## PRC'S CONTRACTORS' ENVIRONMENTAL

# SHORTCOMINGS

## **ON GEORGIAN HIGHWAYS**

SAMTREDIA-GRIGOLETI SECTION Contractor: CHINA RAILWAY 23RD BUREAU (4th Lot), SINOHYDRO LIMITED (Lot 2) Budget: 113 million GEL (for Lot 4), 254 million GEL

BISA-SHORAPANI SECTION Contractor: CHINA ROAD AND BRIDGE CORPORATION Budget: 901,973,206.57 GEL

CHUMATELETI-KHEVI SECTION Contractor: CHINA STATE CONSTRUCTION ENGINEERING CORPORATION LIMITE Budget: **300 MILLION GEL**  KVESHETI-KOBI ROAD PROJECT Contractor: RAILWAY TUNNEL GROUP CO. LTD. (Lot 1), CHINA RAILWAY 23RD BUREAU GROUP CO. LTI (Lot 2) Budget: **1.2 billion GEL** 

SHORAPANI-ARGVETA SECTION Contractor: GUIZHOU HIGHWAY ENGINEERING GROUP CO. LTD nd CHINA NATIONAL TECHNICAL IMPORT & EXPORT CORPORATION

Budget: 582,777,310.00 GEL

KOBULETI BYPASS ROAD Contractor: SINOHYDRO LIMITED Budget: USD 130 million KHEVI-UBISA SECTION Contractor: HUNAN ROAD AND BRIDGE CONSTRUCTIO Budget: **732 296 478 GEL** 

> BAKURTSIKHE-TSNORI BYPASS ROAD Contractor: CHINA ROAD AND BRIDGE CORPORATION Budget: **87.8 million GEL**

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The views and opinions expressed in this report are those of the authors and do not necessarily reflect the views or positions of any entities supporting activities of the Civic IDEA.

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## INTRODUCTION

Since 2018, for the past six years, Civic IDEA has been monitoring PRC state-owned and controlled companies operating within Georgia's infrastructure sector, focusing on critical projects such as highways, tunnels, and bridges. In this report, we provide comprehensive research on the environmental impacts of these projects, funded by international financial institutions (IFIs) and executed by contractors from the People's Republic of China. The study offers an overview of the environmental management practices employed and evaluates their compliance, or absence of those, with international standards.

To fully understand the issues discussed later in the report, it is crucial to examine the legal framework governing environmental protection in Georgia. Article 29 of the Georgian Constitution states:

#### Article 29 – Right to environmental protection

1. Everyone has the right to live in a healthy environment and enjoy the natural environment and public space.

*Everyone has the right to receive full information about the state of the environment in a timely manner.* 

*Everyone has the right to care for the protection of the environment. The right to participate in the adoption of decisions related to the environment shall be ensured by law.* 

2. Environmental protection and the rational use of natural resources shall be ensured by law, taking into account the interests of current and future generations.

The Georgian Law on Environmental Protection delves deeper into this constitutional right, offering detailed regulations through its general principles:

**Principle of risk reduction** – the activities must be planned and implemented with measures to prevent or reduce harmful effects on the environment and human health.

**Principle of Sustainability** – Environmental resources must be used without compromising societal development and protecting these resources from irreversible damage.

**Principle of Priority** – The government must advocate for choosing less risky actions, even if they are more costly, as long as their expense does not exceed the damages of riskier alternatives.

The rights guaranteed to citizens under Article 6 of the Environmental Protection Law uphold these principles. It empowers them to live in a safe and healthy environment, enjoy natural surroundings, receive comprehensive, timely information about the environment and legally challenge decisions regarding the development of ecologically hazardous facilities. Article 10 of the same law underscores the Government's obligation to ensure these rights. It highlights the significance of scientific research in shaping state policies and ensuring compliance with environmental laws. Moreover, Article 27<sup>1</sup> stipulates establishing a center that must focus on collecting and disseminating environmental information to the public.

Despite these extensive legal requirements, the Georgian government often limits its environmental monitoring to projects where it is required by financial institutions. Informative reports about the country's geological state created by the Environmental State Agency do not delve into the leading causes of the mentioned environmental issues. As a result, public institutions provide limited information on these subjects, not necessarily due to a lack of intent to share the information but due to insufficient research, monitoring, and measures that are direct legal obligations.

