

# How Tergi River is Being Killed

Fact sheet about the Dariali hydro power plant project

July, 2012

## 1. About the project

The Dariali hydro power plant (HPP) project envisages the construction of a derivation type hydro power plant with installed capacity of 110 MW on the Tergi River, in Kazbegi municipality, close to the Russian–Georgian border. The HPP will be connected to the national grid via Dariali 110 kV transmission overhead line which connects Georgian and Russian grids. The project is being implemented by the Dariali Energy company.

The project is being implemented on the basis of the agreement signed between the Georgian Government and the Dariali Energy company on May 19, 2011. In order to assess the environmental and social impacts of construction and operation of the Dariali HPP, the Dariali Energy hired a scientific–research company Gamma. According to the Environmental and Social Impact Assessment (ESIA) report prepared by Gamma, “no significant environmental and social impacts are anticipated in the process of construction and operation of the HPP.” Based on the ESIA report, on November 28, 2011 the Ministry of Environmental Protection issued a conclusion of ecological expertise (an environmental clearance document) for the project. On November 30, 2011 the Ministry of Economy and Sustainable Development issued a construction permit. Presently, Green Alternative is in court dispute against the Ministry of Environmental Protection demanding the abolition of the conclusion of ecological expertise issued through violation of the Georgian legislation.

The construction and operation of the Dariali HPP will cause the degradation of ecological and cultural values of the Dariali Gorge ecosystem and increase risk of natural disasters, in case the project is implemented in the form it was approved. Compared to the harm caused by the project, the economic benefits gained by the country will be quite insignificant.

## 2. Issues of concern

### *Doubtful economic benefit*

According to the agreement concluded between the Georgian Government and the Dariali Energy company on May 19, 2011, the company is obliged to

supply electricity generated by the HPP to the country's grid with a tariff of USD 6.5 cent per kWh during the winter months (December, January and February) for the first ten years of beginning the operation of the Dariali HPP. While the cost of electricity generated by the hydro power plants operating in Georgia amounts to USD 0.5 – 1 cent on average, the company, under the agreement, is obliged to sell the generated electricity to the country's grid with a tariff of USD 6.5 cent per kWh. In other months of each operational year, the company has the right at its sole discretion to choose which market to sell electricity produced by the facility and the price at which it shall be sold.

Without giving due consideration to certain benefit of indirect nature (such as compulsory realization of electricity on Georgian market during winter period; possible development of unspecified infrastructure; apparent creation of certain number of temporary jobs, etc.), it can be said that Georgia will not gain any direct economic benefit from the agreement concluded with Dariali Energy (it cannot be found out from the text of the agreement). In addition, under the agreement the Georgian Government undertakes significant obligations and assumes certain risks (including financial, environmental, social and other risks), which are not secured by relevant guarantees.

At the same time, because of the harm caused to landscape and biological diversity, the project will strike a serious blow to the increasing and quite perspective industry for the Kazbegi district – ecotourism – and reduce the employment opportunities in this area.

#### ***Cultural–ethnographic values and tourism importance of Tergi River and Dariali Gorge***

The Dariali HPP project envisages diversion of the greatest part of the river flow, 90 percent, into the channel first and then to the tunnel; Thus, about eight-kilometer section of the Tergi River will actually remain without water. Landscape will radically change on the eight-kilometer section of the Dariali Gorge with a total length of 11 kilometers; as a result of water diversion, the Gorge will lose historically established cultural–ethnographic values and tourism importance.

Just the Tergi River makes the Dariali Gorge so remarkable. The river was the source of inspiration for Iliia Chavchavadze, Alexander Kazbegi, Grigol Orbeliani and other famous Georgian writers and poets. Just the river and its adjacent landscape were attracting travelers and are still attracting tourists. In case the Dariali HPP project is implemented in its approved form, the Gorge will lose those values, which still attract tourists that will ultimately have adverse effects on the incomes of people engaged in the tourism industry.

#### ***Unstudied hydrogeological regime of the river***

The Dariali HPP project was planned, approved and is being implemented without studying the hydrogeological regime of the Tergi River and its tributaries. The data about average annual flow of the Tergi River are based on the results of observations conducted in 1928–1940 and 1953–1986 – no data for the past 25 years are available. Moreover, the calculations for suspended solid flow of the Tergi River (solid and bottom sediments) are based on the data of 1928–1940. No data about the tributaries of the Tergi River, as well as average annual flows and suspended solid flows of the Chkheri and Kuro Rivers have been studied or provided at all.

The lack of hydrogeological data, taking into account that under the project only 10 percent of water flow will remain in the river, increases risk of harmful damages to the Dariali Gorge and its biodiversity, as well as occurrence of natural disasters.

Moreover, it is established that due to climate change, the glaciers which feed Tergi and its tributaries, are reduced by several meters every year. The issue of changing the water and solid flow caused by accelerated melting of glaciers was not taken into consideration while developing the HPP project.

### ***Negative impact on biological diversity***

The project implementation will have an irreversible and strongly negative impact on the flora and fauna of the Dariali Gorge.

