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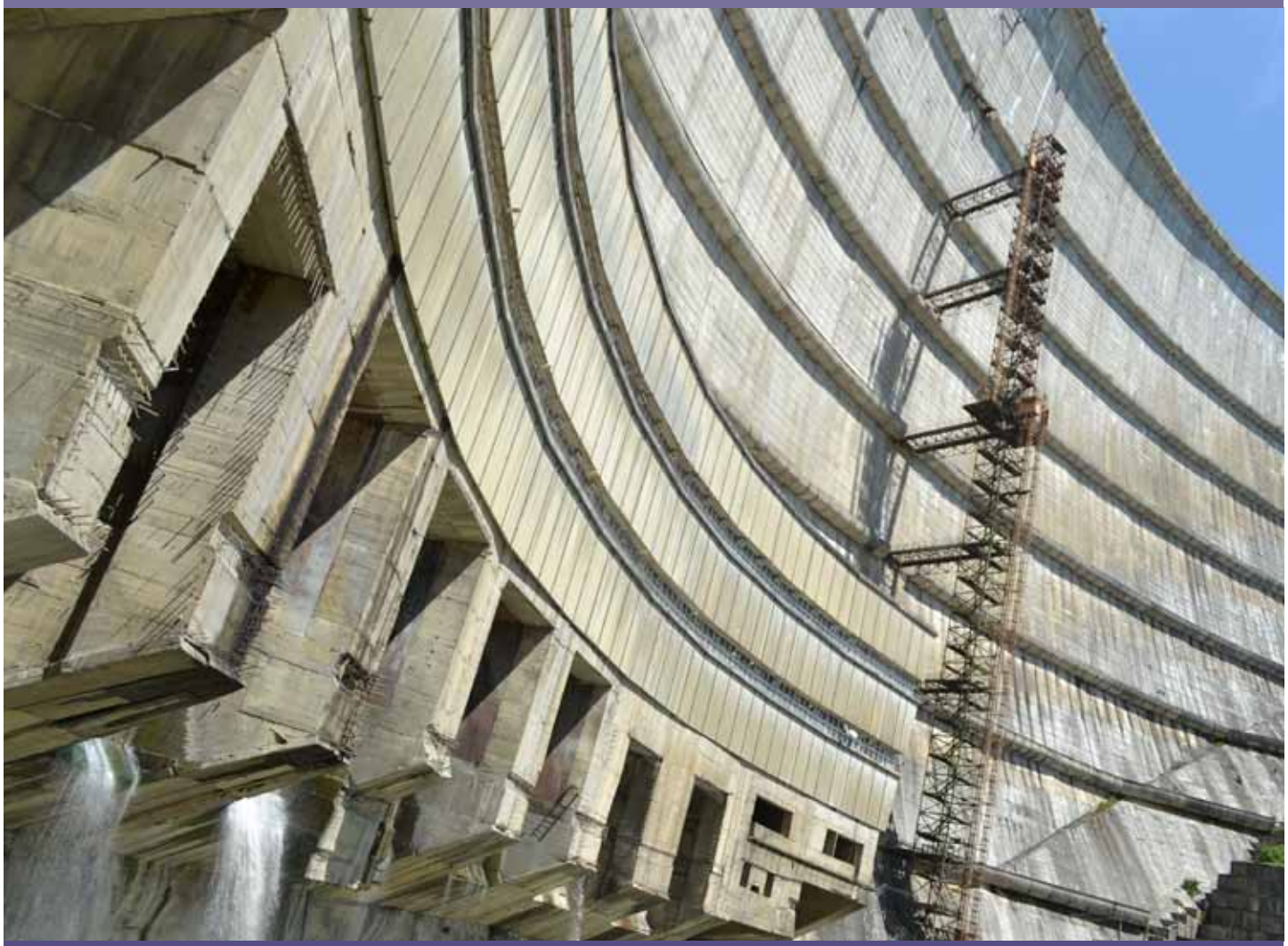
Off balance

The Georgian energy sector and the contradictions in EU policy and practice



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Executive summary

This study reviews the development of greenfield hydro projects in Georgia and explores how current energy sector trends in the country relate – or otherwise – to sustainable energy principles. It concludes that the Georgian government, together with the European Union (EU) and EU institutions such as the European Investment Bank (EIB) and the European Bank for Reconstruction and Development (EBRD), continues to support so called 'traditional' energy projects, mainly large hydro, and is not taking sufficient steps to support important elements of sustainable energy such as environmental integration, renewable energy sources and energy efficiency.

The study highlights how political decisions taken in favour of traditional energy projects often come about without proper economic analysis and justification, and lack proper consideration of all the costs and benefits involved; such decisions result in negative impacts for the Georgian environment and public. The study also points out the non-compliance of the ongoing development of large scale hydro power plants in Georgia with EU directives, and further raises questions about certain incoherencies between EU policies and investments.

Finally, the document provides recommendations for measures that should be undertaken in the short-term by both the EU and the Georgian government in order to support the establishment of a consistent and sustainable energy sector in Georgia.

Since Georgia's Rose revolution in 2003, the country has increased and deepened its political and economic relations with both the United States and the European Union. However, such developments have provided little in the way of improved human rights. Although there have been a number of positive steps taken, such as combatting petty corruption and undertaking reforms in the education and business sectors, Georgia has not made significant progress in strengthening representative institutions or introducing democratic procedures. The state's efforts within the sphere of social and sustainable development policy have been even less successful.

To foster economic development across the country, Georgian governments have opted for "fast economic modernisation practice" – this involves the minimisation of state intervention through full deregulation and liberalisation in a number of economic sectors. At the same time there has been a clear tendency to move Georgia's economy towards heavy dependence on the large-scale exploitation of natural resources without assessing the economic, environmental and social consequences of such an approach; in particular, impacts on poor communities that rely heavily on natural resources for subsistence and income have been neglected.

Georgia aspires to integrate with the EU and to finally become a member of the bloc, and it serves as a red line in all political negotiations. Georgia is part of the EU's European Neigbourhood Policy, and there are ongoing negotiations between Georgia and the EU regarding the Associated Partnership Agreement, including DCFTA (Deep and Enhanced Trade Agreement).

The national parliamentary elections of 2012 have been assessed as an important test of democracy for the country – according to international observers, Georgia passed this test successfully. While the elections were dubbed 'historic', still a great deal remains to be done in order to ensure the real development of democratic institutions, the rule of law and respect for all human rights, including social. economic and cultural rights. The new government that took office in November 2012 should be in a position to address all the problems associated with the legacy of the past, including Georgia's heavily impacted ordinary citizens.

Georgia's water and land resources

The territory of Georgia is rich in water resources. However, these resources are not distributed equally over the territory and the eastern regions of Georgia frequently experience severe water shortages, notably during extreme droughts, while the western regions are subject to risks of flooding due to the abundance of rainfall. The water is primarily used for irrigation and hydropower

generation and less for water supply. The largest dam, for hydropower, is the Enguri dam with a reservoir capacity of 1.092 km.

The share of agriculture in Georgia's gross domestic product (GDP) fell from around 50 per cent in 1990 to around 16 per cent in 2004. This fall in average agricultural output was linked to land reform-related problems, distorted irrigation, closed down processing industries, and restricted access to credits and export markets. The failure of agricultural production resulted in an increase in rural poverty, as more than 80 percent of the country's rural population depend entirely on their own farms for subsistence. It is estimated that at least 50 percent of the population work in the agricultural sector. According to studies, agriculture and consequently food security significantly declined over the last decade.

So-called water and land 'grabbing' is a major problematic issue in Georgia, due to an unclear legal rights regime – as this study shows in the section on specific large dam case studies, this is having serious repercussions for communities situated next to major infrastructure development sites.

Georgia's energy sector – with a specific focus on the hydropower sector

Energy security has been one of the most important challenges for Georgia since independence. The first years were marked by a harsh energy crisis, due to the cutting of gas supply from Russia accompanied by immense corruption in Georgia's power sector. The energy crisis had a disastrous impact both on the environment (degradation of forests, erosion, etc.) and the health of the population (for example, via the use of low quality oil products and indoor pollution). Twenty years on, Georgia's energy security is still highly dependent on imported fossil fuels that mean that the country has a high risk of economic and political dependence.

Georgia is a country rich in hydropower potential. Since the nineteenth century hydropower in Georgia became one of the driving forces in electricity production. Nowadays total installed generation capacity in Georgia is 3500 MW. Hydropower accounts for 85 percent of the country's electricity – there is annual output of around 8.5 TWh from hydropower, almost fully satisfying the needs of the domestic market. It is estimated that the total hydropower potential of Georgia is 80 TWh, out of which the economically viable potential is thought to be 27 TWh.

To date only about 11.1 percent of the technically feasible potential has been developed. A number of different assessments undertaken by USAID, UNDP, GEF and others has highlighted the huge potential for the development of small hydro energy. There are around 47 small and medium-size HPPs and six large HPPs in Georgia. All of these, with the exception of a few (Enguri, Vardnili Cascade), have been privatised.
The objectives of Georgia's energy policy – adopted by the Georgian parliament in 2006 – can be considered progressive, despite there being a few obstacles. The policy aims at the diversification of supply sources and the development of export potential, by any means. In addition, the policy does not support the development of renewable energy, considering that it should be developed under the same conditions as traditional energy sources, while it fully ignores energy efficiency, one of the major bottlenecks in Georgia's energy system.

In recent years the Georgian government has sought to position the country as a future regional renewable energy hub. Yet while the Georgian government continues to support so called 'traditional' energy projects such as large hydro and thermal power plants, it is not taking sufficient steps to support those elements that are crucial for a sustainable energy system such as environmental integration, renewable energy sources and energy efficiency schemes.

Since 1994, Georgia's energy sector has been viewed by international donors and the international financial institutions (IFIs) as a sector of key strategic importance. In the early stages of this focus, emphasis was put on the regulatory framework of Georgia's energy sector, the privatisation of energy entities, the rehabilitation of existing generation and transmission facilities, and continuous – often controversial – reforms to the country's energy system.

Following the Georgia-Russia conflict in 2008, the Joint Needs Assessment report, that served as the basis for the allocation of USD 4.5 billion in support to Georgia, clearly states that "In the longer-

term (i.e., beyond the horizon of the funding needs being presented to donors), Georgia needs to enhance its energy security by continuing to develop domestic energy resources. Investments include small, medium and large hydropower plants. Chief among these are the Khudoni hydropower plant ($800 million), the Namakhvani hydropower cascade ($540 million), the Oni hydropower cascade ($525 million), with the total program amounting to $2.7 billion."

In general, the energy policy of the Georgian government, with its aim of utilising the hydro energy potential of the country and developing its export potential, has been supported by the IFIs and the EU. The commitments undertaken by different IFIs and major donors during the donors' conference in 2008 includes the construction of the Black Sea transmission line, as well as the development of a number of new greenfield energy projects in Georgia.

The EU's energy security in neigbouring countries

The energy security concept has emerged in recent years as one of the cornerstones of the EU's foreign policy, primarily in order to diversify the bloc's energy supply sources. It includes support for numerous oil and gas pipelines and supply routes in the Caspian sea region to ensure diversification of supplies whilst avoiding Russia. As a result, and via the support of the IFIs as well as special EU programs such as INOGATE, over the last decade European companies have ensured the development of a number of oil and gas fields and pipelines in the Caspian region.

In addition, the EU is promoting and backing the export of electricity from the neighbourhood countries through already existing transmission lines, as well as by promoting the construction of new ones, despite the evident "lower environmental and social standards of the generating facilities". HPP sector development – the future for country development?

2012 was announced as the year of hydro development, where the government would support the construction of 18 HPPs. The planned projects include highly controversial large dam cascades mainly in the mountainous areas of Georgia, including the Khudoni HPP (702 MW, annual output 1.5 TWh) on Enguri. The planned projects do not comply with the principles of sustainable development, and they may have serious negative impacts for the environment, drastically change the social and demographic situation in Georgia's mountainous regions and also lead to the destruction of cultural heritage.

An associated, complicating factor is that the Environmental Impact Assessment (EIA) system is ineffective in Georgia, both in terms of providing the public with information and opportunities for public participation, as well as in terms of helping decision-makers to take informed decisions on activities that might have a significant impact on the environment and human health. The Georgian EIA system is neither in compliance with the requirements of the Aarhus Convention nor with relevant EU directives.

A further alarming gap with deep implications for the development of large hydropower projects in areas where there are small communities and villages is that Georgia's legislation does not address the issue of involuntary resettlement caused by infrastructure projects.

Conclusion

The Lisbon Treaty, TEU Article 3, sets out the European Union's overarching principles and aims. Article 3(5) includes the following among the objectives that the EU should contribute to in its relations with the wider world: "…the sustainable development of the Earth, solidarity and mutual respect among peoples, free and fair trade, eradication of poverty and the protection of human rights".