In our research, each project was scrutinized for its environmental oversight, impact on local ecosystems, and effects on surrounding communities. The analyzed projects include

- Kobuleti Bypass Road,
- Samtredia-Grigoleti Section,
- Chumateleti-Khevi Section,
- Khevi-Ubisa Section,
- Ubisa-Shorapani Section,
- Shorapani-Argveta Section,
- Kvesheti-Kobi Road,
- Bakurtsikhe-Tsnori Bypass Road

Our sources encompassed a wide array of materials, including media articles, monitoring reports from international financial institutions (IFIs) when available, and fieldwork findings from Civic IDEA and Green Alternative. Additionally, we reviewed various publicly accessible statements and documents that monitor and assess the environmental conditions of these projects. The inclusion of such a diverse range of data sources enabled us to develop a more nuanced perspective on environmental compliance and the challenges faced by each project. This multi-faceted approach ensured that our analysis was thorough and provided an in-depth understanding of the green practices, or lack thereof, in these critical infrastructure projects.

Through this study, we aim to shed light on the critical need for improved green management and accountability in the infrastructure sector, stressing the importance of proactive measures, rigorous standards, and the selection of environmentally responsible contractors.

#### KOBULETI BYPASS ROAD

(E70 Highway Route)

Road Length: **18.9 km** Contractor: <u>Sinohydro Limited</u> Number of Lots: **2 (Lot 1: Choloki-Sarpi road with Chakvi-Makhinjauri road integration;** Lot 2: Kobuleti Bypass Road) Funding: Asian Development Bank Budget: <u>USD 130 million</u> Duration: **2013 - 2018** 



The project is part of the E70 Highway, passing through the seaside cities of Adjara. Apart from the <u>dispute</u> between the contracting parties that led to a lawsuit, the Kobuleti Bypass Road construction also faced significant challenges regarding environmental assessment. The environmental monitoring reports (2014-2020) conducted by the Georgian Road Department in obligation to the Asian Development Bank provided the following insights on this subject:

#### **Management of Water Resources**

In <u>2014</u>, the campsites suffered from poor hygiene, including blocked drainage channels and the presence of coliform bacteria in drinking water. This was due to poor waste management practices, garbage and construction waste were scattered around the territory.

In <u>2015</u>, the coliform bacteria was still in the potable water indicating potential contamination, leading to recommendations from monitoring report authors for washing and chlorinating water tanks weekly.

In 2016, concerns about waste management were remaining. There were hazardous materials around the surface of water bodies and campsites, especially near several bridges. The issues involved soil erosion, siltation, discharge from construction sites, and building processes that directly affected water bodies. Even with suggestions for quarterly oversight from monitoring experts, these issues persisted throughout 2017. By the end of 2017, these problems had not diminished, and waste management and hazardous materials near bodies of water were still poorly managed, endangering aquatic ecosystems and water quality.

In <u>2020</u>, similar waste management practices were emphasized, including regular removal and proper storage of waste materials to prevent environmental contamination and maintain hygiene in construction sites and campsites. The monitoring of hazardous materials and regular cleaning of spills remained a priority to prevent water contamination.

#### **Management of Drainage**

The <u>2016</u> ADB report showed that excavation, earthworks, and new road cuts were the leading causes of intense erosion and sedimentation. Water ponding was also identified as a severe

problem. The <u>2017</u> reports reveal that erosion and sedimentation remained a concern, even though these problems were meant to be checked monthly. This suggests that adequate drainage management techniques were not fully implemented.

#### **Management of Soil Quality**

In <u>2014</u>, proper storage and timely disposal of hazardous materials like waste oil were emphasized, including the closure of oil drums and cleaning of oil spills to prevent soil contamination.

In <u>2016</u>, there was still much criticism regarding the storage of hazardous and toxic substances as well as earth filling with borrowed material. Every month, the entire road section needed to be monitored for these problems. Such concerns remained in <u>2017</u> as well due to the persistent misuse of borrowed materials and the storage of dangerous chemicals. The lack of effective soil quality management measures resulted in ongoing contamination risks.

#### **Topsoil Management**

Since 2016, a monthly monitoring program was intended to oversee the clearing, storing, and subsequent use of topsoil along the entire road section. However, by 2017, issues with topsoil management remained unresolved. As a result of the urgent but unmet need for appropriate topsoil management and gully slope mitigation strategies, environmental deterioration continued to develop.