The HPP construction and operation will have a significant negative impact on the species included in the Red List of Georgia such as trout. The measure offered to mitigate the project impact – arrangement of fishways – will fail to improve the habitat of a trout, since 10% of water left in the river will not ensure the conservation of fish habitat in the river and will cause extinction of this population.

In response to the criticism from the non-governmental organizations, in order to mitigate the project impact on trout, the Dariali Energy undertook an additional obligation to conduct monitoring to assess the efficiency of the operation of fishways within five years after beginning the operation of the Dariali HPP. If the efficiency of fishways does not exceed 60–70%, Dariali Energy assumes the responsibility to arrange a trout reproduction facility. We believe that the harm caused to biodiversity by construction and operation of the HPP will not be compensated by arranging the trout reproduction facility. In addition, the inefficiency of fish reproduction facility has already been confirmed by the Geguti Sturgeon Hatchery arranged to mitigate the adverse effects caused by the Vartsikhe HPP in Imereti region.

Due geographic and climatic conditions (Kazbegi (Khevi) is the eastern mountainous region of Georgia, which is characterized by dry, cold winters) small amount of water (10 percent of annual average flow) left in the river will be frozen in winter; as a result the invertebrate species (especially those living in the water) will fully die out and the river will become lifeless. Disappearance of the river will have a strong impact on plant population, as well as on the dynamics of animal populations and migration patterns. Because of the above mentioned impacts, the implementation of the project in its current form contradicts a number of international environmental agreements.

### ***Construction without permits***

Dariali Energy launched the construction of the HPP in September 2011 without a relevant clearance documents. Green Alternative has reported to the Ministry of Environmental Protection and the Ministry of Energy and Natural Resources on the construction works, requested to investigate the legality of construction works and to take relevant measures. Initially, the both public agencies responded that they would investigate the case. Only two months later, after the relevant agencies hastily issued permits, the both ministries declared that the company had obtained all the necessary permits for the construction. It should be noted that launching of the HPP construction without a relevant permits, as well as neglecting of such violation is punishable under the Criminal Code of Georgia.

Since not a single agency reacted on violation, there is a huge probability that the public agencies will again close their eyes on possible violations committed by Dariali Energy in the process of construction and operation in future. Furthermore, tolerance demonstrated by the enforcement authorities is likely to prompt Dariali Energy to commit other violations and to neglect its environmental and social commitments. This assumption is further strengthened by the amendment made to the environmental legislation of Georgia in March 2012. Currently the legislation enables a violator and the Ministry of Energy and Natural Resources to conclude an agreement, according to which the Ministry, in exchange for payment of a certain amount by the violator, will declare the latter's illegal actions as legal.

### ***Construction on the territory of the Kazbegi National Park***

The Georgian legislation prohibits the construction of a hydro power plant on the territory of a national park. Nevertheless, the Dariali HPP project was planned so that the project area covered a part of the Kazbegi National Park.

In November 2011 the Dariali Energy submitted to the Ministry of Environmental Protection the ESIA report of the Dariali HPP project – it is compulsory to submit such a report to obtain a conclusion of ecological expertise (i.e. environmental clearance document) from the Ministry. Although the report clearly stated that the HPP project area included 2.64 hectares of the Kazbegi National Park, the Ministry of Environmental Protection still approved the project and hence violated the law.

Later, again through violation of the legal procedures, the Government submitted a draft law to the Parliament envisaging the removal of 8.7737 ha from the Kazbegi National Park for the Dariali HPP project. Green Alternative raised its concerns before the Parliament about procedural violations and illegal actions of the Ministry of Environmental Protection, as well as about unjustified removal of 8.7737 ha from the Kazbegi National Park. However, the Parliament did not take Green Alternative's arguments into consideration and adopted the law on March 13, 2012. Moreover, it appeared after publishing the law that not 8.7737 ha, but much more – 20.3633 ha was removed from the Kazbegi National Park.

Green Alternative still demands the authorities to explain the reasons for neglecting the organization's arguments and removal of 20.3633 ha from the Kazbegi National Park, but in vain. The Parliamentary Committee for Environmental Protection and Natural Resources has no reaction to the organization's requirements.

The Georgian Government now tries to portray granting of the status of natural monuments to three areas in the Kazbegi district as a compensation of damage caused by the HPP to the environment. We strongly believe that this measure cannot mitigate the environmental damage caused by drying up the river.

It should be noted that construction of the HPP in the Dariali Gorge was a Soviet–old project. The Kazbegi State Reserve was created on initiative of Academician Niko Ketskaveli just to protect the Dariali Gorge from this project that finally saved the gorge from the Communist Government's encroachment.

### **3. What can be done to save the Tergi River and Dariali Gorge?**

In order to preserve the landscape and biological diversity of the Tergi River and Dariali Gorge, as well as to minimize the impacts of the Dariali HPP on the cultural–ethnographic and tourist values, **the Georgian authorities and Dariali Energy must suspend the construction of the Dariali HPP until the optimal amount of water to be left in the Tergi River is ascertained based on the best international practice through consultations with general public and experts.**