Therefore, the EU's external actions should aim at "…fostering the sustainable economic, social and environmental development of developing countries with the aim of eradicating poverty."

There are significant contradictions between the policies and investments promoted by the EU. As it promotes respect for human rights, sustainability and environmental protection, at the same time its energy security policy promotes access to unlimited energy, at any cost. The same

could be said about its investments and financial instruments. While the promotion of small scale, sustainable renewable energy represents one of the major headlines for EU financial instruments, simultaneously it works to secure and invest hundreds of millions in unsustainable large-scale energy projects, without sufficient safeguards.

Recommendations for the EU

1. The label 'renewable energy' should not provide an automatic green light. The European Commission needs to do more to ensure that growth in renewables does indeed bring about leads greater sustainability by adopting sustainability criteria for renewable energy projects.
2. The criteria for 'sustainable' HPPs should be defined through EU an legal document directive that takes account of the EU water framework directive, the habitats directive, European Council Conventions (the Convention on the conservation of European wildlife and natural habitats, EU landscape and others) and other relevant documents.
3. Strategic Environmental Impact Assessment should apply to any EU investment that could have the potential to serve as a catalysis for sector development (as is the case with the Black Sea Transmission line).
4. World Commission on Dams recommendations on the development of a strategic assessment of the energy sector prior to any large hydro investments into a given country should be adopted as a methodological guidance at the EU level and be similarly required from the given partner country in the case of any large-scale power sector project.
5. Given the fact that the construction of any large dam is connected with irreversible changes and risks for both the environment and society, the decision-making process should accordingly be undertaken based on full consensus among members of the society in question.
6. The EU should recognise that a crucial part of the right to housing is the prohibition of forced evictions. These are defined as permanent removals of individuals, families, and/or communities from their homes and/or lands that they occupy, on either a permanent or temporary basis, without offering them appropriate measures of protection, legal or otherwise, or allowing access to these measures of protection.
7. Large-scale investments that have potential to bring about forced evictions should be carried out only if the country has appropriate safeguard policies and a good track record in this regard.
8. The EU also needs to ensure that its policies – especially those as valuable and important as renewable energy targets – do not lead to undesirable results in neighbouring countries, such as the destruction of biodiversity, and the inability to meet future renewable energy targets. The EU also needs to look wider than simply safeguard standards. In the long term Georgia, like some other Eastern Partnership countries, has aspirations to join the EU, and will have to follow the bloc's 2050 decarbonisation agenda.

Specific recommendations to address the Georgian energy sector situation

In order to ensure that the mistakes involved in the energy sector planning are taken into account, and that the process of Georgia's power sector development is sustainable, it is essential that the international financial institutions and the EU:

1. Enforce a moratorium on the funding of any large dam construction in Georgia until the strategic development plans of Georgia's power sector are developed in a participatory manner.
2. Support the development of a coherent resettlement and environmental policy that would comply with international legislation.
3. Support the Government of Georgia to carry out a genuine Strategic Environmental Impact Assessment that would: address ways to satisfy existing electricity demand in Georgia with existing potentials and alternatives; address as well as develop the most sustainable solutions for development within the sector, and; present a cost-benefit analysis of these alternatives, along with a cumulative impact assessment of the planned projects on local populations and Georgian society as a whole. The SEA should present the best scenarios not only for the development of new generation capacities or the rehabilitation of infrastructure, but include also the development of new renewable technologies, as well as energy efficiency.
4. Ensure wide and fair public participation for the revision of the SEA findings and the follow up decision-making process.

Country overview

1. Democracy and human rights

Georgia is a small mountainous country located in the South Caucasus, bordered by Russia, Turkey, Armenia and Azerbaijan. Following its declaration of independence in 1991, Georgia experienced a deep social-economic crisis as a result of the collapse of the centralised economic system. Unlike most of the other post-Soviet republics, the Caucasian republics have faced acute political turmoil as a result of civil war and ethnic conflicts, the emergence of a significant number of internally displaced peoples (IDPs) and widespread poverty.

Since Georgia's Rose revolution in 2003, the country has increased and deepened its political and economic relations with both the United States and the European Union. However, such developments have provided little in the way of improved human rights. Although there have been a number of positive steps taken, such as combatting petty corruption and undertaking reforms in the education and business sectors, Georgia has not made significant progress in strengthening representative institutions or introducing democratic procedures. The state's efforts within the sphere of social and sustainable development policy have been even less successful.

Other major issues of concerns for Georgian civil society organisations include: a lack of freedom of information and transparency; restricted development of independent media and freedom of elections; a range of human rights abuses including the abuse of prisoners and detainees; poor prison conditions; arbitrary arrests; detainees,[1] challenges to the rule of law, and; concerns over the independence of the judiciary.

The short war between Russia and Georgia in 2008 not only worsened the situation between the two countries, but also drastically increased the number of IDPs from conflict territories. IDPs compromise roughly six percent of the overall population of Georgia. Most of them remain unable to return to their homes and have faced more than a decade of displacement with reduced access to employment, healthcare and social security. However, since 2010 the Government of Georgia has started to enforce the evictions of IDPs, with the aim of emptying temporary housing shelters in the capital Tbilisi. As a result essential protections for those evicted have been neglected, and it has lead also to the estrangement of many IDPs from established support networks while threatening their livelihoods.

In addition, to foster economic development across the country, Georgian governments have opted for "fast economic modernization practice" – this involves the minimisation of state intervention through full deregulation and liberalisation in a number of economic sectors. At the same time there has been a clear tendency to move Georgia's economy towards heavy dependence on the large-scale exploitation of natural resources without assessing the economic, environmental and social consequences of such an approach; in particular, impacts on poor communities that rely heavily on natural resources for subsistence and income have been neglected.

The Georgian government has introduced liberalisation and deregulation reforms and the minimisation of state control in a number of sectors such as in the food industry, transport and the environment –these measures have put at risk the health and safety of the Georgian population and the quality of the environment. In addition, development projects promoted by the government (eg, tourism development, greenfield hydro power stations) have been accompanied by violations of local populations' socio-economic rights. In 2002-2006 there have been negative impacts resulting from the Baku-Tbilisi-Ceyhan pipeline project funded by the international financial institutions[2] – eg, lack of adequate compensation, ancillary damage, impacts on cultural heritage, and gender related issues including increased prostitution. However, governmental initiatives during the period 2009-2012 in the name of development have been far more drastic for local people than BTC impacts.

In recent years Georgia has made significant progress in fighting petty corruption, ranking 64th among 183 countries in Transparency International's 2011 Corruption perception report. However, as reported in the European Commission's ENP progress report for 2011, persistent areas of concern include so-called elite corruption among high ranked officials, the lack of transparency in procurement and privatisation processes, weak accountability for reserve funds, violation of property rights and a lack of transparency in Georgian media:[3] "More broadly, many Georgian analysts allege that much of Georgian business is still controlled by officials and politically connected figures – although in a much more discreet manner than in previous times … Put simply, there is little public information about who owns large sections of Georgian business and media, and very little can be proved one way or the other. But both local observers and foreign commentaries, the U.S. State Department's Human Rights Report on Georgia for 2010, mention concerns about "elite corruption."[4]

Georgia aspires to integrate with the EU and to finally become a member of the bloc, and it serves as a red line in all political negotiations.[5] Georgia is part of the EU's European Neigbourhood Policy, and there are ongoing negotiations between Georgia and the EU regarding the Associated Partnership Agreement, including DCFTA (Deep and Enhanced Trade Agreement).[6]

The national parliamentary elections of 2012 have been assessed as an important test of democracy for the country – according to international observers, Georgia passed this test successfully.[7] While the elections were dubbed 'historic', still a great deal remains to be done in order to ensure the real development of democratic institutions, the rule of law and respect for all human rights, including social, economic and cultural rights. The new government that took office in November 2012 should be in a position to address all the problems associated with the legacy of the past, including Georgia's heavily impacted ordinary citizens.

1.2 Access to water and land resources in Georgia

1.2.1 Water resources

The territory of Georgia is rich in water resources. However, these resources are not distributed equally over the territory and the eastern regions of Georgia frequently experience severe water shortages, notably during extreme droughts, while the western regions are subject to risks of flooding due to the abundance of rainfall.


Rich biodiversity above the Enguri resevoir

The entire actual renewable water resources from rivers and renewable groundwater resources are estimated at 63,330 million m³/year, compared to the total annual withdrawal, which in 2005 was 1.621 million m³.[8]

Despite Georgia's overall abundance of water, access to safe drinking water is still a problem in almost every region. Virtually all water supply systems suffer severe anthropogenic pressure. They are contaminated by industrial, communal, domestic and agricultural wastewater, rural chemical discharges and industrial and household waste from populated areas.[9]

The water is primarily used for irrigation and hydropower generation and less for water supply. The largest dam, for hydropower, is the Enguri dam with a reservoir capacity of 1.092 km³. For irrigation purposes, some 31 dams have been built, with a total reservoir capacity of 1 km³, of which 782 million m³ are active. The three largest irrigation reservoirs are in the western part of Georgia on River Iori, including the Tbilisi Reservoir. Currently hydropower plants (HPPs) generate around 80-85 percent of total generating electricity in Georgia.[10]

According to research, a decrease in water resources would be problematic for eastern Georgia, due to the increased mean annual temperature, as well as the frequency and quantity of prolonged heat waves. In addition, the decrease of water flow in major rivers would be significant, eg, for

the River Alazani (transboundary with Azerbaijan) the calculation is at least 26-35 percent, for the Khrami-Debeda basin (transboundary with Armenia) it is at least 45-65 percent. A decrease in water resources may also lead to an increase in conflicts both within communities as well as between countries, especially when it comes to water for agricultural purposes.[11]

1.2.2 Access to land

During the Soviet era, agriculture was characterised by the state ownership of agricultural land and the concentration of production in large-scale collective farms.[12] However, even during Soviet times, Georgia traditionally had a private agricultural sector that produced crops and livestock on small plots allocated to rural residents and town dwellers.[13] Unofficial land privatisation was followed by land reform in 1996, with priority given to existing farmers and other rural residents.[14] The distribution of land to rural families is small: the average size of an individual farm in Georgia is 0.96 hectares[15] and only five percent of farms are larger than two hectares. The share of agriculture in Georgia's gross domestic product (GDP) fell from around 50 per cent in 1990 to around 16 per cent in 2004. This fall in average agricultural output was linked to land reform-related problems, distorted irrigation, closed down processing industries, and restricted access to credits and export markets.

The failure of agricultural production resulted in an increase in rural poverty, as more than 80 percent of the country's rural population depend entirely on their own farms for subsistence. It is estimated that at least 50 percent of the population work in the agricultural sector. Agriculture contributed over 16 percent of GDP in 2005, but only eight percent in 2010.[16] In Georgia, especially western Georgia, there are areas that need irrigation. The irrigation potential in Georgia is estimated at 725,000 ha. Major investments were made within the irrigation sector during the Soviet period. As a result approximately 500,000 ha of land were irrigated at the beginning of the 1980s, mainly in the more arid eastern part of the country. After the 1990s, significant reductions in the irrigated area were reported due to the above-mentioned problems. During the severe drought in 2000-2001, when agricultural losses constituted 5.6 percent of GDP (USD 350-400 million), only around 160,000 ha were irrigated. In 2007, irrigation covered 432,790 ha, of which 31,500 ha was equipped wetland and inland valley bottoms and 401,290 ha full or partial control irrigation. The diversion of rivers provides the main source of water for irrigation.

Another problematic area is pasture land, used by communities and families for livestock grazing. Given the general land scarcity in Georgia and ongoing conflicts, around 25 percent of villages experience problems with access to pastures. In addition, pastures in Georgia suffer from overuse: many are overgrazed, degraded and produce low yields.[17] In 2010, the ownership of pastures by municipalities, including the right to lease arrangements on pastures not intended for privatisation, was transferred to state ownership.

According to studies, agriculture and consequently food security significantly declined over the last decade. "Between 2002 and 2009, the amount of cultivated land decreased by 43 percent, and levels of wheat production dropped dramatically from 199,000 tons to 80,000 tons. Despite the number of Georgians living on the land, government expenditure on agriculture in 2010 was less than 1 percent of total budget spending, at just 53 million GEL (around $32 million)—less than half of what was allocated for the prison system ... this reflects the fact that more than 80 percent of Georgia's food is imported—something that fuelled high food inflation in 2011."[18]

It is expected that climate change will worsen the situation regarding access to agricultural land due to the loss of soil fertility, salinization, droughts, land degradation and desertification in eastern Georgia, coastal inundation and bogging in western Georgia; this will result in a decrease in crop production, and the degradation of wine- and citrus-growing zones.[19]

According to research, it is estimated that in eastern Georgia, during the period 1957 to 2006, climate change was responsible for mean annual temperatures

Father and daughter farming near Mestia

increasing by 0.2˚C in the western part and by 0.3ºC in eastern Georgia (Georgia's Second National Communication, 2009[20]). It is forecasted that for the period 2070-2100 the increase in mean annual temperature is likely to be in the region of 5˚C.[21]

Therefore, it is important that Georgia develops its agricultural sector based on adaptation measures, including increasing water-use efficiency (e.g. sprinklers and drip irrigation) to ameliorate decreasing availability of water, as well as the introduction of heat resistance species.