Poor soil management might have been the catalyst for the damage to residential houses in the village of Salibauri in Adjara. This issue even led the local population to <u>protest</u> against road construction.

<u>Protests</u> against the project also took place in Makhinjauri, where residents said that inappropriate bypass road construction had changed the riverbed and caused cracks in residential buildings. Due to this modification, homestead plots flooded whenever it rained.



Protests in Makhinjauri; Photo Source: Mtavari Arkhi

#### **Development and Operation of Borrow Areas**

The deterioration of borrow areas in 2016 demanded regular monitoring, especially at the quarries in Zeda Sameba and Shuagele. Plans for re-cultivation were still functioning, but the 2017 reports showed that these regions had not stopped deteriorating. The lack of comprehensive and timely rehabilitation actions highlighted a failure to fully address the environmental impacts caused by quarry operations.

#### Management of Air Quality

In 2016, air quality issues were identified due to construction-related machinery and car traffic. Hence, monthly monitoring was recommended. Despite that, these concerns persisted in 2017, too, as seen by the July–December report, which showed continuous difficulties in controlling the levels of dust (PM), CO, and NO2. Regular monitoring and data submission were stressed, but only insufficient efforts and partial compliance prevailed.

#### **Noise and Vibration Management**

Due to construction traffic and machinery, noise pollution was one of the crucial challenges in <u>2016</u>. Therefore, monthly monitoring was recommended. However, these issues persisted into <u>2017</u>, with noise levels exceeding acceptable limits. Inadequate monitoring efforts suggested that noise and vibration management violations were not completely resolved.

#### **Management of Construction Camp**

Regarding construction camp management, in 2014, campsites suffered from poor hygiene, including blocked drainage channels and the presence of coliform bacteria in drinking water. In 2015, issues with overflowing garbage containers and improper storage of construction scrap material were noted, necessitating regular waste removal. In 2016, issues with improper siting, waste disposal, fuel supplies, and site restoration were brought to light. According to the reports from 2017, the project still faced non-compliance in this area. Accumulated waste, oil contamination, and scattered oil filters at campsites were clear evidence of that. Despite some corrective measures, many issues remained unresolved, posing environmental hazards.

#### **Legislative Violations**

The <u>2017</u> reports indicated that the contractor had violated regulations requiring reporting necessary data to authorities. The continuation of these breaches suggested a lack of thorough compliance with environmental standards, even when certain subjects were addressed. The persistent non-compliance highlights the necessity for stricter enforcement and accountability measures.

In conclusion, 2014-2020 reports reveal many unsolved breaches in several categories, such as water resources management, drainage, soil quality, topsoil management, borrow area development, air quality, noise, and construction camp conditions. Despite some corrective actions, many environmental issues remained unaddressed, posing significant environmental risks. Hence, there is a need for more rigorous enforcement, sustained efforts, and comprehensive compliance in this area. It is important to note that environmental monitoring reports were created under the obligation of the ADB. After the project was completed, such measures from the government, more specifically the Georgian Road Department, were not implemented despite the persistence of numerous ecological issues.

## SAMTREDIA-GRIGOLETI SECTION

(E70 Highway Route)

Road Length: 9.5-kilometer, 4-lane asphalt concrete road Contractor: China Railway 23rd Bureau (4th Lot), Sinohydro Limited (Lot 2) Number of Lots: two Lots - Lot 4, Lot 2 Funding: European Investment Bank Budget: <u>113 million GEL</u> (for Lot 4), <u>254 million GEL</u> (for Lot 2) Duration: 2014-ongoing



Two segments of the Samtredia-Grigoleti Section are particularly relevant to our research regarding the impact of PRC-connected construction companies on the environment in Georgia. The first is the 4th Lot, funded by the European Investment Bank and awarded to <u>China Railway</u> <u>23rd Bureau</u>. This <u>project</u> involved the construction of a 4-lane asphalt concrete road that also included 2 road conductors, 1 transport hub, and 42 reinforced concrete underground exits and water pipes.

Although an environmental monitoring report for this project is not available, unlike those for projects funded by the Asian Development Bank (ADB), it is notable that there have been protests against this company in other parts of Georgia. According to the <u>media</u>, residents of Khada fear that the 22-kilometer road, with its 6 bridges and 5 tunnels, will harm the natural environment and historical monuments of the Khada valley. This suggests there might be issues not only related to contractual <u>disputes</u> between the parties but also regarding the environmental assessment of the project.

