

# Comments of Association Green Alternative and CEE Bankwatch Network on Namakhvani HPP Cascade Project Draft Environmental and Social Impact Assessment (ESIA) Report dated April 2011

14 June, 2011

## 1. General assessment of draft ESIA report

The authors of the Namakhvani Hydroelectric Power Plants (HPP) cascade project draft ESIA report claim that the document was prepared in compliance with the Georgian legislation as well as the requirements of international financial institutions. In particular, according to the report, it is based on the environmental and social policy and public information policy of the European Bank for Reconstruction and Development (EBRD), safety policy and standards of the International Finance Corporation (IFC), as well as the Equator Principles.

It must be noted that the report and its annexes give a detailed list of the supplementary researches and baseline information used during the preparation of the report. Nevertheless, it is obvious that:

1. One and the same information is used in various parts of the draft report and occupies much space in the document.
2. The parts devoted to description of baseline information, environmental impacts of the project, as well as other parts of the report pay much attention to theoretical issues (review of legislation, international conventions and practices), though the information, which would enable us to really assess the scale of environmental impacts is extremely scarce.
3. The document comprehensively studies and models those issues, which are essential for design of HPP cascade (for example, seismology, geology), while a great part of environmental and social issues either are not studied at all (for example, health impacts, waste management, impact on micro-climate, etc.) or are studied insufficiently (impact on flora and fauna).
4. The report contains some conclusions, which are not strengthened by relevant researches and are groundless. For example: "The project will not lead to a significant change in the region's climatic conditions" or "the waste will be collected by responsible municipality and disposed properly".
5. The socio-economic part gives frequently reference to the resettlement action plan, though the report does not include either this plan, or the guiding principles; the form of internal grievance mechanism provided in one of the annexes is not explained in the text at all.

**Generally, it should be noted that the draft ESIA report under discussion does not provide comprehensive and reliable information about project impacts on the local population, natural environment and generally, on the region. It does not either meet the requirements of the above mentioned international financial institutions.**

It should be emphasized that the project does not meet either the guiding principles of the World Commission on Dams<sup>1</sup> or the sustainability guidelines of the International Hydropower Association (IHA)<sup>2</sup>.

According to the sustainability guidelines of the International Hydropower Association<sup>3</sup>, the decision makers should be provided with the following information:

1. A full description of the project;
2. A statement of objectives, including clear targets and proposed indicators of success;
3. A description of the existing environment in the area where the project is to be developed;
4. Project justification, including evaluation of project alternatives;
5. Economic, social and environmental considerations, including the consequences of not undertaking the project;
6. Any mitigation measures that will be implemented to minimize environmental harm and / or enhance the environment; and
7. A description of the stakeholder communication / consultation process.

## **2. Project description**

HPP cascade project is not described comprehensively either in non-technical or in technical summaries, as well as in ESIA report. Unfortunately, such important information, as type of HPP, location and length of the reservoirs, etc. can be found only in technical studies provided in the annexes.

The project description indicates major fields for gravel and clay extraction. It is clear from the descriptions given in annexes that a large-scale extraction of mineral resources is planned. According to the EBRD environmental and social policy, large-scale peat extraction, quarries and open-cast mining belong to category A projects and requires environmental impact assessment<sup>4</sup>. Although the national EIA legislation does not require an EIA on clay and gravel extraction, Georgia is the party to the Aarhus Convention, the annex I of which requires EIA in this case (quarries and opencast mining where the surface of the site exceeds 25 hectares)<sup>5</sup>.

The document under discussion does not describe how country will benefit from the project, so that the society and decision-makers can objectively judge, how valuable it is for the country, region and local population. Chapter III of the draft ESIA report assesses monetary and non-monetary results of the project, though these results are described generally, without any calculations and scenario; respectively, the project's economic justification does not meet the EBRD, IFC or IHA standards.