1.2.3 Water and land grabbing in Georgia

In literature, the water and land grabbing phenomenon relates to situations where investors and/or governments acquire vast tracts of land and/or utilise water resources with negative socio-economic and environmental impacts.[22]

"With respect to livelihoods one of the main problems is the inability or unwillingness of investors and government to register how land and water are being used prior to being leased or taken over. Instead, land and water resources targeted in commercial deals are often described as being unused, in order to make the transfer into the hands of investors entirely."[23] Surprisingly, the actions of the Georgian government directly relate to the situation as described.

President Saakashvili's Parliamentary Speech in 2011 emphasised that the energy sector, agriculture and tourism constitute the major pillars of Georgia's economic development.[24] In practice, however, the government's actions in the agricultural, tourism and hydroenergy sectors are a long way from achieving the goal of sustainable development – if anything they increase the violation of the private property rights of local people and also support land and water grabbing. Here we will consider land and water grabbing examples in the agricultural and tourism sectors. Water and land grabbing as a result of hydropower development will be reviewed in the project section of given case studies. However, given the size of Georgia, it should be taken into account that often land and water grabbing practices resulting from governmental practices in the agricultural, tourism and hydropower sectors overlap, and the cumulative impact is higher.

In the so-called Free Tourism Zones (Anaklia-Zugdidi, Kobuleti,) and/or tourist attractive places (Mestia, Gonio), the local population has seized its land, including land registered in the public registry, as well as that owned as traditional property, without any justification compensation for losses. Tourist development in these areas reveals existing problems and considerable challenges in terms of obtaining and protecting ownership rights within the country. For example, on 9 November 2010, the Commission for Recognition of Right to Ownership of the Khelvachauri Municipality Sakrebulo simultaneously revoked the ownership certificates – issued by itself – of the land plots of 271 residents in the village of Gonio, without examining the factual circumstances or undertaking compensation measures. According to the Commission's document, the right over the land was purchased by Arab investors.[25] However, the identity of these Arab investors is not clear.[26]

The situation is also difficult in high mountainous regions, such as Svaneti, where land plots have, in fact, never been legally registered and for centuries the local population has owned property through inheritance and disposed land plots as distributed (or re-distributed) based on agreements between ancestors. Land plots in the possession of the local population are being massively affected by a range of construction works. Citizens have been denied the possibility to register – based on lawful possession – ownership rights to land plots that their families have possessed for centuries, as well as those who have documents required by law for registration purposes.

The government decision to sell the land to foreign companies registered in Georgia, as well as to Georgian corporations,[27] has already resulted in massive protests among the communities – the majority of villages remain without common pastures and arable lands. [28] While under a law introduced in 2011, the privatisation of pastures is no longer allowed, the communities still continue to strike in order to protect their agricultural land.

For example, local framers demonstrated in the village of Zeghduleti, near Gori, after common pasture that they had long used for grazing was cleared for sale to a foreign investor.[29] The Azeri ethnic minority of the village of Kesalo organised a protest when, in spring of 2012, they find out

that the Ministry of Economy had sold the land that they had previously collectively purchased from the state. It should be mentioned that in autumn 2011 the villagers already seeded the agricultural lands, meanwhile the new owner ploughed the land again.[30]

Governmental initiatives have more raised suspicions among local farmers than bring about support. For example, in 2011 the government introduced a USD 84 million package for the development of agriculture in Georgia,[31] without any prepared strategy and action plan. This initiative has raised many questions and concerns.[32] Part of this initiative involved support for the introduction of South African farmers in Georgia, in order to increase investments into the sector.

The government invited 120 farmers and Journalists from South Africa to Georgia to promote the country's agricultural potential, and also to promise the unbeatable offer of allocating 80,000 hectares to the South Africans for approximately EUR 35 per hectare.[33] For local farmers, though, seeing a government that has long paid them scant attention suddenly court South Africans and other foreign investors has produced mixed feelings.

Taking into account the land scarcity issue, the population has disapproved of the government supporting the privatisation of agricultural lands by foreign investors. In order to ensure money mobilisation in the state budget, the Ministry of Economy and Sustainable Development has accelerated the privatisation of agricultural lands to local and foreign investors. This privatisation process strategy is beneficial for foreign investors, while the local population, that for years rented the land from the state, are not receiving any benefits.

The ongoing auctions often raise many questions. For example, according to market prices, the land in the main vine producing region of Georgia starts at EUR 700 per hectare. Recently via auction the Ministry of Economy sold 5000 ha[34] of land in Kakheti and the price paid by an Iranian investor was only EUR 450 euros per hectare – this investor was the single bidder and duly purchased the 5000 ha. Local people complained that they were not informed about the auctions, or about the lot's scale. Georgian experts have been critical of the fact that the country's best land is going to foreign and corporation investors, while the rural population is deprived of land.

The Food and Agricultural Organisation of United Nations (FAO) voluntary guidelines for land tenure and access to fisheries and forests[35] require responsible governance in order to ensure the eradication of hunger and poverty, based on the principles of sustainable development and with recognition of the centrality of land to development, by promoting secure tenure rights and equitable access to land, fisheries and forests. It makes legal recognition of customary land tenure, and also insists that the operation of markets and investment in land are transparent. Despite the fact that these guidelines are relatively new, having been adopted in May 2012, it will be crucial to ensure that Georgia's government follows them due to the existing problems with land around the country.

Georgia's energy sector

2.1 Baseline figures and information

Energy security has been one of the most important challenges for Georgia since independence. The first years were marked by a harsh energy crisis, due to the cutting of gas supply from Russia accompanied by immense corruption in Georgia's power sector. The energy crisis had a disastrous impact both on the environment (degradation of forests, erosion, etc.) and the health of the population (for example, via the use of low quality oil products and indoor pollution). The problems were especially acute during the winter when the population had access to electricity services for just 4-6 hours per day in the capital and other major cities, while the rural regions were often without any electricity supply at all.

Twenty years on, Georgia's energy security is still highly dependent on imported fossil fuels that means that the country has a high risk of economic and political dependence. Georgia consumes six times less energy per capita than Norway and Finland and two and a half times less than Greece. However, Georgia uses 4.5 times more energy per unit of GDP production than these countries; although the Georgian economy and population consume less energy, this consumption is very inefficient.

In 2007, Total Primary Energy Supply (TPES) in Georgia was 3336 Kiloton of Oil Equivalent (KTOE). Total Final Consumption (TFC) was 2432 KTOE. Seventy two percent of supplied primary energy was imported, out of which 41 percent was natural gas and 29 percent was oil products.[36] Sixty percent of consumed energy (TFC) constitutes oil and gas; 20 percent of energy comes from electricity produced by hydropower stations, while 15 percent of consumption is fuelwood. In 2009, the TPES was 3189 KTOE, and TFC was 2517 KTOE. In 2009 65 percent of consumed energy was imported, 20 percent was electricity through hydro, 15 percent fuelwood. The residential sector consumed 35 percent, communal and public service sectors 11 percent, transport 25 percent, and industry 12 percent of TFC. The structure of the energy balance remained largely unchanged in 2006-2009, with only marginal variations.

2.2 Georgia's hydropower sector

Georgia is a country rich in hydropower potential. Since the nineteenth century hydropower in Georgia became one of the driving forces in electricity production – the first hydropower plant (HPP), with a capacity of 103kw, was built in the village of Borjomula in 1898. In the 1960s approximately 300 small, mini and micro plants were functioning in Georgia. These plants provided electricity to the regions, small enterprises and farms. In subsequent years, with the establishment of centralised electricity production, the operations Enguri the majority of these HPPs were suspended. Meanwhile, the construction of large scale HPPs was instead prioritised. This included the start in 1961 of the construction of large dams such as the Inguri Dam, one of the world's highest arch dams (272m). The Jinvali HPP was started in 1977 along with a total of 26 other large and medium-size HPPs. The full installed capacity of Georgian HPPs by the end of 1990 was around 2800 MW.

Nowadays total installed generation capacity in Georgia is 3500 MW. Hydropower accounts for 85 percent of the country's electricity – there is annual output of around 8.5 TWh from hydropower, almost fully satisfying the needs of the domestic market.[37] It is estimated that the total hydropower potential of Georgia is 80 TWh, out of which the economically viable potential is thought to be 27 TWh. To date only about 11.1 percent of the technically feasible potential has been developed.

A number of different assessments undertaken by USAID, UNDP, GEF and others has highlighted the huge potential for the development of small hydro energy. "The analysis of more than 300 rivers of Georgia shows that it would be possible to construct 1 200 derivation type small hydropower plants, of which 700 could be built in western Georgia. The total installed capacity of these plants would equal 3 000 MW, of which 2 000 MW could go to western Georgia, with an annual generation of 16 000 GWh (11 000 MWh in western Georgia)."[38]

Traditionally, one advantage of hydroelectric systems over other forms of electricity generation is the use of reservoirs to store water during times of low demand and which then have the ability to quickly start generating during peak hours of electricity use. However, in Georgia HPPs represent the basic electricity generation utilities. The major peak of electricity consumption comes in winter, and extra demand is covered by thermal power plants or through imported energy.

In the period of May to July, the surplus of hydro energy compared to system demand becomes high. Water discharges in rivers rise greatly, and electricity usage drops considerably. As a result, an unproductive discharge of water in HPPs tends to occur. Experts estimate the amount of excess energy to be approximately 700-800 GWh annually, or about ten percent of total in-country electricity generation.

This problem of seasonal imbalance for the Georgian energy system is a result of the fact that the planning and construction of Georgian power plants was based upon the united energy system of the Soviet Union. After the breakdown of the Soviet Union and the isolation of the Georgian energy system, some of the capacity remained unloaded in the summer. Therefore, the strategy of new generation development ought to take into account the seasonal energy imbalance in order to achieve real energy security for the Georgian energy system.

There are around 47 small and medium-size HPPs and six large HPPs in Georgia. All of these, with the exception of a few (Enguri, Vardnili Cascade), have been privatised. It should be noted that during the power generation privatisation the rehabilitation requirement was included only in the case of particular HPPs and does not represent unified demand. A number of HPPs are now working lower than their installed capacity as the maintenance of these HPPs has not been carried out – this includes Jinvali, Lajanuri and some others.

Original schematic for the Enguri dam

2.3 Georgia's energy policy

A major document defining Georgia's energy was adopted by the Georgian parliament in 2006. According to "Main Directions of State Policy in the Power Sector policy is document of Georgia",[39] the most important long-term objective is the "full and gradual satisfaction of the demand on electricity resources on the basis of its own hydro resources ... first with the help of import, then by its substitution with thermal generation." Another, longer-term objective is also discernible, 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."

It should be noted that the progressive aims of the policy are understood in this document as the existence of energy resources per se and the 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 impacts on Georgia's environment and population. In addition, the above-mentioned document does not support the development of renewable energy, considering that it should be developed under the same conditions as traditional energy sources, while it fully ignores energy efficiency, one of the major bottlenecks in Georgia's energy system.

In recent years the Georgian government has sought to position the country as a future regional renewable energy hub.[40] According to President Saakashvili, in the coming years the government plans to attract investments in the region of USD 5 billion for Georgia's electric energy sector capabilities.

Yet while the Georgian government continues to support so called 'traditional' energy projects such as large hydro and thermal power plants, it is not taking sufficient steps to support those elements that are crucial for a sustainable energy system such as environmental integration, renewable energy sources and energy efficiency schemes.

2.4 Georgia's energy sector and international donors

Since 1994, Georgia's energy sector has been viewed by international donors and the IFIs as a sector of key strategic importance. In the early stages of this focus, emphasis was put on the regulatory framework of Georgia's energy sector, the privatisation of energy entities, the rehabilitation of existing generation and transmission facilities, and continuous – often controversial – reforms to the country's energy system.[41]

The rehabilitation of the Enguri Dam, the major source of Georgia's hydro energy, has been financed through EBRD loans and grants provided by the EU since 1998.[42] In 1994, the EBRD also financed the rehabilitation of the Rioni HPP.

