

To:
Ms. Anoush Begoyan
PCM Officer
Project Complaint Mechanism
European Bank for Reconstruction and Development
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From: Green Alternative, Georgia

Subject: Complaint on Paravani Hydro Power Plant Project (Georgia)
seeking project compliance review

22 December, 2011

Dear Ms. Begoyan,

We would like to submit a complaint on the 87 MW Paravani Hydro Power Plant Project due to the inadequate appraisal of the environmental and social risks, as well as inadequate mitigation measures developed in the final version of the project's Environmental and Social Impact Assessment (ESIA) and Environmental and Social Action Plan (ESAP). The project is financed not only by EBRD but International Financial Corporation also approved the project.

The project assumes construction of a 14 km derivation tunnel in order to divert water from the Paravani river to the Mtkvari river upstream of the village of Khertvisi and construction of 220 k transmission lines to connect with the grid. We strongly believe that the project has drastic negative impacts on biodiversity of the river Paravani, while the related 220 k transmission lines infrastructure would increase bird mortality. In addition, the project creates a significant risk of flooding Khertvisi village.

We therefore ask the Project Complaint Mechanism to undertake a compliance review of the project and to verify a) whether the project ESIA correctly assesses environmental and social risks and b) whether the proposed mitigation measures effectively prevent possible environmental and social damage by the Paravani HPP project.

In addition, we would like to ask the Project Complaint Mechanism to examine a number of issues related to access to documentation and Public Information Policy implementation.

We would like to emphasize that dialogue regarding the project has been undertaken both with the EBRD, as well as with the project sponsors, to ensure that our concerns are dealt with. A list of the most

relevant communications can be found attached. However, this dialogue has not provided us with adequate assurances that the project is compliant with the EBRD's Environmental and Social Policy.

Environmental Impacts

Impacts on ecosystem of the river

In order to produce electricity, the project plans to divert 90% of the annual average flow (AAF) in the Paravani River to the Mtkvari River. According to the ESIA 10% of AAF of the river as a minimum sanitary flow will be left to preserve the ecosystem of the river Paravani. According to the document 10% is based on "western standards" (without referring any guidelines), and the impact of this on the ecosystem of the Paravani River is **assessed as minimal**.

On May 16 2011, the project sponsors and consultants arranged a roundtable about the Paravani HPP and clarified that they calculated the sanitary flow based on the Tennant (Montana) method widely spread in 16 states of the USA. Recently, the EBRD confirmed the statement by the Project consultants "according to the flow method actually applied (Tennant Method) is one of the most widely accepted globally, having been adopted by 25+ countries including the USA (in 16 States), Canada, Australia, Italy, and Turkey."

The Tennant method was introduced in 1975. Donald Tennant created a table that allows professional staff working in a regulatory environment to set the required instream flow by using the percent of the average annual flow (AAF) without further onsite data collection. It is a simple "rule-of-thumb" method setting the correlation between minimum water discharge and fish habitats, wildlife and recreation.

Table: Instream flow for fish, wildlife, and recreation (Tennant 1975)¹

Narrative description of Flows	Recommended Base Flow Regimes.	
	October - March	April – September
Flushing or Maximum	200% of the average flow	
Optimum Range	60 – 100% of the average flow	
Outstanding	40%	60%
Excellent	30%	50%
Good	20%	40%
Fair or degrading	10%	30%
Poor or minimum	10%	10%
Severe degradation	10% of average flow to zero flow	

There are two issues here. The first, as we see, is that the target level of sanitary water flow chosen is 'fair or degrading', which is likely to be insufficient to guarantee the maintenance of the biodiversity of the river. The second problem is the Tennant method itself.