## **3. Analysis of alternatives**

Analysis of alternatives provided in the report is insufficient. The document claims that it discusses the project alternatives as well as the alternatives of project type and location, though the information provided in the report does not reflect the real situation existing in Georgia. This part of the project is completely isolated from

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<sup>1</sup> World Commission on Dams, 2001, [http://www.dams.org/index.php?option=com\\_content&view=article&id=48&Itemid=28](http://www.dams.org/index.php?option=com_content&view=article&id=48&Itemid=28)

<sup>2</sup> "EAs should be conducted for all hydro-electric projects that have the potential for significant impacts on the environment. EAs should be based on good science and factual information. They should be relevant to the scale and nature of the project in question and factor in existing information." IHA Sustainability Guidelines, February 2004

<sup>3</sup> IHA Sustainability Guidelines, February 2004

<sup>4</sup> Large-scale peat extraction, quarries and open-cast mining, and processing of metal ores or coal. Appendix 1, EBRD environmental and social policy 2008, ebrd.com

<sup>5</sup> UN ECE Convention on Access to Information, Public Participation and Access to Justice on Environmental Matters, Aarhus, Denmark, 1998

the country's energy development context that on the one hand, lacks rational opinion, and on the other, fails to provide information, based on which it would be possible to make informed decisions.

### **Alternative energy sources development scenario and Namakhvani HPP cascade**

Project alternatives are discussed in a subchapter "Project Type"<sup>6</sup>. A standard-type coal fired thermal power plant is considered as an alternative to the Namakhvani HPP Cascade Project. Respectively, a comparative analysis of the impacts of Namakhvani HPP and alternative thermal power plant is discussed in the document. The authors of the ESIA report conclude that *"the thermal power plant uses a non-renewable resource to produce energy whereas Namakhvani HPP Cascade Project uses a renewable resource"*.

According to the report, *"today, in addition to coal, natural gas fired thermal, nuclear, geothermal, wind, solar and biomass power plants could be considered as alternatives to Namakhvani HPP Cascade Project"*. This information is followed by the general statistical data of the World Energy Council. The following paragraphs discuss why thermal and nuclear power plants are unacceptable from environmental point of view and that hydro energy is renewable, cheap and sustainable.

The provided information is extremely general and theoretical. It has nothing to do with the Georgian reality and the processes ongoing in the country. Thus, a question arises – why is the Namakhvani Cascade discussed as a counterweight to thermal and nuclear power plants? If this is made for general informing of decision-makers, it is interesting, why the world tendencies related to large dams are not discussed. For example, the document gives no reference to the conclusion of the World Commission on Dams, according to which due to large-scale environmental, social and developmental impacts, large hydro power plants are not anymore considered supportive to sustainable development; as well as to the fact that the European Parliament demanded the World Bank not to finance the construction of large hydro power plants<sup>7</sup>.

During last years the Georgian government is actively promoting the construction of large HPPs. According to the information posted on the website of the Ministry of Energy and Natural Resources of Georgia, presently a memorandums of understanding worth USD 3 billion has been concluded with foreign investors on the construction of about 2000 MW installed capacities (a list of 30 large and medium capacity HPPs is posted on the Ministry's website)<sup>8</sup>. According to the Ministry, preparation works are underway for the construction of Namakhvani HPP Cascade and Khudoni HPP (650 MW installed capacity). Besides 30 large and medium capacity HPPs, the Georgian government tries to attract investments for the construction of about 50 small and medium capacity HPPs in Georgia<sup>9</sup> with total installed capacity of over 1000 megawatts – these HPPs are not mentioned in the above cited list published by the Ministry. For example, the list does not include the Samtskhe-Javakheti hydro-cascade, the installed capacity of which will be about 210-220 MW<sup>10</sup>.

Respectively, in the ESIA report Namakhvani HPP cascade project should have been compared not only with the coal power plants, but also to ongoing (for example, Paravani HPP) and planned (for instance, Khudoni HPP) hydropower projects. It was essential to consider development of small and medium-capacity HPPs as an alternative, because in case of funding such giant cascades, the opportunities for attracting investors for small and medium HPPs are significantly reducing. It should be noted that just this latter, and not giant cascades, represents a part of green energy, green economy (about which top officials often refer to in their political speeches at various international forums).