Subsequently, however, the emphasis was switched towards the development of new hydro projects. The first attempt was made by the World Bank. In summer 2005, the Bank allocated up to USD 2.35 million USD for preparatory works (preliminary and feasibility studies, technical studies), an Environmental Impact Assessment (EIA) and a Resettlement Action Plan (RAP) for the Khudoni dam.

Location of reconstruction works at the Enguri dam

Following the Georgia-Russia conflict in 2008, the Joint Needs Assessment report,[43] that served as the basis for the allocation of USD 4.5 billion in support to Georgia, clearly states that "In the longer-term (i.e., beyond the horizon of the funding needs being presented to donors), Georgia needs to enhance its energy security by continuing to develop domestic energy resources. Investments include small, medium and large hydropower plants. Chief among these are the Khudoni hydropower plant ($800 million), the Namakhvani hydropower cascade ($540 million), the Oni hydropower cascade ($525 million), with the total program amounting to $2.7 billion."

Mother and daughter at mass in Chuberi, Svaneti

In general, the energy policy of the Georgian government, with its aim of utilising the hydro energy potential of the country and developing its export potential, has been supported by the IFIs and the EU. The commitments undertaken by different IFIs and major donors during the donors' conference in 2008 includes the construction of the Black Sea transmission line, as well as the development of a number of new greenfield energy projects in Georgia.

Caucasus mountains, Svaneti

2.5 The EU's energy security in neigbouring countries

The energy security concept has emerged in recent years as one of the cornerstones of the EU's foreign policy, primarily in order to diversify the bloc's energy supply sources. It includes support for numerous oil and gas pipelines and supply routes in the Caspian sea region to ensure diversification of supplies whilst avoiding Russia. As a result, and via the support of the IFIs as well as special EU programs such as INOGATE, over the last decade European companies have ensured the development of a number of oil and gas fields and pipelines in the Caspian region. Included among these are the Baku-Tbilisi-Ceyhan oil pipeline, the South Caucasus Gas Pipeline, and the development of the Azeri-Guneshli Ghiraq Oil field. Further plans include the Nabucco gas pipeline, the flaghship of EU energy policy,[44] the White Stream pipeline[45] and a number of other projects. Combined these projects make up the Southern Energy corridor of the Trans European Energy Networks.

In addition, the EU is promoting and backing the export of electricity[46] from the neighbourhood countries through already existing transmission lines, as well as by promoting the construction of new ones, despite the evident "lower environmental and social standards of the generating facilities".[47] Programs such as the Trans-European Networks are allowing and even encouraging electricity exporters to benefit from loopholes and differences in environmental standards and to increase electricity export from the neighbourhood countries into the EU. It is recognised that "Although there are some clear advantages in producing electricity locally there will always be regions in Europe, which could be net exporters of electricity due to a concentration of renewable-energy resources, such as hydro."[48] While there is also ongoing rhetoric that "To facilitate such exports, transmission systems need to be maintained and built, however this must only be done when environmental and social standards comply or are in line with those in the EU".[49] In practice, however, investment in the sector is instead increasing problems within the given countries while also supporting the development of unsustainable energy.

This can be clearly seen both in the case of the Eastern Partnership countries, as well as in the South Mediterranean region. For example, for energy security purposes the European Commission is actively promoting the construction of solar and wind energy plants in the deserts of North Africa and the Middle East to supply mainland Europe with up to 15 percent of its electricity demands, at a cost of 573 billion.[50] The project would require industrial volumes of water – something of a scarcity in the Sahara despite a huge underground aquifer – to clean its mirrors and solar collectors, thus denying local people access to water.[51]

In the case of Eastern Partnership and Central Asian countries, the EU is developing a number of special programs that are actively seeking the development of both oil and gas, as well as electricity grids, that could potentially be exported outside of the region to the EU itself.

The dedicated EU program INOGATE, that represents the international energy co-operation programme between the EU and the Partner Countries (Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Tajikistan, Turkmenistan, Ukraine and Uzbekistan), has a number of objectives, including:

- Converging energy markets on the basis of the principles of the EU internal energy market, taking into account the particularities of the involved countries.
- Enhancing energy security by addressing the issues of energy exports/imports, supply diversification, energy transit and energy demand.
- Supporting sustainable energy development, including the development of energy efficiency, renewable energy and demand-side management.
- Attracting investment towards energy projects of common and regional interest.

In addition, the Eastern Partnership Platform on Energy Security (hereinafter "Platform 3") was established by the Eastern Partnership Summit in May 2009.[52] One of the key elements of Platform 3 work for 2009-2011 and 2012-2013, along with the regulatory framework and approximation of energy policies, includes "Development of electricity, gas and oil interconnections and diversification of supply". The activity includes support to projects of common strategic importance in oil, gas and/or electricity that have a direct and significant impact on the energy security of at least one EU member state and one partner country. Platform 3, together with INOGATE, will ensure the presentation and review of the projects in the presence of the IFIs.[53] Existing EU instruments, such as the Neighbourhood Investment Facility (NIF), the Eastern European Energy Efficiency and Environment Partnership (E5P), and the Eastern Partnership Technical Assistance Trust Fund (EPTATF) will also consider possible financing sources for given strategic projects.

The Black Sea transmission line project (see further details below) can be considered a typical example of a project promoted by the EU and supported by the IFIs.

2.6 HPP sector development – the future for country development?

Although no public debates take place on how Georgia's energy sector should develop further, the Georgian Government works to position the country as a future regional renewable energy hub.[54] 2012 was announced as the year of hydro development, where the government would support the

construction of 18 HPPs. The planned projects include highly controversial large dam cascades mainly in the mountainous areas of Georgia, including the Khudoni HPP (702MW, annual output 1.5 TWh) on Enguri, the Namakvani cascade (450 MW, annual output 1.6 TWh), Nenskra Cascade (438 MW, annual output 1.2 TWh), as well as divert ones such as Paravani (87 MW) and Dariali HPP (109 MW).

The planned projects do not comply with the principles of sustainable development, and they may have serious negative impacts for the environment, drastically change the social and demographic situation in Georgia's mountainous regions and also lead to the destruction of cultural heritage.

In addition, other than the social and environmental problems related to large dams elsewhere, it has emerged that the Build, Own, Operate (BOO) model promoted by the Georgian government for the construction of the HPPs will not benefit the country's budget in any way sufficient to justify the total change of landscape and the devastation of the environment, to say nothing about the thousands of people that will be forced to resettle.[55]

The Environmental Impact Assessment (EIA) system is ineffective in Georgia, both in terms of providing the public with information and opportunities for public participation, as well as in terms of helping decision-makers to take informed decisions on activities that might have a significant impact on the environment and human health. Public (state-owned) projects remain exempt from EIA procedures, the same as with mining and forest use projects (mining and forest use licenses are auctioned off without any prior environmental and social assessments). The public remains uninformed about the applications for receiving environmental consents for development projects, and the same applies for final decisions taken by the competent authority, the Ministry of Environment. The Georgian EIA system is neither in compliance with the requirements of the Aarhus Convention nor with relevant EU directives.

Even in this situation, the Georgian government tries to avoid the EIA implementation and often exempts companies from this obligation. In addition, cases of initiating projects without environmental impact permits have become quite common. The case of the construction of two HPPs in the Dariali Gorge of the Kazbegi district, within the Kazbegi national park, is a good example of the above-mentioned. Despite numerous notifications provided to the government concerning the given violation (the construction started before the environmental permit was issued), in the end the EIA and construction permit was issued without any problem, despite the fact that the project involved the use of land within the national park. Subsequently, through changes in the law, the affected area was withdrawn from the protected territories system.

It should further be mentioned that this project will irreversibly change the Dariali Gorge landscape, as the major river in the region – the Tergi – will actually remain without water, thus totally undermining its historically established cultural-ethnographic and tourist values. The project will also lead to the extinction of stream trout, a species listed in the Red List.[56]

2.7 HPP sector In Georgia – A legal and cost-benefit analysis

Analysis of the memorandums of understanding and a number of contracts between the Georgian government and investors raises questions over what the Georgian state will actually receive as a result of the implementation of such projects. Private investors do not contribute to the state budget from either royalties or bonuses, as is the practice elsewhere in the world, nor do they in the form of free energy.

Almost all the planned HPPs will be constructed with the purpose of exporting the electricity to Turkey and/or Russia. Exports in Georgia are not taxed. Investors do not pay for the utilisation of water resources. The only expected income for the state would consist of 20 percent income tax paid by workers plus a 0.1 percent tax on property for local municipalities.

The government insists that the construction of 18 HPPs will result in the creation of at least 13,000 jobs. Yet given that such construction work tends to be carried out by foreign workers, while Georgian workers are usually hired for nonqualified work if any, plus the fact that the operation of HPPs does not require the same amount of labour, it is difficult in this context to speak about sustainable job development.

One of the benefits, according to the logic of the Georgian government, should be the obligations undertaken by investors that in the winter period they should, first of all, sell electricity to the Georgian energy system if required.

However, there are also problems attached to this obligation. For example, in the case of the Khudoni HPP, Georgia will be obliged to purchase electricity during the first ten years at a predetermined winter tariff. However, the investor will retain the right to renegotiate the tariff without limiting the "put option," in line with electricity market regulation, but not exceeding the tariff set for thermal generation in Georgia. If the company decides to exercise its put option correctly and the Electricity System Commercial Operator (ESCO) is not able to purchase full or partially-generated power "due to any reasons, including reduced requirements," the ESCO would be obliges to pay the price difference between the put option and the revenue received through the alternative power sale. In fact, even if the ESCO might find a cheaper option, it would still be obliged to purchase expensive energy from Khudoni, or pay the company from its revenues.

In the case of the Paravani HPP, the possibility for selling electricity to the Georgian energy system looks dubious as the River Paravani is usually frozen over in the winter months. According to information provided on the website of the Ministry of Energy and Natural Resources, a Memorandum of Understanding was signed with foreign investors on investing about USD 3 billion to build HPPs with approximately 2000 MW of installed capacity (30 large and medium capacity HPPs are listed).[57] According to the ministry, preparatory works are ongoing for building the Namakhvani HPP cascade (installed capacity 700 MW) and the Khudoni HPP (installed capacity 638 MW). Besides building 30 large and medium HPPs, the Georgian government is also looking for further investments to build about 50 small and medium HPPs in Georgia.

Analysis of relevant contracts and memoranda also points to the fact that the government has burdened itself with various obligations, including the established practice to grant state-owned agricultural lands, pastures and forests for a symbolic price of one US dollar to potential investors intending to construct HPPs.

This practice is unjustifiable, both in the case of large dam type HPPs as well as run-of-river projects, as these have significant social impacts locally. First of all, in rural areas local people do not have officially registered legal rights to lands, thus land parcels are granted to investors by the state and locals are left without proper (if any) compensation. At the same time, losing pastures, agricultural lands and forests also negatively impacts local livelihoods.

The contracts and memoranda also give investors the right to directly mortgage the land (as in case of Khudoni), or to mortgage the land after receiving prior consent from the government (as was stipulated and happened in the case of Paravani).

In terms of resettlement, the contracts and memoranda do not provide sufficient safeguards for Georgia's citizens. Georgia's legislation does not address the issue of involuntary resettlement caused by infrastructure projects. The eminent domain law is widely used as it gives the state the option to expropriate property in the case of public and private projects, and as practice shows it is not a suitable instrument for ensuring the right to adequate housing and adequate standard of living. Even in those cases where the involvement of the IFIs is stipulated, and a resettlement action plan is prepared in line with their guidelines, the reality is far from being ideal.[58]

According to the Khudoni HPP Agreement, one of the preconditions for the implementation of general commitments by the project company is that "GOG and Project Company having jointly been preparing a rehabilitation and resettlement action plan for local residents likely to be adversely affected or displaced due to the construction of the project at the site";[59] the agreement requires that "principle parties shall develop and approve the resettlement action plan which shall be implemented, by the Company and/or the project Company. All associated costs related to the implementation of the resettlement action plan shall be borne by Company and/or project company. The GOG shall assist the Company/Project Company to implement the resettlement plan upon request, in accordance with the Georgian legislation and within its competence".

Therefore, it should be stressed that regarding compensation for resettlement, the agreement does not provide any specific standards and/or guiding principles for project promoters. Moreover, the government will simply assist the company with resettlement rather than seeking to ensure that the quality of life of its citizens is not negatively affected – this contravenes the UN Covenant of social, economic and cultural rights.