¹ http://warnercnr.colostate.edu/~srf/students/thesis/CSU_FRWS_MS_thesis_S2006-Jennifer_Mann.pdf

According to the Journal of Environmental Studies² “*In this regional method [Tennant] according to the observed data a flow equal to **30 percent of average** annual discharge is necessary to maintain proper width, depth and velocity in streams. Tennant did not mention the necessary criteria to derive the critical discharges, so morphological resemblance is the key for its transferability to other rivers. Another important point in using the Tennant method is the fact that this method does not consider daily, monthly and annual discharge variation directly. **Primarily, using the base values in the Tennant method means to reduce a fixed value from all of the flows regardless of low or high flow conditions, which could impose severe losses to the river environment during low flow period.**”*

The same approach is highly supported also by a thesis on instream flow methodologies evaluating the Tennant method³, which recommends that “the method be applied with caution or modified to better represent local conditions based on further research”. Moreover, it recommends that the “Tennant method be used only for **initial planning flow recommendations without serious validation within the region of use**. The Tennant method does provide a general idea of the amount of water (..) needed to sustain a desired level of fish habitat and shows a clear progression of the needs of the fish for the quality of habitat that is desired.”⁴

In addition according to a report⁵ regarding establishing environmental flow requirements for Millhaven Creek (Southern Ontario) “Determining a single, minimum, threshold flow, to the exclusion of other ecologically relevant flows, is no longer an accepted approach to instream flow management. It is known that the minimum flow determined for one life stage of one species does not ensure adequate habitat protection, even for the species for which the threshold flow was established (e.g. Calow and Petts, 1992, 1994). A single flow value cannot simultaneously meet the requirements of all species in an aquatic community; variable conditions can allow different species to flourish at different times.”⁶

Taking the above-mentioned research into account, using the Tennant method as a main tool for determining minimal instream flow in the Paravani River where even the hydrological data is outdated (1937-1986⁷) will not only have a negative impact on the ecosystem of the river (**Fair or degrading⁸**) but also it is not compliant with the EBRD’s PR1⁹ (5) “... The appraisal process will be based on recent

² Journal of Environmental Studies, Vol. 37, No. 58, September, 2011; “Determining the Minimum Ecological Water Requirements in Perennial Rives Using Morphological Parameters” (November 2010) Shokoohi, A. R. and Hong Y; See: http://hydro.ou.edu/Publications/PDFs/2011/83.Shokoohi_J_Environ_2011.pdf

³“Evaluation study of the Tennant method for higher gradient streams in the national forest system lands in the western U.S.” 6.1 Recommendations; page 88; See: http://warnercnr.colostate.edu/~srf/students/thesis/CSU_FRWS_MS_thesis_S2006-Jennifer_Mann.pdf

⁴ “Evaluation study of Tenant method for higher gradient streams in the national forest system lands in the western U.S.” 6.1 Recommendations; page 88; See: http://warnercnr.colostate.edu/~srf/students/thesis/CSU_FRWS_MS_thesis_S2006-Jennifer_Mann.pdf

⁵This report was produced as part of an overall pilot project on establishing environment flow requirements in Southern Ontario and has received funding support from the Ontario Ministry of the Environment;

⁶ Conservation Ontario “Establishing Environmental Flow requirements for Millhaven Creek” pg. 36;

⁷ ESIA of the Paravani HPP project

⁸ Table: Instream flow for fish, wildlife, and recreation (Tennant 1975);

⁹ Environmental and Social Policy of EBRD; PR1 (5) “Through appraisal activities such as risk assessment, auditing, or environmental and social impact assessment, the client will consider in an integrated manner the potential environmental and social issues and impacts associated with the proposed project. The information gained will inform the EBRD’s own due diligence related to the client and project and will help to identify the applicable PRs

information, including an accurate description and delineation of the client's business or the project, and social and environmental baseline data at an appropriate level of detail" and PR6¹⁰ which states that "the Bank is guided by and supports the implementation of applicable international law and conventions and relevant EU directives" and "In planning and implementing impact assessments where biodiversity issues are a key focus, clients should refer to best-practice guidelines on integrating biodiversity into impact assessment." From the ESIA there is no evidence that this has been done.

In addition the EBRD's PR3 (8) directly states "When host country regulations differ from the levels and measures presented in EU environmental requirements or requirements agreed pursuant to paragraph 7¹¹, projects will be expected to meet whichever is more stringent."