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<sup>6</sup> Namakhvani HPP Cascade Project ESIA Report; chapter VI; Analysis of Alternatives

<sup>7</sup> See: <http://www.europarl.europa.eu/sides/getDoc.do?type=TA&reference=P7-TA-2011-0067&language=EN&ring=B7-2011-012>

<sup>8</sup> See the ongoing investment projects on the website of the Ministry of Energy and Natural Resources of Georgia <http://www.minenergy.gov.ge/>

<sup>9</sup> See the state program "Renewable Energy 2008" at the following link: <http://www.minenergy.gov.ge/index.php?m=396>

<sup>10</sup> See: [www.minenergy.gov.ge](http://www.minenergy.gov.ge)

### **No-action alternative**

It is quite unclear what the ESIA report means when it says that no-action alternative “*is generally not preferred option for the energy-generation projects that bring benefits to the country*”. In the authors’ opinion, the no-action alternative may have the following negative consequences: 1. increasing energy demand of the country will be met by electric power plants operating on organic and nuclear fuel; 2. employment opportunities in construction and operation phases will not be provided and expected improvement in the economy of the region, especially during construction phase, will not be realized.

The above mentioned reaffirms that the authors of the report fail to properly assess the situation existing in the country; it is strange when the authors say that the increasing energy demand of the country will be met by electric power plants operating on organic and nuclear fuel.

It is also unclear what the authors mean under the region’s socio-economic development, since the ESIA report does not provide any explanation in this respect. As far as employment opportunities are concerned, according to the project, 900 temporary jobs will be created. At the same time, taking into consideration the region’s demographic situation, most employees will not be locals that will further reduce the prospects of the region’s development. Furthermore, based on the existing experience (Baku-Tbilisi-Ceyhan pipeline project; Paravani HPP project, etc.), the Georgian population mostly performs those works, which need lower qualification, while management and engineering works are performed by expatriates.

**The document does not discuss other ways of energy generation, i.e. alternative ways of achieving the project goals, as well as the processes ongoing in the country’s energy system and possible development scenarios that can be considered one of the major shortcomings of the report. No-action alternative is not assessed properly and has a formal nature.**

## **4. Impact of Namakhvani HPP cascade on climate**

### **Impact on micro-climate**

According to the ESIA report (p. 13; chapter 5), “the project includes rather small reservoirs with a total surface area of approximately 7 km<sup>2</sup>, so it will not lead to a significant change in the climatic conditions of the area of the region”. At the same time, the previous paragraph discusses theoretically what type of microclimatic changes may be triggered by the reservoirs, though no modeling is provided.

The Namakhvani project reservoir will cover a great length in the river basin. It should be taken into consideration that the impact of artificial lakes and reservoirs is rather significant regardless of their volume and depth.

For example, “*since Georgia’s reservoirs are mostly located in mountainous areas and stay under conditions of mountain-gorge circulation, the combined action of winds strengthen their speed. In average annual data, increase in the wind speed is evaluated at 0.7 m/sc.... Breeze circulation triggers the creation of inversions that hampers the development of ascending wind flow and emergence of convective clouds. Therefore, cloudiness and precipitation are decreasing near the reservoirs. According to the existing assessments, due to the influence of the Jvari reservoir, annual amount of precipitation has been reduced by 200mm, the Shaori reservoir – by 90mm<sup>11</sup>*”. Hence, due to specific disposition of the Namakhvani HPP Cascade, the change in wind speed should be assessed too.