Case studies

3.1 Black Sea transmission line project

Project background

One of the preconditions for becoming an exporting country to Turkey and South Eastern Europe, according to the Ministry of Energy and Natural Resources of Georgia, is the harmonisation of Georgia's energy system. Georgia plans to enter the South-East Europe electric power market by 2015-2017.[60] In order to help achieve this, the government has initiated the construction of a number of high-voltage transmission lines from Georgia to Turkey. Funding is being made available by the EBRD, the EIB, KfW and the ADB.
The Black Sea transmission line project, involving the building of a 500 kV transmission line from Azerbaijan to Turkey via Georgia, started in 2009. The project includes particularly the rehabilitation and construction of the Gardabani-Akhaltsikhe, Zestaponi-Akhaltsikhe and Akhaltsikhe-Turkish border sections as well as the construction of a 500 kilowatt substation (with high voltage direct current).

The project aims to increase Georgia's grid stability, reduce transmission losses and diversify supply sources. It should be noted that most of Georgia's hydro resources are concentrated in western Georgia, while the eastern part of the country hosts the majority of large industrial enterprises, making an efficient transmission system critical for the stability of supply. Up to now there has been a single 500 kV line – this has meant blackouts in the case of any incidents around the country. The construction of a second high-voltage transmission line was abandoned in 1990 following the collapse of the Soviet Union and the ensuing post-independence turmoil.

Another aim of the project is to create a link between the power supply systems of the Southern Caucasus countries with Turkey and Europe and increase electricity export during the summer period.

However, as emphasised by the Georgian government, the Black Sea transmission line project is also closely linked with building greenfield HPPs in Georgia and to thus increase electricity exports,[61] as the new line will have a capacity of up to 1,000 MW, excessive for Georgia's current domestic demand, but "pertinent in the face of increasing investment".[62] According to the deputy Minister of Energy and Natural resources, "By 2018, the big hydro power plants will have been constructed, and this line will be fully utilized".[63]

The project has been financed by the EBRD, the EIB and KfW, with the EBRD and the EIB providing EUR 80 million each and EUR 100 million coming from KfW. The EIB and KfW both provided loans to the Georgian State Electricity system (GSE) under a state guarantee. The project was made feasible via an EU NIF grant of EUR 8 million that became available in late 2008.

This NIF grant was used for technical appraisal, the development of a conceptual design and budgeting. By the end of 2009, up to EUR 3 million had been allocated for the mitigation of environmental impacts arising from the line's construction.

Project environmental and social impacts

From an environmental perspective, the design of the Black Sea transmission line project has been one of the most problematic issues. The project offered three alternative routes for crossing the Borjomi Valley. In the first alternative, the transmission line was proposed to cross the Borjomi-Kharagauli National Park through a densely forested 11.5 kilometre area. The second alternative would have involved passing through a 4.7 kilometre treeless area. Although the third alternative would have involved the transmission line bypassing the national park, it would have crossed the most forested territory as well as other vulnerable ecosystems, and it would also have gone through numerous villages and settlements. Thus, the second alternative would have seen the project having the least impact on biodiversity.

The administration of the national park and the consultants hired to study the project's environmental impacts were in favour of the second alternative. Despite this, the Georgian Ministry of Energy,[64] which was interested in the project's implementation, attempted to exert pressure on the Ministry of Environmental Protection and Natural Resources, and through gross legal violations, to use – as they claimed – the cheapest alternative for the project's implementation, thus envisaging the greatest impact on the Borjomi-Kharagauli National Park, that is using the first alternative.

The project contravened Georgian legislation, including the Law of Georgia on Environment Protection. According to article 5 of this law (determining the main principles of environment protection), particularly according to the Priority Principle, "an action, which may cause negative impact on environment and human health, can be changed into another action of lower risk (even if more expensive). The priority shall be granted to the latter if its cost does not exceed the costs of compensation for the ecological damage caused by the less-expensive action."

The Law on Protected Areas would also have been violated, as the towers and high-voltage lines would have been located in both the visitor zones and traditional use zones of a protected area; forests would have been cut along the entire perimeter of the transmission line; species would have been disturbed during the construction process, while upon completion of the construction, the danger of forest fires would have increased, and the landscape would have been polluted visually. As a result of this visual pollution, the national park would have become less attractive for tourism, thus clearly negatively impacting the national park's revenues. In addition, clear cutting would increase erosion processes over the slopes. Thus, besides the violation of legislation and impact on biological diversity, the project would have had long term negative social and economic consequences.[65]

However, the Ministry of Energy persistently pressed for the cheapest and most damaging route. In order to approve this approach, the government even prepared drastic changes in the Forest Code to allow clear cutting on slopes of more than 35 degrees, in the case of state interests.

The Borjomi-Kharagauli National Park constitutes one percent of Georgia's territory and is the first national park in South Caucasus, established with significant contributions from WWF, the German government, not to mention KfW, ironically one of the potential funders of the transmission line scheme by that time. It should also be mentioned that the protection regime of various forms for the area was introduced more than one 100 years ago, in the nineteenth century. The park contains pristine ecosystems and many endemic, relic and endangered species, protected under national and international legislation.

Public participation

Concerns about the transmission line passing through the national park area were expressed by civil society organisations back in early 2009 during a scoping meeting. A number of comments about how to improve the routing were proposed to the project consultant and the Ministry of Energy throughout the year.

In May 2009, the Ministry of Energy published a draft report on the project's environmental and social impact assessment, and, in June 2009, it held public hearings on this document. Some of the big environmental groups such as Green Alternative and Friends of the Earth Georgia provided comments to the ministry.[66]

At the same time, in order to reduce the impact of the Black Sea Regional Transmission Project on the Borjomi-Kharagauli National Park, an advocacy campaign was launched by local groups and also involved international organisations (Pan Parks Foundation, WWF Caucasus PO and CEE Bankwatch Network), as well as groups working on democracy and human rights issues.

The groups requested that the IFIs abide by their own policies and ensure compliance with national and international legislation; they were asked not to finance the project until relevant changes were made to the project design. This campaign received wide coverage in the media and also became a hot discussion topic in the Georgian parliament.

The groups proposed a viable solution for the project's implementation, asserting that their

proposed route would cause less damage to the national park, and at the same time would be the most economically acceptable option in the long-term because of lower operation costs and increased safety in respect of emergency situations.

As a result of this campaign, the donors conducted additional field research; alternative routes were also studied from a technical perspective.

The outcome of this was that European Commission representatives announced that if the Georgian government were to make a decision in favour of the environmentally sound alternative put forward by environmentalists, then the Commission would cover the difference in costs. The Ministry of Energy duly accepted this proposal. In the end, the European Union allocated an additional EUR 3 million to Georgia as a grant.

The Project's development impact

The project is expected to be completed by the end of 2014. With construction ongoing, the project is already throwing up various problematic issues and concerns.

Implementation of a project such as the Black Sea transmission system based on technical, environmental and social studies that apply only to the immediate impacts of the line represents one of the most serious mistakes. The project aims to deliver not only stabilisation of the domestic grid, but also represents potential for further greenfield projects, in order to boost export capability to Turkey, Europe and Iran, and to ensure trade within the region.

In terms of development impact, the Paravani HPP and Khudoni Dam, as well as other planned HPPs, with their noted adverse impacts, can be viewed as being essential for the Black Sea energy system project.

In addition, by the end of 2010, the ADB commenced preliminary work for supporting the construction of a regional transmission line in Georgia. This project aims at increasing transmission capacities to Azerbaijan, Armenia and Turkey to sell and to provide the transit of electric power:

"The project objective is to enhance regional power trade through rehabilitation and improvement of 12 existing substations; and construction of a new substation. One component of the project is a study on potential Hydropower Investment Projects, assistance to the Government to conduct necessary feasibility study and due to safeguards diligence assessment on future potential hydropower investment projects."[67] The project preparation is ongoing, and it is expected that the ADB board will take its final decision on this USD 48 million investment by the end of 2012.

Incoherence with EU laws

Given that from the beginning the transmission line project has aimed to develop a number of greenfield energy projects and actually represents one of the major parts of the large energy program, it should have been logical prior to ESIA studies for a strategic environmental assessment (SEA) to be carried out. Indeed with an SEA study, Georgia would have avoided the rather haphazard and difficult to manage situation where the government attempts to attract investments for all 85 planned HPPs by all means simultaneously.

Issues such as how many large and small HPPs need to be developed, the types of HPPs and their impact on river ecosystems, an assessment of projected trade with neighbouring countries, the implication of the excess water issue in the summer period, and likely revenues for the state budget – these are all issues that should have been examined by an SEA.

An SEA study for the power sector would have also addressed issues such as existing renewable scenarios, Georgia's energy efficiency potential, and the environmental and social implications of the proposed scenarios.

The SEA Directive is mandatory for member states for plans or programs that "are prepared for agriculture, forestry, fisheries, energy, industry, transport, waste/water management,

telecommunications, tourism, town & country planning or land use and, which set the framework for future development consent of projects listed in the EIA Directive."

The Environment Integration Handbook for EC Development cooperation acknowledges that "The Strategic Environmental Assessment is a key tool to determine whether the Sector Programme is consistent with the country's and EC's environmental policy objectives, and assess the likely environmental impacts of Sector Programme implementation. Assuming this analysis, it provides feedback to the Government to enhance the environmental dimension of the Sector Programme, and also enables improved integration of the environment into SPSP formulation. In many cases, the decision and commitment to prepare such an SEA have been taken at the programming stage."[68] The Black Sea Energy Transmission System project, as well as some other infrastructure projects do not represent sector programs in a technical sense. However, taking into account the EU external policy energy dimension, as well as EU intervention in the energy sector of neighbourhood countries through technical assistance projects, regional energy programs and the catalysing of investments for energy infrastructure projects, it is vital to ensure that an SEA study is undertaken prior to a significant intervention, as in the case of the Black Sea Energy Transmission System project.

3.2 Paravani HPP

Project background

The Paravani HPP project consists of the construction, operation and maintenance of an 87 MW run of river HPP on the River Paravani, near the town of Akhalkalaki, Georgia, close to the Turkish border. In addition to power generation facilities, it includes a 13.77 km conveyance tunnel of and a 32 km, 220 kV transmission line to the Akhalskhe substation which connects to the 400/500 kV high voltage Black Sea Transmission Line that connects Georgia to Turkey.

The Paravani HPP project is the first greenfield power facility connected to the converter station and makes use of the new export transmission line to Turkey. The total Project cost is estimated at USD 156.5 million. The project sponsor is Georgia Urban Energy, the Georgian subsidiary of the Turkish conglomerate Anadolu Group. The EBRD is providing USD 52 million in funding, and has also taken a USD 5 million equity stake in Georgia Urban Energy. The IFC is providing an additional USD 40.5 million and a further USD 23 million has been syndicated via commercial banks.

This HPP project aims to supply electricity to the Georgian market during the three winter months (December-February) and to export power to the Turkish market in the remaining nine months of the year. The deal with the Georgian government is based on the build, operate and own model (BOO), in keeping with the memorandum of understanding signed in 2007 (changed in 2009).[69] Construction of the HPP started in 2010 and is due to be completed in 2014.

The project's proponents claim that the project's Environmental and Social Impact Study adheres to EBRD and IFC standards. Thus, the preparation and implementation of the project are in compliance with the best international standards. However, despite the type of HPP and its moderate size, the project is likely to have drastic impacts on the River Paravani. Moreover, the HPP's development impacts are highly questionable.

Environmental impacts

The project involves the construction of a 14 km derivation tunnel in order to divert water from the River Paravani to the River Mtkvari upstream of the village of Khertvisi, and the construction of 220 kV transmission lines to connect with the grid.

The project will have drastic negative impacts on the biodiversity of the River Paravani, as the project plans to divert 90 percent of the annual average flow (AAF) of the River Paravani to the River Mtkvari. According to the ESIA, ten percent of the AAF of the river as a minimum sanitary flow will be left to preserve the ecosystem of the River Paravani. According to the document ten percent is based on "western standards" (without referring to any guidelines), and the impact of this on the ecosystem of the River Paravani is assessed as minimal.[70]

According to the project sponsors, "the minimum (sanitary) flow released will represent at least 10 percent of annual average flow in the Paravani River at the weir location (calculated as 16.5 m^3/sec)... It would guarantee release at least 1.65 m^3/sec at all times ... In the wet spring and summer months, considerably more water will be released. Detailed monthly flow data is available in the ESIA. It is important to note that, due to the flow characteristics of the River Paravani,the planned releases represent 15-25 percent of natural flow for around 80 percent of the year."[71]

It should be underlined that 15-25 percent is a massive drop in the water level, but even this is not guaranteed for the whole year and that at certain times only ten percent of the water will be left in the river. This is even more serious considering that the hydrological data is outdated (1937-1986), and that the real amount of water is likely to be less given the increasingly frequent dry spells in recent years. If there is competition between securing enough water for power generation and ensuring sufficient residual flow, the Georgian authorities are probably not able or willing to enforce any minimum residual flow.