The second relevant section is Lot 2, also financed by the European Investment Bank and awarded to <u>Sinohydro Limited</u>. This project is still ongoing, and there are significant <u>concerns</u> regarding the completion deadline. We have already mentioned this company's environmental practices when it came to Kobuleti Bypass Road, and even though there is no detailed monitoring report in this section, it is worth noting that the Young Barristers <u>report</u> regarding Sinohydro highlights the environmental violations in all its projects.

Unlike the projects funded by the Asian Development Bank, the lack of relevant information on the following projects is because the state is not directly obligated to create environmental monitoring reports for construction works funded by the European Investment Bank.<sup>1</sup> Consequently, no official document has been created or obtained for this section. Therefore, we must rely on data published by the media or other organizations. Despite the lack of obligation under the international agreement, it should be noted that the state is typically required to undertake similar environmental monitoring efforts in the Samtredia-Grigoleti section, as stipulated by Article 10 of the Law on Environmental Protection.

<sup>&</sup>lt;sup>1</sup> The Roads Department's response to our letter.

## CHUMATELETI-KHEVI SECTION

(E60 Highway Route)

Road Length: **11.7 km 4-lane cement concrete road** Structure: **17 bridges, 3 tunnels** Contractor: **China State Construction Engineering Corporation Limited** Funding: **European Investment Bank** Budget: **300 million GEL** Duration: **2019-ongoing** 



Chumateleti-Khevi is one of the sections of the E60 Highway. Its construction began in 2019 and was initially expected to be completed in <u>3 years</u>. However, the project is still ongoing<sup>2</sup> and faces numerous environmental and safety challenges.

#### Water Coverage and Tunnel Deviation

Significant construction-related alterations had occurred by the middle of 2023, most notably an <u>18-meter</u> deviation in a 300-meter tunnel. Additionally, the footage uploaded by locals revealed that sections of the newly constructed highway are submerged in water, presenting major safety risks.



#### Landslide and Rock-Avalanche Risks

The eastern part of the Rikoti tunnel is especially prone to rock and landslides. The 2023 report <u>issued</u> by the National Environment Agency emphasized how the Rikoti tunnel bypass road experienced occasional reactivation of landslide-gravitational processes, requiring repeated road

<sup>&</sup>lt;sup>2</sup> See the interactive map of Road's Department of Georgia on their official website: <u>http://www.georoad.ge/?lang=eng&act=news&func=menu&uid=1566373891</u>

clearances. It is important to note that while the agency's document addresses various environmental problems and future risks across the country, the public institution itself indicates that there has been no separate investigation into the causes, or the research on these issues doesn't exist. According to the public institution, the Government should hire the experienced, private company separately for these activities. However, for now, it hasn't been done which is also a clear violation of the Constitution and Environmental Protection Law. Moreover, significant risk factors persist from the unnamed mudslide that caused <u>human casualties in 2011</u>. The issue remains due to the large amount of debris and fallen trees in the ravine, which could trigger another extreme event if displaced.

#### **River Bed Narrowing and Waste Rock Dumps**

Locals from Khevi village have reported a significant narrowing of the <u>Ricotula</u> riverbed, which they fear raises the risk of landslides and floods. Safety problems also arose from placing <u>waste</u> <u>rock dumps</u> in dry gullies during construction. These dumps directly endanger the safety of the locals, especially the kindergarten and school, because they are located on slopes with views of the village, highway, and river.

#### **Flooding Hazards**

The community's dread of flooding has increased due to the narrowing of the riverbed and placement of waste dumps, especially considering the area's history of major rainfall floods. This risk is also increased by the absence of dams along the river and the contractor's reluctance to incorporate such safety precautions into the project.

#### **Pollution of the Air and Water**

There have been reports of severe air pollution during construction, and the dust levels have bothered people daily. Furthermore, the springs on the right side of the road have dried up, depriving essential facilities like the nearby school of water.

#### **Risk of Landslides and Logging**

Construction-related deforestation has resulted in higher winds, more mountain cracks, and a higher danger of landslides. Because of the unstable slopes caused by the removal of the trees, the area is now more vulnerable to natural disasters.

In November 2018, the Georgian Minister of Environment Protection and Agriculture issued an environmental decision for the project. This decision required the project to comply with conditions set by the Ministry, including agreements with the National Environmental Agency, before any changes in operating conditions were made. However, screening decisions claimed that project changes did not significantly impact the environment, negating the need for a full Environmental Impact Assessment (EIA).