It should also be noted that “*reservoirs create their own climate. It was ascertained as a result of a series of theoretical and experimental researches that a reservoir warms (or cools) and increases humidity a the adjacent territories. The cooling effect is observed in a daytime and a warming effect – at night. This latter prevails over*

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<sup>11</sup> Climate Resources of Georgia; E. Elizbarashvili, 2007, Tbilisi, Hydrometallurgical Institute

the former. Therefore, it can be considered that a reservoir warms up the adjacent territory to a medium extent. According to the same researches, the greatest effect of reservoir influence is observed within 5-7 km distance. Wind speed is increasing in the area, which falls under the influence of a reservoir. It reaches its maximum in autumn, when the water is warmer than the air and turbulent changes are ongoing. The influence of a reservoir on local climate is different under various geographical conditions<sup>12</sup>. The warming effect of the Tkibuli (volume – 84 million m<sup>3</sup>, mirror – 12.1 m<sup>2</sup>, depth – 7 m) and Shaori (volume – 90 million m<sup>3</sup>, mirror – 13 m<sup>2</sup>, depth – 7 m) reservoirs starts from April. Naturally, the construction of the Namakhvani HPP Cascade will further promote climatic changes in the region.

According to the researches, “the influence of a reservoir on the temperature and humidity is especially vivid within a 500-meter distance from the water edge; its sustainable influence is spread within 5 kilometers, while actually no influence can be observed within 15-20 kilometers”. Though, it does not mean that there are no changes. For instance, “according to R. Samukashvili (2001), as a result of construction of a reservoir in the Jvari station in 1979-90 average monthly water temperature was less within 10 months (VII-IV) and more in May and June compared to the parameters of the previous period (1959-1979). The difference in temperatures reaches its maximum in March and April (-0,6). Average annual temperature has recently fallen by 0,2 in Jvari and Khaishi compared to the previous period, in Mestia – by 0,1 and in Gali – increased by 0,4<sup>0</sup>. It should be noted that after construction of a Jvari reservoir in October-April low temperatures were observed there compared to the previous period that, in his opinion, do not correspond with the physical essence of warming processes ongoing in the reservoir and Samukashvili relates it with local winds (especially foehn winds)”. According to his data, in the village of Khaishi “a cooling effect of the reservoir is observed in November-February; in Mestia – October-April; in Gali – November-January. R. Samukashvili concludes that in case of construction of the Khudoni reservoir, air temperature will change more intensively at the Khaishi station, because it is actually located in the coastal line of the Khudoni reservoir under construction<sup>13</sup>”.

It should also be noted that there are only three natural lakes in Georgia with total surface area exceeding 7 km<sup>2</sup>. Hence, it is clear that taking into consideration the scales of the country and the region, the construction of a reservoir of such size and form will have a significant impact on the environment. The above mentioned confirms that the impact of the Namakhvani Cascade on the region’s climate must be studied.

### **Cumulative impact**

According to the ESIA report, the changes caused by the Namakhvani HPP Cascade will be insignificant. However, the scientific researches have ascertained the impact of similar reservoirs on micro-climate (see above Impact on micro-climate). This is especially important if we give due consideration to the fact that the Namakhvani HPP Cascade will be constructed in the region, where there already are several HPPs and artificial reservoirs, including the Rioni, Shaori, Tkibuli, Lajanuri, Gumati HPPs and Vartsikhe HPP Cascade. Moreover, it is planned to construct the Alpana HPP in the upper section of the Tvishi reservoir (in 11km away from the Namakhvani HPP).

Because of the above-mentioned circumstances, it is important to study and model the cumulative impact of micro-climate change – as it seems, the authors of the report have not conducted any such research. Apparently, humid masses coming from the Black Sea will still play a leading role in the climate change in the Rioni valley. Though, we should not exclude the cumulative impact of already existing and planned reservoirs on both the local micro-climate and the regional climate. All these should be discussed in the context of global climate change and not separately.

### **Global climate change**

According to the ESIA report, there will not be huge emissions from the Namakhvani cascade reservoirs, as it has a small size, high influx of organic material will not take place, while before flooding the reservoir will be cleaned

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<sup>12</sup> ibid.