Impacts on birds

The construction of the 220 kV transmission lines infrastructure will impact on birds, as it is located directly in the African-Eurasian migratory waterbird flyway[72] frequented by 255 bird species[73] that cross the territory of Georgia from their nesting sites to wintering areas and back. These species are sensitive to accidents on linear obstacles (eg, wires) and to electrocution while perching.
Concern about this impact has been raised with the project's sponsor and funders. A response from the EBRD's management states that "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."

However, no re-evaluation report has ever been disclosed to the public, while project construction work has started. This is a clear violation of the EBRD's Environmental and Social Policy: "Through the environmental and appraisal process, the client will identify and characterize the potential impacts on biodiversity likely to be caused by the project. The extent of due diligence should be sufficient to fully characterize the risks and impacts, consistent with a precautionary approach and reflecting the concerns of relevant stakeholders."[74]

Social impacts

One of the major potential 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 percent of the average river flow in Paravani will be diverted to the River Mtkvari, which will increase water flow in Mtkvari significantly (ie, increasing the flow by 17 cubic metres/second on average, and in spring by 35 cubic metres/second).

According to the project sponsors, "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."[75] 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 the spring months when the river flow reaches its maximum level.
According to locals, almost every spring the River Mtkvari floods the village, especially those land plots and houses located along the river, because of the lack of bank protection on the river. People fear that if riverbank protection measures are not implemented it will be impossible to live in the village after the project implementation.

According to the EBRD, "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."
These additional evaluation studies of flooding risks have neither been disclosed to locals nor to civil society before the start of the project construction, representing a violation of the EBRD's environmental and social policy.

Apart from the flooding, the ESIA also fails to describe problems regarding access to pastures and subsequent mitigation measures. According to the local population, since the start of construction work 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.

Development impacts

The majority of planned HPP projects in Georgia are of the derivation type and the determination of the residual water flow in these projects is the key issue for downstream river ecosystems. After the ten percent residual flow was published in the ESIA for the EBRD-financed Paravani project, it became widely considered as the best practice in all other derivative HPPs (including small HPPs) in Georgia (Dariali, Nenskra, Bakhvi etc.). EIAs were prepared for the Dariali and Nenskra rivers to consider that the given projects are in compliance with the EBRD's environmental and social policy. The development of these projects will destroy the ecosystems of the rivers in Georgia and create problems with access to water for downstream communities.

The Environmental and Social Policy of the EBRD states that "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." Approval and funding of the Paravani project by the EBRD set a precedent for other project developers to use the standards and methods used by the EBRD and the IFC, and that automatically means the application of best-practice standards. It should be noted that the respective project developers for Dariali, Nenskra, Bakhvi, Lukhuni etc already claim that they have been prepared in line with EBRD requirements – but what they actually refer to is the 10 percent residual flow figure, as an international best standard. The EBRD should now accept its responsibility for spreading the so-called "EBRD standard" in all other derivative HPP projects in Georgia.

Contradiction with EU directives and other international laws

The project ESIA and design contradicts not only the EBRD's environmental and social policy but also the EU's Water Framework Directive (WFD),[76] and the Convention on Biological Diversity.

The EU's WFD also requires EU 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 WFD, "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." [77]

In 2001 the Convention on Biological Diversity'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 livelihoods.[78]

3.3 Khudoni dam

Project background

The proposed Khudoni HPP is located in the Svaneti mountains,[79] on the River Enguri Gorge, upstream from the Enguri HPP. The River Enguri represents the natural border between Georgia and the separatist Georgian region Abkhazia,[80] that has declared itself to be independent, a status recognised only by Russia. The project includes the construction of a 200.5 metres arch dam and a 702 MW underground HPP. According to the Government of Georgia and the British-Indian company Transelectrica Ltd.,[81] a 528 ha territory would be flooded for a 345 million cubic metre water reservoir just in front of the Enguri reservoir.

The project aims to utilise new hydro energy resources through the Khudoni HPP, which would apparently generate more than ten percent of Georgia's annual consumption and contribute roughly 20 percent of existing energy resources. Although the project is export oriented, the government claims that it would greatly increase Georgia's energy security.

Historical background

In the 1960s, the Soviet Georgian government began construction of a hydro power station on the River Enguri (the Enguri Dam). In parallel, a scheme for energy use on the middle part of the river was elaborated to ensure the full exploitation of the river's energy potential. The construction of the first hydro station on the Enguri started in 1961. Despite initial plans to construct the highest arch dam in the world (300 metres), the construction site and the length of the arch was changed (to 270 metres high), due in part to problems resulting from geological formations along the banks of the River Enguri. To correct the mistakes in the initial planning process, another dam with an underground hydro station was slated for construction in Zemo Khudoni at an arched height of 200 metres.[82]

The construction of the Khudoni dam began in 1979. The plans include construction of a number of large HPP cascades (the Tobari HPP, with an installed capacity of 600 MW, projected generation 2.2 TWh, and the cascade of Nenskra HPPs, with an installed capacity of 87 MW)[83] on the River Enguri upstream of the Enguri HPP. Fierce protests by the local population and civil society groups, joined by members of the pro-independence movement, convinced the Georgian government to issue a decree calling for the halt of construction works in June 1989. However, the new Georgian government that came to power after the Rose Revolution once again began looking for investors for the Khudoni HPP.

A decision to resume the construction of the Khudoni HPP was taken by the Saakashvili government in 2009. According to official calculations, the Khudoni HPP will require four to five years of construction at a total projected cost of USD 780 million, for an installed capacity of 702 MW. It is expected to produce 1,445 TWh of output annually. According to Georgia's Ministry of Energy and Natural Resources, 25 percent of the work on Khudoni is already completed in the form of existing infrastructure from the 1990s.

In 2005, the World Bank approved a technical assistance grant for Khudoni, to be used for preparatory works (preliminary and feasibility studies), technical studies, an environmental impact assessment (EIA) and a Resettlement Action Plan (RAP). Nevertheless, the implementation of this project had to be delayed significantly as it failed to identify the risks stemming from the proximity of the Khudoni project to an area (i.e. Abkhazia) outside of central governmental control and a potential site of military activities. Twice, in 2006 and 2008, Russian troops appeared in the Khaishi village and occupied the area.

Overview of project impacts

The Khudoni construction will flood the village of Khaishi – the so-called "Doors of Svanetia" – which is inhabited by around 850 Svan families. However, the flooding has wider implications, as Khaishi represents an administrative centre spread out over tens of kilometres. The Khaishi sakrebulo (community) unites a number of villages and 500 families. The school, hospital and all other relevant facilities are located in Khaishi and the flooding of it will automatically lead to the desertion of neighbouring villages – Tsvirsminda, Nankbuli, Vedi, Zeda vedi, Gagma Khashi, Datari, Idliani, Lukhi, Tobari, Jorkvali and Makhani. Svans have already had to put up with the drastic impact of the Enguri HPP construction.

In total, around 2,000-2,500 people are expected to be relocated. This would cause the fragmentation of the already minority Svan ethnic group that populates the Zemo Svaneti region (comprising up to 14,000 people). The hydro cascade construction plans on the River Enguri pose serious challenges to the Svans maintaining of their existing forms of cultural expression, especially as a result of displacement in the lowlands and the disappearance of dozens of villages.

It should be stressed that for a majority of Khaishi inhabitants this would be their second forced resettlement, as a majority of them have already been resettled once during Soviet times. A majority chose to go back to their homeland after the construction was stopped. As one of the local inhabitants pointed out during a public meeting, "Those Svans that were resettled in Durnuki,[84] after five years they had aged drastically. Svans cannot live elsewhere but in Svaneti. Some who were relocated caught asthma or some other illness, and many of them returned to their original birthplace."

The people of Svaneti have voiced their objections to the Khudoni construction and their potential resettlement once again. The Khudoni dam was associated with the Soviet Union and after independence the belief grew that the dam would not be constructed, creating hope for stability. The people believe that they should remain on the land of their ancestors: "You can't find a soul who will agree to the submersion of the church and the cemetery where our children are buried. What are they going to do with the graves, will they scoop them out?" These sentiments were clearly emphasised by a majority of attendees at almost all of the organised public hearings.

People from surrounding villages and Mestia (the administrative centre of Zemo Svaneti) are also against the resettlement of Khaishi village and the flooding of the territory. Together with the loss of cultural heritage, people are concerned as a result of the experience of the Enguri Dam that has changed the micro-climate, has had negative impacts on health and agricultural practices, and also negative impacts on cultural heritage. This makes them even more strongly opposed to yet another dam in their region. They often emphasise that ever since the Enguri HPP was built, humidity has increased in surrounding areas: "Fruits have rotten and orchards been destroyed. Even apple trees do not give fruit as they used to... Damp has risen to the point where we cannot get our laundry dry and we get slush instead of regular snow".

The project will have an impact on existing and largely unstudied cultural heritage. The Zemo Svaneti is part of the UNESCO World heritage lists. While the village of Khaishi is not a part of the UNESCO protected zone, it is host to a number of middle age churches, the Khasihi Fortress and an unstudied archaeological site dating from the first century.

Khudoni construction impacts

The construction on the Khudoni site was simply halted without any site conservation. Therefore, the dam's devastating footprint on Svaneti is very apparent. Mountains have been drilled and bored. The Enguri's river bed has been changed, and networks of tunnels have accelerated moisture penetration in the mountains and their slopes; mountain erosion is becoming frequent.

The dam's foundation and tunnel network have also severely impacted the Enguri's flow. According to local populations, the placement of concrete was planned to continue along the dam's hundreds of metres to retain the river's waters. However, this never happened, and the river waters are splashing away the dam's foundation. The River Enguri is in fact disappearing under the bridge connecting Khaishi to Gagma Khaishi, caused in part by a 100 metre-deep underground tunnel that developed cracks.

The project sponsor began preparatory works (road construction etc) in autumn 2011, although it had neither environmental nor construction permits.

Environmental impact

The Khudoni HPP will intensify the devastation of forests and wildlife habitat, the loss of river species populations and the degradation of upstream catchment's areas as a result of the flooding into the reservoir area in one of Georgia's most ecologically-diverse highland regions. The upper River Enguri basin combines sub-alpine forests and meadows, rocks and alpine tundra, and is an area well known for its endemic wildlife. These species include different forest birds, a community of

Neskra river

large raptors (golden eagles, griffon vultures and lammergeyers), and other endemic birds that include the Caucasian black grouse, the Caucasian snowcock and the Caucasian chiffchaff. Mountain goats, chamois, brown bear, wolf, lynx, roe deer and wild boar are quite common.

The cumulative impact

Together with the existing Enguri Dam and the Vardnili cascade,[85] the proposed Khudoni and Nenskra dams[86] will have devastating impacts on the Enguri Gorge. The cumulative impact of the HPPs on the environment and the climate within the region, in conjunction with global climate-change processes, will accelerate the melting of glaciers and negatively affect the unique biodiversity and water quality both in Svaneti and the South Caucasus region.

For example, the proposed Nenska HPP, with installed capacity of 210 MW, includes a 140 metre high rockfill dam and a reservoir with storage capacity of 200 million m^3 at a distance of 10 km from the Tita village (Chuberi community) up to the Khaishi community on the River Nenskra. In addition, the project will involve the diversion of water from the River Nakra to the River Nenskra through an 11.8 km long diversion channel – this is to increase the capacity of the plant by an additional 90 MW.

The project will have a significant negative impact on both the Nenskra and Nakra valleys, as well as their ecosystems. Four hundred hectares of virgin forest will be cleared in the high mountains of Svaneti, totally changing the local landscape. The reservoirs of the Nenskra and Khudoni HPPs will have a cumulative impact on local climate and, therefore, on human health and agriculture practices. The melting of glaciers will be stimulated in the areas directly affected by the project (due to a 2.3˚C rise in annual average temperature within a radius of 5 km). The project also involves the disposal of 330,000 m^3 of waste rock at the valley adjacent to the project site and the clearance of vegetation from valley slopes.

Geological and seismic threats

From the beginning, the Khudoni dam and the follow up cascade in Zemo Svaneti were opposed by Georgian experts.[87] According to their analyses, the geological and seismic conditions surrounding the Zemo Khudoni area were unsuitable. Experts maintain that the Khudoni project was proposed simply to mask the initial mistakes made during planning for the Enguri HPP by the USSR Hydro Project Institute.

These experts are also concerned that flooding at Zemo Khudoni would cause breaks in the rock formations along the left side of the river bank. To mitigate the potential impacts during the construction of Khudoni, a concrete piling wall and check dam were projected and constructed. However, despite these precautionary measures, experts have predicted that the wall and check dam would be easily destroyed in the case of seismic activities, such as occurred in Spitak (Ms = 6.9) in 1989.