In conclusion, constructing the Chumateleti-Khevi section of the E60 highway has led to substantial environmental degradation and safety risks. The project has altered the riverbed, raised the risk of flooding and landslides, contaminated the air and water, and severely disrupted the surrounding communities. The absence of proper execution and oversight of environmental protection standards negatively impacts the region's ecosystem and population. Implementing formal requirements is still insufficient.

## **KHEVI-UBISA SECTION**

(E60 Highway Route)

Road Length: 12.2 km – 4 lane cement concrete road Structure: 36 bridges, 20 tunnels Contractor: Hunan Road and Bridge Construction Funding: Asian Development Bank Budget: 732 296 478 GEL Duration: 2019-ongoing



The duration of this project was <u>3 years</u>, (started in 2019). However, the construction is still ongoing. In addition to breaching the terms of the agreement (the deadline for the contract), the project is also <u>encountering</u> numerous environmental challenges:

#### **Issues related to Soil**

The Khevi-Ubisa project had serious soil management problems in <u>2020</u>. The main issues were inappropriate handling of excavated spoil and soil erosion. Erosion resulted from soil destabilization caused by construction activities, especially excavation and earthmoving. These issues have been rendered worse by the lack of appropriate erosion control techniques, like retaining walls or vegetation cover. Furthermore, the placement of spoil in locations that weren't designated caused damage to the surrounding terrain and increased the risk of landslides, particularly after intense rains.

By 2021, the project team began to implement measures to mitigate soil-related issues. Efforts included improving the management of spoil by designating specific disposal sites and implementing soil stabilization techniques. Regardless of these efforts, problems remained because incomplete or insufficient preventive measures caused some places to continue experiencing erosion. The project team concentrated on using plants to stop additional erosion and strengthen slopes. Training sessions were held to instruct laborers on appropriate techniques for managing soil.

In 2022, the project continued to address soil problems with more effective measures. Erosion control techniques were enhanced, including the use of geo-textiles and terracing to stabilize vulnerable areas. The project team worked closely with environmental experts to develop a comprehensive soil management plan, which included monitoring soil conditions and adjusting strategies as needed. These efforts significantly reduced the incidence of soil erosion and improved the overall stability of construction sites, however, the challenges are remaining.

#### Water Pollution

In 2020, inappropriate building material dumping and discharge from construction sites into nearby water bodies became a serious environmental threat. Concerns have been raised over the possible effects on aquatic ecosystems and community water sources due to the contamination of neighboring rivers and streams by chemicals and sediments from the construction area. These problems were exacerbated by inadequate wastewater management techniques and containment measures.

The project team worked to lower pollutants and enhance water management in <u>2021</u>. Measures taken to intercept runoff before it reached aquatic bodies included erecting silt barriers and sedimentation tanks. The efficacy of these interventions was evaluated by the implementation of routine water quality monitoring. Nonetheless, certain instances of pollution continued since it was difficult to completely control construction runoff and guarantee that wastewater management procedures were followed.

By 2022, concerns about water pollution were significantly improved. A thorough water management plan, including regular maintenance and monitoring of pollution control facilities, was put into action by the project. Water bodies were less likely to become contaminated as a result of better waste disposal procedures. However, ecological challenges still require supervision.

#### **Dust and Air Pollution**

The Khevi-Ubisa project experienced problems with air quality in 2020, mostly as a result of dust generated during construction. The air quality was affected and local inhabitants' health was put at risk by elevated dust levels brought on by the usage of heavy machinery and traffic on unpaved roads. The problem was made worse by the absence of suitable dust suppression techniques, such as water spraying and covering materials.

In 2021, steps were taken to enhance the quality of the air, such as using dust suppressants and water spraying more often on dusty surfaces. To monitor dust levels and make sure that environmental regulations are being followed, air quality monitoring stations were established. However, some locations continued to have problems with air quality despite these efforts, thus mitigation measures had to be modified and ongoing monitoring was required.

The project had significantly improved dust control and air quality management by 2022. To reduce the amount of dust in the air, sophisticated dust suppression methods were used, including misting systems and dust barriers. The project team collaborated closely with environmental consultants to create a thorough plan for managing air quality, complete with real-time monitoring and adaptable measures in response to weather and building activity. The community's complaints decreased and the quality of the air was clearly improved as a result of these measures. However, the increase in the efficiency of the relevant mechanisms does not

exclude the need for constant supervision, so that the remaining small risks do not take on a much more dangerous appearance for the population and do not harm their health.