<sup>13</sup> ibid.

from trees and other plants. Moreover, the authors explain that *“the reservoir is located in the mountainous area in dry climatic conditions<sup>14</sup>”*. However, chapter IV of the report (Baseline Data, p.61, subchapter Climatology) reads: *“The region is characterized by subtropical climate with certain deficit in humidity. Central parts of the region are moderately humid, while foothill areas are strongly humid. The precipitation inversion takes place along the Rioni Gorge. Breezes and sea influences penetrate along the Rioni. Annual precipitation rates are 1000-1700 mm... Profile of the climate is low humid subtropical with positive temperature balance”*. Thus, it can be concluded that the authors have not even agreed under what climatic conditions the project is being implemented.

The ESIA report does not assess either the impact of climate change on the Rioni River regime, or what amount of methane will be emitted from the Namakhvani HPP Cascade.

To illustrate the urgency of discussing this issue, below we will bring an example of Kvemo Svaneti, where according to *“The results received in 2006 through climate change projects”*, during *“the last 15-20 years average air temperature increased by 0.4% compared to 1955-1970, while the volume of annual precipitation – by 8%. Such sharp increase in precipitation caused intensive growth of the Tskhenistskali River effluent, which exceeded 40% in that period... the growth of atmospheric precipitation and river effluents was followed by significant intensification of flooding, landslides, mudslides and land erosions in the Lentekhi district during last 15-20 years”*.

It is essential for the project region to thoroughly analyze climate change, to conduct modeling in view of possible scenarios of climate change in Georgia and to make conclusions on the basis of the above mentioned data. Climate change may have a negative impact on electric power generation because of changes in hydrological balance, while incorrect calculations may cause irreparable losses to the environment and the population.

### **Healthcare**

The impact of micro-climate and regional climate on public health and environment should be discussed in the context of climate change. For example, the statistical data revealed such growth of blood circulation diseases in Lentekhi district, which does not lag behind Tbilisi. In the researchers’ opinion, it may be caused by climate change, because just circulation diseases belong to the category of diseases related to climate change.

Unfortunately, the research does not assess human health impacts either at the stage of construction or at the stage of operation. This issue is actually neglected, although health problems (including invasion/change of transmitted diseases; respiratory tract infections; HIV and other sexually transmitted diseases) are usually revealed in the process of both construction and exploitation.

The 2000 World Health Organization’s (WHO) submission to the World Commission on Dams requires full assessment of health impacts while developing the large dam projects. The report emphasizes that *“health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity”*. At the same time, the WHO names both transmitted (vector-borne, water-borne, sexually transmitted, zoonoses, other parasites) and non-transmitted (poisoning by minerals, biological toxins, pesticide residues, industrial effluent, lack of protein, carbohydrate or essential elements, vascular and bone diseases, physiological disorders, etc.) diseases as the negative consequences of the impact of large dams on human health. Hence, the organization demands comprehensive study of health impacts and its integration into environmental and social assessment in the process of construction of large dams.

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<sup>14</sup> ESIA Report of the Project, chapter V, p.11

## 5. Risk assessment: seismological and geological risks

Georgia is located in high seismic zone. The ESIA report (chapter 5, p. 6) underlines that the project will be seismically safe to resist strong earthquakes. The annexes specify that the Zhoneti and Namakhvani infrastructure should resist earthquake of M=7, while the Tvishi HPP - earthquake of M=8. The report also notes that earthquakes of M=7 or higher magnitude is not expected in the region till the 2350, since the recurrence period for the strong seismic events in Georgia is in the order of 1000-10000 years. In this respect, it should be taken into consideration that in the zone of Racha earthquake of M=7 in 1991, earthquakes of M=6.1 occurred on September 7, 2009<sup>15</sup>. It should be noted that the earthquakes of less than M=7 can also have significant impacts on the territory adjacent to the HPP cascade; it can aggravate erosion and landslide processes and pose a danger to HPP operation. The ESIA report does not give due consideration to this aspect.