It should be mentioned that subsequent to this, on 29 April 1991, Georgia experienced the Racha-Dzjava earthquake (Ms = 7). This was the biggest seismic event ever recorded in the region,[88] while another strong earthquake (Ms = 6.2) hit the Oni district (in the Racha Djava region that neighbours the Svaneti region) on 8 September 2009.

Public participation

The public participation process surrounding the project has been flawed in numerous ways and for various reasons. Since 2008, a number of discussions about project scoping documents have been held, the first time under the auspices of the World Bank, the second time in 2011 by the project sponsor. However, in both cases, these public hearings were arranged merely as tick box exercises.[89]

In 2008, during the public hearings, three major alternatives were presented, agreed between technical experts and social and environmental expert groups as the basis for deeper work. However, the only alternative reviewed in any detail by the scoping report was an old project.

While the main project alternative promoted by the government and the World Bank involves significant social impacts for the population living in Khaishi and its surrounding areas, the two other alternatives avoid flooding the village. Yet the alternatives with fewer negative social impacts were barely described in the screening document, or were described in a very confusing and elaborate manner. Although during the hearings the three alternatives were presented, it appeared that the decision was made beforehand on purely financial grounds. The screening document did not provide any financial/economic evaluations of the alternatives, and it is not clear what was the basis for the old project to be chosen as the main alternative.

By 2011, the scoping report did not contain further alternatives, nor moreover did it provide any solutions for local people. The project sponsor opened the meeting with the statement that the decision had been taken and that construction of the HPP would be started in the first quarter of 2012.[90] A statement from the deputy minister of Energy and Natural resources, Mrs. Mariam Valishvili, during the public hearing in Tbilisi, took a similar approach: "Georgia will become the biggest exporter of clean energy in the region. The investment of around one billion dollars, from major investors, will turn Georgia into a country with a stable economy that is attractive for investment."[91]

A letter from the Khaishi community dated 19.12.2011 addressed the Government of Georgia, international organisations and Georgian society generally.[92] The letter, signed by almost 400 inhabitants of the village, stressed that on 4 November 4 2012 at a scoping scoping meeting the Khaishi villagers received brochures that stated that Translectrica would start work in the first quarter of 2012, in accordance with the Memorandum of Understanding signed by the company and government in December 2009. The villagers pointed out that it is "an unfortunate and unacceptable fact that during the decision-making process on the renewal of Khudoni HPP, neither the authorities nor the project sponsor had any contact with the local population, and we received information only about a final proposal."

Another trend revealing differences between the 2008 and 2011 public hearing meetings is that the local inhabitants complained about pressure from the local authorities. The local authorities attempted to pressure the people not to oppose the project in front of the project sponsors. According to the local people, "The governor communicated the warning that we should not indicate our resistance to the investors. This is why the people were so scared and avoided protesting openly."

Woman in Khaishi opposed to the construction of the Khudoni dam

Enguri resevoir

The project's development impacts

The project implementation would result in the resettlement of around 2000 people. As described above, in line with the contract the government places any responsibility with the project sponsor. The only precondition is that the project sponsor will prepare jointly with the government "a rehabilitation and resettlement action plan for local residents likely to be adversely affected or displaced due to the construction of the project on the site"(3.1 f). The Agreement requires that "principle parties shall develop and approve the resettlement action plan which shall be implemented, by the Company and/or the project Company. All associated costs related to the implementation of the resettlement action plan shall be borne by Company and/or project company.

The GOG shall assist the Company/Project Company to implement the resettlement plan upon request, in accordance with the Georgian legislation and within its competence."

Given previous negative practices of economic and physical resettlement caused by development projects in Georgia, it is expected that affected people will not receive adequate compensation, that and their living standards will be compromised.

As already mentioned above, the registration of land and the protection of private property is one of the most problematic issues all across Georgia today. According to a number of NGO reports, the obtaining and protection of ownership rights for private property in Svaneti is a considerable challenge.[93] The registration of land in ownership is hindered, mainly by artificial barriers set up by state agencies for protracting the registration process. In addition, in Svaneti there is the situation whereby land plots have never been legally registered, and for centuries the local population has owned property via inheritance and disposed land plots have been distributed (or redistributed) based on agreements between ancestors. Thus, the situation is even more problematic.

Despite assurances from the government that the project sponsor will ensure adequate compensation and resettlement, serious concerns remain. These include the existing situation (pressure from the local authorities, problems with land registration, absence of resettlement policy etc), as well as the fact that the project sponsors have still not presented a Resettlement Action Plan for discussion and public scrutiny.

Doubts about the project sponsor

The project sponsor is one of the main problematic issues running throughout this case. According to the company's website, the Khudoni project is a maiden HPP construction project for it. However, in reality, it is a first in any kind of project, as all the projects described on its website have been carried out by other companies. While some people from Transelectrica had been working in different dam construction companies,[94] the company's inexperience in managing projects, especially a highly complex project such as Khudoni, has raised increased concerns within society.

The company usually presents itself as a British-Indian company, whose shares are owned by companies experienced in hydro construction.[95] These include companies such as: World Energy Limited (UK);[96] SGGS INFRASTRUCTURE LIMITED (India);[97] Olney Assets say.[98] However, as two of these are newly established companies, it is not clear what is their experience with constructing large dams.

Another question remains over how Transelectrica LTD is supposed to fund the construction of Khudoni HPP, as its own capital is rather small for ensuring such a large scale construction.

International donors' involvement

Already in 2005, the World Bank was exhibiting enthusiasm for providing USD 50 million from its IBRD fund for the construction of the export-oriented Khudoni plant. In the Needs Assessment, a document developed under the aegis of the World Bank and the UN following the Georgia-Russia conflict in 2008, the construction of Khudoni HPP was discussed as a priority project. Throughout May 2009, the World Bank was continuing its work on the project's Environmental and Social Impact Assessment (ESIA) documents, including an SEA to determine how to rate Khudoni among the other planned hydro projects in Georgia. Ultimately the Bank did not publish the draft ESIA document until September 2011.[99] The project also appeared on the World Bank project pipeline in June 2009, although its official Country Partnership Strategy for Georgia for 2010-2013 did not even mention the Khudoni project.

It should be mentioned that in the World Bank SEA documents covering the Georgian Energy Sector's Development, and despite numerous shortcomings,[100] it is made clear that the Khudoni HPP is not a necessary project to provide energy security for Georgia.[101]

The World Bank's diminished interest for the project duly affected the Khudoni HPP project's development process. Along with other reasons, this was apparently due to the Georgian

government's promotion of other large HPP projects.

Incoherence with EU policies

The Khudoni project contradicts Directive 97/11/EC on the assessment of the effects of certain public and private projects on the environment (EIA Directive), as the decision was taken and construction (the preparatory phase) was started before the final EIA document became available. In addition, the government and the project sponsor failed to consult and inform the public concerned, and to allow a reasonable time for the public to express an opinion, while the project alternatives were not discussed in a sufficient and reasonable manner.

The construction of the Khudoni dam violates Directive 2000/60/EC establishing a framework for Community action in the field of water policy (Water Framework Directive); the directive allows for the so-called "objective derogation" of article 4(7) and allows the execution of projects such as dams, even if they modify the physical characteristics in a way that it would be impossible to ensure good groundwater status or good ecological status. However, in such cases the following conditions should be met:

- All practicable steps are taken to mitigate the adverse impact on the status of the body of water – in the case of Khudoni this has never taken place.

- The reasons for modification are overriding public interest and/or the benefits to the environment and to society of achieving the environmental objectives are outweighed by the benefits of the new modifications or alternations to Human health, to the maintenance of human safety or to Sustainable Development – the explanation provided by the Georgian government that the country should become an electricity exporter does not represent a sufficient argument to override the public interest and benefits to the environment.

- The beneficial objectives served by those modifications or alterations of the water body cannot for reasons of technical feasibility or disproportionate cost be achieved by other means, which are a significantly better environmental option – given that the Khudoni project is not the only option for the country's energy development, that it is not cost effective and that the government plans a number of other large dams, it is very difficult to justify the Khudoni construction under this condition.

- It does not permanently exclude or compromise the achievement of the environmental objectives in other bodies of water within the same river basin district and is consistent with the implementation of other community legislation – the River Enguri is already deregulated downstream, the Khudoni construction will permanently destroy the existing biodiversity within the river.

- It is guaranteed at least the same level of protection as the existing Community legislation – given that Georgia's environmental policy is far weaker than existing community legislation, the guaranteeing of the same level of protection is impossible.

Contradictions with Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment (Strategic Environmental Assessment Directive)

The Khudoni construction involves the construction of a number of upstream dams and HPPs in the River Enguri gorge. However, nothing has been done in order to ensure the preparation of an SEA study to highlight the potential cumulative impacts.

Contradictions with the Aarhus Convention

According to the Aarhus Convention, the "public concerned" must be informed at an early stage in a "suitable, timely and effective manner", whereby a certain minimum amount of information about the decision-making procedure must be provided. This has been ignored both by the government and the project sponsor.

The Aarhus Convention further stipulates that the competent authorities must grant the public access to all information of relevance for the decision-making procedure. Equally, the authorities must take due account of the outcome of public participation, and the public must be informed of the outcome of the decision without delay. None of these requirements of the Aarhus Convention has been fulfilled.

Contradictions with other international laws

The Khudoni dam project's planning and implementation contravenes the International Covenant on Economic, Social and Cultural rights. The Committee on Economic, Social and Cultural Rights has addressed the issue of human rights impacts by large infrastructure projects, including dams, in its General Comment No. 7 on the right to adequate housing and in its General Comment No. 15 on the right to water, both relating to article 11 of the Covenant on the right to an adequate standard of living.

The Special Rapporteur on adequate housing, Miloon Kothari, has established Basic Principles and Guidelines on Development-Based Evictions and Displacement, which reflect on the right to adequate housing as a component of the right to an adequate standard of living and the right to non-discrimination in this context (E.CN.4/2006/41).[102]

In addition, the process of decision-making around the Khudoni project contravenes the policy, principles and strategic priorities of the Recommendations of the World Commission on Dams and the guidelines of the International Hydropower Association (IHA) through the failure to conduct an adequate assessment of alternatives, and the failure to consult and conclude benefit sharing arrangements with affected communities.

Conclusion

The Lisbon Treaty, TEU Article 3, sets out the Union's overarching principles and aims. Article 3(5) includes the following among the objectives that the Union should contribute to in its relations with the wider world: "…the sustainable development of the Earth, solidarity and mutual respect among peoples, free and fair trade, eradication of poverty and the protection of human rights".[103]

Therefore, the EU's external actions should aim at "…fostering the sustainable economic, social and environmental development of developing countries with the aim of eradicating poverty."

There are significant contradictions between the policies and investments promoted by the EU. As it promotes respect for human rights, sustainability and environmental protection, at the same time its energy security policy promotes access to unlimited energy, at any cost. The same could be said about its investments and financial instruments. While the promotion of small scale, sustainable renewable energy represents one of the major headlines for EU financial instruments, simultaneously it works to secure and invest hundreds of millions in unsustainable large-scale energy projects, without sufficient safeguards.

Recommendations for the EU

- Strategic Environmental Impact Assessment should apply to any EU investment that could have the potential to serve as a catalysis for sector development (as is the case with the Black Sea Transmission line).
- World Commission on Dams recommendations on the development of a strategic assessment of the energy sector prior to any large hydro investments into a given country should be adopted as a methodological guidance at the EU level and be similarly required from the given partner country in the case of any large-scale power sector project.
- Given the fact that the construction of any large dam is connected with irreversible changes and risks for both the environment and society, the decision-making process should accordingly be undertaken based on full consensus among members of the society in question.
- The EU should recognise that a crucial part of the right to housing is the prohibition of forced evictions. These are defined as permanent removals of individuals, families, and/or communities from their homes and/or lands that they occupy, on either a permanent or temporary basis, without offering them appropriate measures of protection, legal or otherwise, or allowing access to these measures of protection.
- Large-scale investments that have potential to bring about forced evictions should be carried out only if the country has appropriate safeguard policies and a good track record in this regard.

Specific recommendations to address the Georgian energy sector situation

In order to ensure that the mistakes involved in the energy sector planning are taken into account, and that the process of Georgia's power sector development is sustainable, it is essential that the international financial institutions and the EU:

1. Enforce a moratorium on the funding of any large dam construction in Georgia until the strategic development plans of Georgia's power sector are developed in a participatory manner.
2. Support the development of a coherent resettlement and environmental policy that would comply with international legislation.
3. Support the Government of Georgia to carry out a genuine Strategic Environmental Impact Assessment that would: address ways to satisfy existing electricity demand in Georgia with existing potentials and alternatives; address as well as develop the most sustainable solutions for development within the sector, and; present a cost-benefit analysis of these alternatives, along with a cumulative impact assessment of the planned projects on local populations and Georgian society as a whole. The SEA should present the best scenarios not only for the development of new generation capacities or the rehabilitation of infrastructure, but include also the development of new renewable technologies, as well as energy efficiency.
4. Ensure wide and fair public participation for the revision of the SEA findings and the follow up decision-making process.

