knowledge and experience exchange between partners regarding planning the environment protection activities, implementation and monitoring.

An environmental protection action programs are necessary to be elaborated in Georgia, where environment is polluted systematically. Such programs will support problem detail studying, research conducting and realization of the issues, also working detail plan development and step-by-step implementation of the relevant activities.

A coherent research should be started in Georgia in order to find out the river basin pollution causes and later, to work out the ways to eliminate them. In this direction, pilot activities should be initiated by creating the river Rioni basin environmental protection program. The analogical programs should be developed for all other main rivers in Georgia and their basins.

Realizing Black Sea ERA.NET Research Program, Georgia will contribute significantly to ecological safety of the Black basin that will guarantee the involvement of our country in the issues of ecological safety of important European and Asian water reservoirs, what should be defined as one of the priorities of Georgian environmental strategy.

The Project Proposal idea responds the following issue in the framework of the thematic field – Climate and Environment:

- Exploitation and transport of mineral resources: impact on environment;
- Water pollution prevention options for coastal zones and tourist areas.

The objectives of the research project are:

- To conduct the researches in the problems of Black Sea coastal Zone environmental protection issues;
- To maintain the communication in order to develop better reciprocal knowledge and promote trust-building among program owners and/or managers through a mutual learning process, and a systemic exchange of information and good practice.

The research main directions and specific activities will be discussed and developed in case of consortium establishment, on the basis of all partners' suggestions and mutual agreements.