It can be considered as a significant shortcoming of the ESIA process that neither seismological nor geological risks, including reservoir-induced seismicity (RIS), have been studied. Although, generally it is believed that RIS analysis should be conducted for the dams higher than 100 meters, reservoir-induced earthquakes have already been observed on 50-meter dams. Reservoirs can both increase the frequency of earthquakes in areas of already high seismic activity and cause earthquakes to happen in areas previously thought to be seismically inactive<sup>16</sup>. Respectively, it is urgent to assess this risk while planning the Namakhvani HPP Cascade, as its construction is planned in extremely high seismic zone, where even slight earth tremors can intensify landslide processes.

**In a 90-page chapter on environmental and social impacts, 10 pages are dedicated to the impacts of noise and 5 pages - to the vibration impacts, while such important issues as seismic and geological risks are not discussed in the document at all and are instead discussed in the annexes “Seismicity of Namakhvani HPP cascade territory and assessment of seismic risk,” as well as “Geological, geophysical researches and geotechnical investigations”. The document provides no risk assessment, which would have given a complete picture about risks as well as the ways of preventing various processes.**

The fact is certain and it is confirmed in the ESIA report that erosion processes will intensify in the lower flow of Namakhvani and finally, the accumulation of sediments will increase in reservoirs – and this is extremely problematic. According to the ESIA report, in 5 years after operation the Tvishi reservoir will be filled by 92% and Namakhvani – by 80% in 25 years. In order to avoid the accumulation of sediments, the report offers the following measure – the sediment will be released to the downstream riverbed regularly, though it is not explained exactly how and how frequently it will be done.

The ESIA report gives some elements of watershed management, for example “afforestation on a relevant surface, and terraces on a big slope”, combating erosion, hiring of a subcontractor with this purpose as envisaged by the environmental plan. In our opinion, funds the project sponsor plans to spend on these measures should be indicated so that the readers have an understanding of the scales of the work.

## 6. Biodiversity

According to the non-technical summary of the project, the Namakhvani HPP cascade project will not have any impact on the region’s biodiversity and protected areas.

Simultaneously, according to the ESIA report, the project will cover the territory of 924.4 ha, including 300 ha of agricultural plots and about 261.44 ha of forests. Although the ESIA report indicates that this is not a significant territory in terms of biodiversity, this judgment contradicts other parts of the document, which say that the region is distinguished with endemic and relict species of flora and fauna included in the Red List of Georgia. Just

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<sup>15</sup> See: [http://www.geog.ru/kkk\\_news\\_01e.htm](http://www.geog.ru/kkk_news_01e.htm)

<sup>16</sup> See: <http://www.internationalrivers.org/node/1477>

because of such biodiversity, in 2006 the World Wildlife Fund (WWF), with broad participation of experts, developed a project “Areas (reserve protected areas) recommended for establishing protected areas and ecological corridors in the forest fund of Georgia”. The necessity of establishing protected areas was discussed covering the Java, Oni, Sachkhere, Chiatara, Ambrolauri, Tkibuli, Tsageri districts of the Racha Ridge (from the Surami Ridge to the Rioni River). The necessity of creating protected areas and ecological corridors in the Central Caucasus Mountains is also emphasized in the Biodiversity Strategy and Action Plan of Georgia, which was approved by the Georgian government’s decree No.27 dated February 18, 2005. Establishment of a protected area in the mentioned area is extremely important in terms of biodiversity conservation and its goal is to preserve unique ecological and historical-cultural values. The Namakhvani HPP Cascade project will completely destruct these values.

It should be noted that the Khvamli Nature Reserve borders with the Tvishi dam axis in about 100 meters. From the reserve territory proposed by the WWF, several forest areas adjacent to Khvamli will be flooded, while the impact on other forest areas and the Khvamli Managed Reserve will be huge. As we have already mentioned above, such reservoirs have an impact on micro-climate, while the Khvamli Reserve directly falls under such impact.

The proposed HPP cascade territory covers the limestone massif of the Greater Caucasus, where large number of endemic, relict and endangered species is spread on a very vulnerable substrate. As a result of the project, these species will face an irreversible danger.