The most fundamental piece of water legislation existing today aiming to restore the biodiversity and functioning of all surface freshwater bodies, including lakes, streams, rivers, groundwater etc., is the Water Framework Directive (European Commission, 2000)¹² that was not even mentioned in the ESIA at all, as well as the Convention on Biological Diversity¹³. In 2001 the Convention's Subsidiary Body on Scientific, Technical and Technological Advice recommended that environmental flow assessments should be conducted for dams to ensure downstream releases for maintaining ecosystem integrity and community livelihoods¹⁴.

The Water Framework Directive also requires Member States to achieve at least Good Ecological Status (GES) in all water bodies by 2015 and also to prevent deterioration in the status of any water body, with High Ecological Status (HES) as a target for pristine sites. Exceptions are permitted only for water bodies designated as Heavily Modified (HMWB), where the target is Good Ecological Potential (GEP).

According to the Guidance on Environmental Flow Releases from Impoundments to implement the Water Framework Directive¹⁵ "Setting and implementing environmental flow releases from impoundments involves many different aspects of management, including policy level objective setting, technical definition of flow needs for ecosystem support and financial considerations of the costs of mitigation measures". Moreover, "This provides a risk-based approach (Faulkner et al., 2002) in which

and the appropriate measures to better manage risk and develop opportunities, in accordance with the applicable PRs. The appraisal process will be based on recent information, including an accurate description and delineation of the client's business or the project, and social and environmental baseline data at an appropriate level of detail".

¹⁰ EBRD's Environmental and Social Policy (2008): "In planning and implementing impact assessments where biodiversity issues are a key focus, clients should refer to best practice guidelines on integrating biodiversity into impact assessments";

¹¹ EBRD's Environmental and Social Policy (2008); PR3: 7. Where EU environmental requirements do not exist, the client will apply other good international practice such as the World Bank Group Environmental Health and Safety Guidelines. In such cases the Bank will agree the applicable requirements with the client on a project by project basis.

¹² <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2000:327:0001:0072:EN:PDF>

¹³ This convention is in the list of international conventions chapter of ESIA, but during assessment of environmental impacts ESIA does not refer to any guideline stating that 10% of flow will be enough for ecosystem integrity and community livelihoods;

¹⁴ International Rivers: "Protecting Rivers and Rights", The World Commission on Dams Recommendations in Action; Page 15; July, 2010;

¹⁵ Sniffer (Scotland and Northern Ireland Forum For Environmental Research): Guidance on Environmental Flow Releases from Impoundments to Implement the Water Framework Directive; Final report, May 2007;

greater investment in the assessment yields lower uncertainty in results. In all three approaches (Desktop flow, Hydraulic and Biological Assessments), assessments should be carried out by a team of experts that normally includes physical scientists, such as a hydrologist, hydrogeologist and geomorphologist, and biological scientists, such as an macro-invertebrate ecologist, freshwater botanist and a fish biologist.”

Impacts on birds

One of the components of the project is 220KV transmission lines. The project is located directly on the African-Eurasian migratory waterbird flyway¹⁶ for 255 bird species¹⁷ crossing the territory of Georgia from their nesting sites to the wintering areas and back. These species are sensitive to accidents on linear obstacles (E.g. wires) and to electrocution while perching.

According to the response of the EBRD management team based on the concern raised, “IFC and EBRD will request “Georgian Urban Energy” to re-evaluate the transmission tower design, conductor separation and possible use of bird diverters in order to minimize the risk of bird mortality.” Despite the response of the EBRD, a re-evaluation report has never been disclosed to the public, while the construction works on the Project have already been started thus violating PR6 of the Bank’s Environmental and Social Policy¹⁸ “Through the environmental and appraisal process, the client will identify and characterise the potential impacts on biodiversity likely to be caused by the project. The extent of due diligence should be sufficient to fully characterise the risks and impacts, consistent with a precautionary approach and reflecting the concerns of relevant stakeholders.”

Social Impacts

One of the major social impacts of the project is the risk of flooding the village of Khertvisi located downstream of the powerhouse of the project. According to the project description, 90% of the average river flow in Paravani will be diverted to the river Mtkvari, which will increase water flow in Mtkvari significantly (Increasing the flow by 17 cubic metres/second on average, in Spring by 35 cubic metres/second).