Foot notes

1 "There were reports of selective application of the law--crimes supposedly involving government officials or supporters were slowly investigated and often remained pending, while crimes allegedly involving persons or organizations linked to the opposition were investigated quickly and prosecuted to the full extent of the law. This imbalance led to allegations of impunity for government officials." http://www.state.gov/j/drl/rls/hrrpt/2010/eur/154425.htm
2 The Baku-Tbilisi-Ceyhan oil pipeline has been financed by the IFC, the EBRD, US EXIM, OPIC and a number of other bilateral institutions.
3 http://www.easternpartnership.org/publication/2011-06-21/2011-enp-progress-reports
4 http://www.state.gov/j/drl/rls/hrrpt/2010/eur/154425.htm
5 N2026 Resolution of Georgian Parliament, 28 March, 2003.
6 http://www.europarl.europa.eu/document/activities/cont/201211/20121119ATT55898/20121119ATT55898EN.pdf
7 http://www.voanews.com/content/georgia-casts-ballots-in-test-of-democracy/1517993.html
8 Ibid
9 http://www.environment-benefits.eu/pdfs/Georgia-ENPI%20Benefit%20Assess.pdf
10 http://www.iea.org/stats/balancetable.asp?COUNTRY_CODE=GE
11 http://www.envsec.org/publications/cc_report.pdf
12 http://www.eastagri.org/files/wb-land-transitioncountries.pdf
13 http://www.econstor.eu/dspace/bitstream/10419/21100/1/dp251.pdf
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36 IEA as of 2010, www.iea.org
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42 The Enguri dam became partly operational in 1978 and was completed in 1987. In spite of this, by 1994 the world's third highest arch dam was "in a rare state of dilapidation". One of the main problems often attached to huge dams – the problem of maintenance – is fully evident in the case of Enguri. In total, EUR 116 million in loans was granted by the EBRD, the European Union, the Japanese Government, KfW and the Government of Georgia. In 2011 the European Investment Bank (EIB) loaned EUR 20 million in order to complete the rehabilitation of the Enguri HPP and to ensure safe water evacuation towards the Black Sea at the Vardnili hydropower cascade.
43 A joint needs assessment authored by the World Bank measured the devastating social and economic impact of Russia's invasion of Georgia. The assessment noted that at least USD 3.25 billion in international aid was needed to restore Georgia to its pre-conflict growth rate. The assessment formed the basis for the October 22, 2008 donors' conference held in Brussels under the auspices of the EU and the World Bank, at which over 50 countries and institutions pledged USD 4.5 billion to Georgia.
44 The European Commission, with the support of some member states,is now seeking to build the ambitious and expensive Nabucco projectthat proposes to deliver gas from Turkmenistan and Azerbaijan (if built,potentially even from Iraq and Iran) via a 3,000 kilometre pipeline stretching from a hub in Turkey, bypassing Russia, through Bulgaria, Romania and Hungary into Austria
45 The White Stream project was conceived in 2005 and is a key component of the EU Southern Energy Corridor to transport gas from Azerbaijan and other countries in the Caspian region via Georgia directly to countries on the western side of the Black Sea (Romania, Ukraine) and onwards to markets in central and eastern Europe. The pipelines will cross the Black Sea at depths in excess of 2,000 metres, using advanced proven technology. http://www.gueu-whitestream.com/main.php?id=1
46 http://www.eu-energy.com/fs-import-final.pdf
47 Ibid
48 Ibid
49 Ibid
50 http://www.africa-eu-partnership.org/successstories/desertec-%E2%80%93-tapping-solar-power-potential-sahara
51 http://www.thecornerhouse.org.uk/resource/energy-security-whom-what
52 http://eeas.europa.eu/eastern/platforms/index_en.htm
53 http://ec.europa.eu/energy/international/eastern_partnership/doc/approved_work_programme_2012-2013.pdf
54 Regional Power Transmission Enhancement Project, Georgia, www.adb.org
55 Policy Brief, Georgian Energy Sector development prospect http://www.greenalt.org/webmill/data/file/publications/policy_breif_energy_policy_ENG.pdf
56 http://www.greenalt.org/webmill/data/file/Progress_in_Implementation_of_Certain_Areas_of_ENP.pdf
57 A list of current investment projects and a list of potential projects can be seen at the Ministry of Energy and Natural Resources' website: http://www.menr.gov.ge/4473
58 http://bankwatch.org/publications/tbilisi-railway-bypass-project-ebrd-agm-issue-paper
59 Agreement Between Goverment of Georgia, Trans Electrica Limited (BVI), Trans Electrica Georgia, Energy Trans LTD, and Electricity System Commersial Operator LTD, 28 April, 2011 http://www.greenalt.org/webmill/data/file/agreement.pdf
60 See: http://csrdg.ge/index.php?module=text&link_id=149&lang= geo&lang=geo
61 http://www.enpi-info.eu/files/features/FT28%20east%20Georgia%20EN.pdf
62 Ibid
63 ibid
64 In 2011, the title of Georgian ministries was changed, and since then there has been the Ministry of Energy and Natural Resources, and the Ministry of Environmental protection.
65 http://www.resonancedaily.com/index.php?id_rub=3&id_artc=345
66 Association Green Alternative comments on the Black Sea Transmission System Project: http://ebookbrowse.com/spp-english-6-black-sea-regional-transmission-system-planning-project-ep-rus-ppt-d263888927
http://www.greenalt.org/webmill/data/file/comments_GA_BSETP.pdf

67 http://www.adb.org/Projects/project.asp?id=44183
68 http://ec.europa.eu/europeaid/multimedia/publications/documents/thematic/europeaid-environmental-handbook_en.pdf
69 The memorandum of understanding was changed in 2009. This is the major agreement between the Georgian government and project sponsors, for HPPs less than 100 MW.
70 On May 16 2011, the project sponsors and consultants arranged a roundtable on the Paravani HPP and clarified that they calculated the sanitary flow based on the Tennant (Montana) method widely used in 16 states in the USA. Subsequently, 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." However it is notable that, according to the Tennant method, the minimum level of residual water flow chosen in the project (10%) is 'fair or degrading' for fish species in the river, which is likely to be insufficient to guarantee the maintenance of the biodiversity of the river. According to a range of scientific opinion, the Tennant method is a simple "rule-of-thumb" method setting the correlation between minimum water discharge and fish habitats, wildlife and recreation. Thus it is highly recommended that the "Tennant method be used only for initial planning flow recommendations without serious validation within the region of use" (CEE Bankwatch Project brief).
71 EBRD letter to Green Alternative
72 http://www.cms.int/species/aewa/aew_bkrd.htm
73 http://www.birdlife.org/flyways/africa_eurasia/index.html Over 40 percent of long-distance migrants in the African-Eurasian flyway have shown signs of decline over the last three decades. Of these, 10 percent are classified by BirdLife as Globally Threatened or Near Threatened on the IUCN Red List. Many of these birds are continuing to disappear.
74 Performance Review 6, EBRD Environmental and Social policy (2009)
75 Response letter from EBRD management team.
76 http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2000:327:0001:0072:EN:PDF
77 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.
78 International Rivers: "Protecting Rivers and Rights", The World Commission on Dams Recommendations in Action; Page 15; July, 2010.
79 Svaneti is one of the most beautiful and picturesque alpine regions of Georgia, situated on the southern slope of the main Caucasian range. The Greek geographer Strabo (end of 1st century B.C.) described the Svans as a fierce, warlike mountain people, ruled by a king and a council of 300 elders and capable of fielding an army of 200,000. Svans History and Cultural Relations, http://www.everyculture.com/Russia-EurasiaChina/Svans-History-and-Cultural-Relations
80 An autonomous republic of northwest Georgia bordering on Russia and the Black Sea. Abkhazia considers itself an independent state, called the Republic of Abkhazia. The status of Abkhazia is a central issue of the Georgian-Abkhazian conflict. The wider region formed part of the Soviet Union until 1991. As the Soviet Union began to disintegrate towards the end of the 1980s, ethnic tensions grew between Abkhaz and Georgians over Georgia's moves towards independence. This led to the 1992–1993 War in Abkhazia that resulted in a Georgian military defeat, de facto independence of Abkhazia and the mass exodus and ethnic cleansing of the Georgian population from Abkhazia. In spite of the 1994 ceasefire agreement and years of negotiations, the status dispute has not been resolved, and despite the long-term presence of a United Nations monitoring force and a Russian-dominated Commonwealth of Independent States (CIS) peacekeeping operation, the conflict has flared up on several occasions. In August 2008, the sides again fought during the South Ossetia War, which was followed by the formal recognition of Abkhazia by Russia, the annulment of the 1994 ceasefire agreement and the termination of the UN and CIS missions.
81 The Government of Georgia signed a contract with the company Trans Electricato for the construction of the 700 MW Khudoni power plant on April 28, 2011 in Vienna, Austria. Trans Electrica LTD (India) was registered by the registrar of Corporate Affairs (BVI) on January 14, 2010, as a result of a change in the name of Continental Energy International limited, with whom the Ministry of Energy and Natural Resources of Georgia had signed a memorandum of understanding on June 29, 2007. The changes in MOU were incorporated onDecember 21, 2009.

82 “Khudoni HPP was constructed to hide past mistakes”, Akhali Versia, 21-23 July, 2006. Khudoni HPP on Enguri River, Project documentation , 1992, research Institute “HydoProject”
83 On April 23, 2012, President Saakashvili participated in the opening ceremony of the Nenskra project – this was despite the fact that the project had not been granted either environmental consent or construction permit. Thus, the President of Georgia took part in a ceremony marking illegal construction. With such action, the president was exerting pressure on the permitting authorities; he was also neglecting the due concern of the Georgian population regarding the construction of the large dam, see: http://greenalt.org/index_next.php?filename=en_23_04_2012_02_18_55.new&pathm=webmill/data/news//&lng=en_&more=1&c=&page=ue
84 The village of Durnuki, located in Tetritskaro municipality, Kvemo Kartli region, Georgia.
85 Downstream of the Khudoni HPP.
86 http://www.zoominfo.com/#!search/profile/person?personId=1345089240&targetid=profile
87 http://www.open.ge/index.php?m=94&y=2002&art=12023
88 Seismic source study of the Racha-Dzhava (Georgia) Earthquake from aftershocks and broad-band teleseismic body-wave-records: an example of active nappe tectonics, H.Fuenzalida et al. 1997, RAS, GJI, 130, 29-46. Approximately 200 people died and roughly 100,000 people lost their homes as a result of this earthquake. Around 46,000 houses and 1000 enterprises and other facilities were destroyed and damaged.
89 See the CEE Bankwatch Network/Green Alternative report Risky deal, Risky Business – Khudoni Dam, describing the public participation process in 2008 (bankwatch.org/documents/risky_deal_risky_business.pdf), as well as the comments of association Green Alternative on the Khudoni Scoping report, also addressing public hearings-related issues: http://www.greenalt.org/webmill/data/file/GA-BWN_positioncomments_KhudoniHPP_SCOPING_FINAL_GEO.pdf
90 http://liberali.ge/amjerad-khudonhesi-namdvilad-ash
91 http://www.radiotavisupleba.ge/content/article/24387714.html
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93 http://www.greenalt.org/webmill/data/file/publications/Report_Mestia_ENG.pdf
94 Rampur project, Project Information Document (PID) concept stage, August 16, 2005, World Bank http ://www.internationalrivers.org/files/IndiaBackground5.pdf
95 http://transelectrica.com/main_stakeholders.htm
96 http://www.companies-uk.co.uk/world-energy-limited-07297103
97 https://www.jerseyfsc.org/registry/documentsearch/NameDetail.aspx?id=281565
98 Company name is not found through different registries.
99 After environmental groups persistent request the English version of the documents becomes available on the World bank site.
100 http://bankwatch.org/documents/Khudoni_EIA_SEA_ind_panel_review.pdf
101 http://www.greenalt.org/webmill/data/file/SEA.pdf
102 http://www.hic-sarp.org/documents/Handbook%20on%20UN%20Guidelines_2011.pdf
103 http://www.clientearth.org/reports/environmental-justice-development-cooperation-briefing-may-2010.pdf

"There are significant contradictions between the policies and investments promoted by the EU in Georgia. While it promotes respect for human rights, sustainability and environmental protection, at the same time its energy security policy promotes access to unlimited energy at any cost."

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