It is obvious from the document that insufficient researches have been held in respect of large mammals and flora that explains incomprehensive assessment of the expected impact and insufficiency of mitigation measures. Even the destructive impact on biodiversity described in the report is not sufficiently responded by the mitigation measures. The document provides only general description and does not reflect a position, which would enable informed decision-making. Since it would be impossible to completely neglect the significance of these ecosystems, the document highlights nine higher fauna sensitive sites, which are in need of detailed pre-construction survey for definition of its significance and for the elaboration of specific mitigation measures. It is unclear, whether such survey is enough to reveal such unique phenomena that will lead to changes in the Namakhvani HPP cascade project or to rejection of project at all.

It should be emphasized that the Khvamli caves have a historic-cultural importance. Sometimes the Verdzistava spring joins Rioni at Tvishi Kldekari, and sometimes it falls in the left tributary of the Tskhenistskali River - Rachkha. There are some legends<sup>17</sup> about this place and a Khvamloba holiday is celebrated on July 20.

As a result of the project, the karstic structures of the Khvamli massif will be flooded. The authors claim that in order to mitigate any adverse effect on the karstic structures, the Verdzistava Cave will be sealed and hence it will not be filled with water and the karstic structures in Khvamli Managed Reserve will be protected. At the same time, the ESIA report has not studied the impact of Namakhvani HPP cascade on karstic caves and does not offer any relevant mitigation measures.

**It is obvious from the ESIA report that the territory subject to flooding is extremely important in terms of biodiversity. Though, the authors believe that the landscape will only profit by the construction of reservoirs – this is a disputable opinion, if we take into consideration the fact that it will trigger an irreversible anthropogenic change of the landscape – “This dynamic structure of the river will be changed with the planned**

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<sup>17</sup> According to the legend, an immortal dragon lives in the Khvamli cave. It licks the rock and lies either on the one side or on the other. When it turns to the East, Verdzistava is blocked, and when it turns to the West, Rachkha runs dry. Also according to the legend, Amirani (the name of a culture hero of a Georgian Epic, who resembles the Classical Prometheus) was chained to the Khvamli rock. According to the historical sources, the Khvamli cave was used as treasure cache by Georgian Kings. Secret operations carried out by Nazis and KGB agents during the WWII are also related to it. Mass media were widely covering these reports recently.

HPPs and this will create a stationary environment and this will permanently change the natural characteristics of the area<sup>18</sup>.

## **7. Waste management**

The report dedicates only one page to the impact of solid and hazardous waste. It does not discuss at all how hazardous waste generated by construction will be collected and disposed.

The principle of management of domestic waste from camp facilities is also extremely general; the document mentions that the waste will be separated, while it is unclear what will be the final fate of this separated waste.

The report notes that construction waste will be collected and stored on the temporary storage territory: *“this waste will be collected and disposed properly by the nearest municipality”*. It is unclear what this statement means; it is also unclear why the municipality will assume this responsibility or if it assumes, what particular circumstances it will take into consideration.

## **8. Socio-economic assessment**

Although the authors of the report claim that the ESIA document was prepared in accordance with the EBRD and IFC safety policies, the socio-economic research and impact assessment provided in the report are extremely limited and do not offer a real picture about what will be the project’s socio-economic impact on the population and generally on the region.

The report does not explain clearly what will be the project’s direct and indirect impacts on the entire region. It only mentions those 213 families (790 persons), who will have to resettle as a result of the project. The document notes generally that 14 villages fall under direct or indirect impacts. It has not studied what will be the impact of the cascade construction and operation on agricultural plots and land productivity, as well as the project impact on the Tvishi vineyards.

The entire socio-economic impact is limited to resettlement and loss of road infrastructure for a certain period of time. For example, the document does not describe how the operation of HPP cascade will influence human health, whether the project will have any impact on the public access to the existing infrastructure (schools, healthcare facilities, etc.).