The project sponsors assure us that “the maximum volume of water diverted from the Paravani River into the Mtkvari River would raise the high water level around 10 cm in an average year, which should not result in flooding.”¹⁹ However, this cannot be considered as a reliable argument because increasing the river level on average by 10 cm per year does not exclude the possibility of flooding the village during spring months when the river flow reaches its maximum level.

According to locals, almost every spring, the river Mtkvari already floods the village, especially those land plots and houses located along the river, because of the lack of bank protection on the river. People

¹⁶ http://www.cms.int/species/aewa/aew_bkrd.htm

¹⁷ http://www.birdlife.org/flyways/africa_eurasia/index.html Over 40% of long-distance migrants in the African-Eurasian flyway have shown signs of decline over the last three decades. Of these 10% are classified by BirdLife as Globally Threatened or Near Threatened on the IUCN Red List. Many of these birds are continuing to disappear.

¹⁸ EBRD’s Environmental and Social Policy, PR6 (Para. 6);

¹⁹ Response letter of the management team of the EBRD;

fear that if bank protection measures are not implemented it will be impossible to live in the village after the project implementation.

According to the EBRD's response, "given the level of community concern, Georgian Urban Energy has agreed to commission an additional evaluation of flooding risks and this evaluation is currently underway. The outcome of this study – including the technical details of any mitigation requirement(s) - will be discussed with the potentially affected community as soon as it becomes available."

The construction works on Paravani HPP have already started, but additional studies of evaluation flooding risks have been disclosed neither for locals nor for civil society thus violating PR 4: "7. The client will identify and evaluate the risks and potential impacts to the health and safety of the affected community during the design, construction, operation, and decommissioning of the project and will establish preventive measures and plans to address them in a manner commensurate with the identified risks and impacts. These measures will favour the prevention or avoidance of risks and impacts over minimisation and reduction."

Apart from the flooding, the ESIA fails to describe also problems regarding the access to pastures and subsequent mitigation measures. According to the local population, since construction works started, they have not been allowed to graze their cattle in their pastures ("Kvarsa") as the path to the pastures has been closed by the project sponsor.

Alternative renewable sources

The ESIA of the project describes technical and technological alternatives of the project, a zero alternative and alternative sources of the energy generation like solar, wind, geothermal and bio energy alternatives to the central option. However, one it does not properly analyse alternative sources of energy generation, instead giving only background descriptions of these renewable alternatives without making a detailed comparative analysis with the central option. It does not include either financial calculations -- how much will be needed for implementing such projects - or costs of these renewable energy projects.

According to the response of the EBRD, "A project-specific ESIA is not considered the appropriate forum to evaluate the national policy-level question of whether Georgia should develop medium-large hydropower projects versus other forms of renewable energy (for example, mini-hydro, wind, biomass)." This response contradicts the Environmental and Social Policy of the EBRD²⁰: The ESIA of the project should include "an examination of technically and financially feasible alternatives to the source of such impacts, and documentation of the rationale for selecting the particular course of action proposed", and also begs the question: if development of other renewable sources as an alternative to the central option is not subject to the ESIA, then why are they described in the ESIA as alternatives to the central option?

Project-related documentation

The project ESIA document was not available in English. This is worrying for two reasons: First it is unclear how the EBRD and IFC made a quality assessment of the Georgian ESIA of the project and second, a basic principle of the Public Information Policy of the EBRD is willingness to listen to third

²⁰ PR 1(9) of Environmental and Social Policy of EBRD (2008);

parties (including international NGOs) so as to benefit from their contributions to its work. The EBRD's PR 10 directly commits "to identify people or communities that are or could be affected by the project, as well as other interested parties." It is unclear how international experts can give their input if the ESIA is only in Georgian.