## **9. Attitude of local communities towards the project**

While looking through the project documents, one can easily notice that the authors try to demonstrate a positive attitude of the project-affected communities towards the project through manipulating with various, difficultly interlinked figures. However, an attentive reader will notice that the local communities’ attitude towards the project is negative. Below several examples from the project documents are provided.

According to the non-technical summary of the project (p. 23), during the project preparation *“positive approach of the public to the project was observed”*. It also describes discussions held in various municipalities as well as the problems raised there. As a conclusion, the document reads: *“In general, however, all of the project affected people from affected settlements expressed expected positive impacts and a general approval for the project”*. It should be underlined that this statement is not about a positive attitude of the affected communities towards the project, but about the attitude observed during discussions in the municipalities.

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<sup>18</sup> ESIA Report of the project, p. 57

Chapter 4 (p. 247) of the ESIA report reads: *“Respondents have been asked to express their opinion towards the project in general as well as impact on socio-economic conditions of their households and Sakrebulo. 40.1% of the respondents have negative opinion towards the project, while 1.3% of the households have “very positive” opinions about the project. On the other hand, 37.2% of the respondents mentioned they “cannot express” any opinion about the impact of the project on socio-economic conditions of household, while 32.7% have negative opinions”.*

Chapter 5 (p. 76) of the report reads: *“During the RAP (resettlement action plan) surveys the opinion of the project affected people regarding the project was asked. Amongst 157 households surveyed only 17 of the households (10.8% of the surveyed households) stated expected benefits; the rest 140 households specified concerns about the project”.*

Page 75 of the report reads that the respondents were asked to express their opinion towards the project in general as well as impact on socio-economic conditions of their households and Sakrebulo. According to the report, the majority of respondents (more than 60%) have distinct opinion towards the mentioned issue. The public opinion is rather polarized, though a share of persons with negative attitude does not exceed 44%.

According to the authors of the report, *“the results show that one third of the surveyed project-affected population evaluates the project from an individual rather than a national context”* – it is unclear what the authors meant under such statement.

## **10. Resettlement action plan**

The report does not describe the scale of impacts caused by various project-related activities. The project documents numerous mention that other details of socio-economic research and measures to mitigate project impacts (minimization and compensation) are given in the Resettlement Action Plan; however, the documents posted on [www.namakhvani.com](http://www.namakhvani.com) for public discussions include no such plan.

It should be noted that neither the plan, nor the guiding principles are provided in the documents under discussion and first of all, in the non-technical summary of the ESIA report. It is not explained what key principles will be used in the process of involuntary resettlement of the population – whether it will occur in compliance with the Georgian legislation, or resettlement and compensation will take place in line with the EBRD and IFC rules and standards.

## **11. Public hearings**

The authors of the report claim that public discussions and dissemination of information was carried out in accordance with the EBRD environmental and social policy 10PS and public information policy.

Our representatives attended the scoping meeting held on August 4, 2010 as well as a public hearing held in Kutaisi on June 10, 2011. In our opinion, the public hearing held on June 10, 2011 did not meet any standards of holding public hearings. The participants of the meeting failed to receive any answers to the questions of their interest. Moreover, during the whole meeting the representatives of the project implementing consortium were mainly keeping silent, while the project was defended by Ms. Mariam Valishvili, the deputy energy minister that is absolutely unclear, as it is known that this is a private investment. Ms. Valishvili said that they did not plan to answer concrete questions during public hearing. She also said that 95% of environmental concerns (absence of risk assessment; impacts on climate change, etc.) have already been taken into consideration in “other documents,” public availability of which would, as she said, further increase the volume of the materials submitted for consideration.

It should also be noted that the information about planned public hearing was not disseminated among the local population in a relevant form (posting of announcements in public places in the villages, etc.). Announcements were basically made through local newspapers or CENN electronic network; however, it should be noted that these means are not available for the project-affected communities. A day before the public hearing, on June 9, 2011, the representatives of Green Alternative and journalists from Kutaisi observed that the population living in villages directly affected by the Namakhvani HPP cascade project – Namakhvani, Mekvena, and Mamatsminda – actually had no information about the planned public hearing.