According to the EBRD "There was no quality review of Sponsor documentation other than to ensure that the final Action Plan will satisfy any outstanding Lender requirements. Scientific Research Firm Gamma, a reputable and independent Georgian consultancy with whom the Lenders have worked previously, prepared the ESIA's and other materials according to Terms of Reference provided by the Lenders. The scientific credentials of Gamma's experts are among the best in Georgia". This suggests that the appraisal of an ESIA for the management team of EBRD is just a formality and purely depends on hired consultants. However, the content of the Action Plan depends on what is in the ESIA, so it makes little sense to assess one and not the other. Another question that needs to be raised is on which criteria the Bank assessed the scientific credentials of Gamma's experts to be among the best in Georgia.

Desired Outcomes

With this complaint, we expect the EBRD Project Compliance Mechanism Experts to perform a Compliance Review of the Paravani HPP project, namely to check whether the ESIA documentation complies with the Performance Requirements and general commitments of the EBRD's Environmental and Social Policy.

At the same time, we expect that EBRD will change its approach towards the Tenant methodology, initiate multi-season, multi-year monitoring across the Paravani river in order to gather appropriate field data (Fish, flow, climate, geomorphology, sediment movement, etc.) in order to facilitate a comparable methodology and use existing desktop method models to create a Paravani-based method, which can be used only in the Paravani river and will ensure minimal impact on ecosystem of the river and thus compliance with Convention on Biological Diversity and Water Framework Directive will be ensured.

In addition, it is necessary to disclose the reassessment report of the flooding risk for Khertvisi village and re-evaluation report of the impact of transmission lines on birds and organize public hearing meetings on these documents.

We also expect that in order to fulfill the basic principles of the Public Information Policy and Environmental and Social Policy (PR10) of EBRD, the Bank will ensure the availability of the ESIA of the project in English.

Best regards,

David Chipashvili



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Annex 1 “Email communication with EBRD, IFC, Georgian Urban Energy and Consultants”

1. Email to Mr. Laurent Chabrier and Mr. Onur Tosunoglu asking progress reports of the project, final Environmental and Social Impact Assessment and dates of public hearing meetings. **24 December, 2010;**
2. Response email of Mr. Chabrier; **4 January, 2011;**
3. Email to Mr. Laurent Chabrier and Mr. Onur Tosunoglu regarding Paravani. **30 January, 2011;**
4. Response email of Mr. Chabrier; **31 January, 2011;**
5. Email to Mr. Laurent Chabrier, Mr. Onur Tosunoglu and Mr. David Managadze asking to fix technical problem regarding downloading full ESIA from the website; **7 April, 2011;**
6. Response Email of Mr. Chabrier; **7 April, 2011;**
7. Email to Mr. Chabrier asking dates of Public consultations; **April 18, 2011;**
8. Response of Mr. Chabrier; **19 April, 2011;**
9. Email to Mr Chabrier regarding English version of ESIA; **19 April, 2011**
10. Response Email of Ms. Elizabeth Smith, Senior Stakeholder Engagement Advisor; **20 April, 2011**
11. Email to Mr. Dariusz Prasek asking clarification questions regarding the project; **22 May, 2011;**
12. Joint response from Mr. Dariusz Prasek on our questions, **3 June, 2011;**

Annex 2 “Letters to Executive Directors of EBRD and IFC”

1. Letter to Executive Directors of EBRD regarding the Paravani HPP; 14 June, 2011;
See: http://www.greenalt.org/webmill/data/file/Letter_To_EDsEBRD.pdf
2. Letter to Executive Directors of World Bank regarding the Paravani HPP; 14 June, 2011;
See: http://www.greenalt.org/webmill/data/file/Letter_To_EDsWB.pdf

Annex 3 “Meetings during EBRD AGM in Astana and in Tbilisi over the Paravani HPP”

1. Meeting with project consultants and Urban Energy on Paravani; 17 May, 2011;
2. Issue Paper on Paravani HPP, for EBRD AGM, Astana; See: http://www.greenalt.org/webmill/data/file/Paravani_Hydro_Power_Plant_Georgia.pdf
3. Four presentations on problematic issues of Paravani HPP for the EBRD staff, Management Team, Executive Directors and President of the EBRD; EBRD AGM, Astana 2011;

Annex 4: “Attachment of the Management team’s response of EBRD and email communication”