#### **Waste Management**

Waste management was a major problem in <u>2020</u> since the project found it difficult to appropriately handle and get rid of construction waste. Construction sites became ugly and exposed the environment to risks due to improper disposal of solid and liquid waste materials. Not all hazardous materials, like chemicals and oils, were handled in compliance with environmental laws.

In 2021, the project team worked to enhance waste management procedures. Improved waste segregation, more garbage cans, and more frequent waste collection and disposal were among those efforts. To teach employees the correct ways to handle waste, training sessions were held. Even with these advancements, there were still difficulties in guaranteeing uniform adherence to waste management procedures throughout all project areas.

Waste management procedures had greatly improved by 2022. A thorough waste management strategy was put into place as part of the project, and frequent audits and inspections were conducted to make sure environmental regulations were being followed. The project team worked with local waste management authorities to guarantee proper disposal of hazardous materials, and recycling and waste reduction efforts were adopted. Reduced environmental effects and a more sustainable approach to waste management were the outcomes of these initiatives. However, it has to be mentioned that waste management issues remained for several years, which means that even with the improvement, there are still risks to the construction sites, hence the Government shouldn't stop taking the appropriate measures to protect ecology.

The recurring environmental violations in the Khevi-Ubisa section highlight a critical need for improved environmental management practices, similar to those that were implemented in 2022. It doesn't mean there is no necessity for improvement, especially when it comes to the prevention of these ecological catastrophes. To tackle these problems, strict oversight, frequent employee training, and adopting efficient waste management procedures are essential.

## **UBISA-SHORAPANI SECTION**

(E60 Highway Route)

Road Length: **13 km – 4 lane cement concrete road** Structure: **27 bridges, 18 tunnels** Contractor: **China Road and Bridge Corporation** Funding: **European Investment Bank** Budget: **901,973,206.57 GEL** Duration: **2018-ongoing** 



According to the agreement between the parties, this project is overdue. It was supposed to be completed by 2021. In addition to the violation of the obligations provided for in the contract, there are a number of construction infringements that have a negative impact on the surrounding area and population.

#### **Geological and Seismic Issues**

In 2019, before the pandemic, a group of Turkish geotechnical engineers raised alarms about the geological and seismic risks in the area. They reported that the PRC-connected company handling the construction lacked an adequate understanding of the geological complexities. A significant seismic fault in the region was not thoroughly studied, and construction quality control was insufficient. Residents were affected by construction activities, with some reporting damage to their homes due to explosions used during the project. The engineers emphasized that ignorance and inadequate preparation were the primary causes of these problems.



#### **Landslide Incidents**

In March, a significant landslide happened when a section of a temporarily paved concrete surface fell in a landslide-prone location. A geologist, Professor Archil Maghalashvili of Ilia University, had <u>expressed</u> concern in a 2019 study about the insufficient steps being taken, arguing that they could result in similar catastrophes. Maghalashvili stressed that using the conventional method would not ensure safety and suggested further research and revising the project design.

#### **Complicated Geological Topography**

The Ricoti Pass, where the highway section is being built, has complicated geological structures and fractured topography. Archil Maghalashvili <u>claims</u> that the region comprises current soils and old, worn-out rocks in a quasi-equilibrium state, rendering it vulnerable to disruptions from heavy rains and technological advancements. He emphasized that thorough research and excellent work are essential to reducing risks.

#### **Environmental Pollution**

There have been <u>reports</u> of pollution in the Dzirula River, allegedly linked to a concrete factory operating in the area. The Ministry of Environment Protection and Agriculture initiated an investigation, taking water and fish samples for analysis.

In conclusion, the Ubisa-Shorapani project faces significant challenges due to geological complexities and environmental concerns. Addressing these issues requires meticulous planning, thorough geological studies, and adherence to high construction standards.

The lack of information still stems from the fact that the project is financed by European Investments and not by the Asian Development Bank. However, we would like to emphasize again that the state is not exempted from the obligation of monitoring, since there are provisions in the Constitution and as well as specifically, in environmental legislation.

#### SHORAPANI-ARGVETA SECTION

(E60 Highway Route)

Road Length: 14.7 km – 4 lane highway with concrete pavement Structure: 14 bridges, 12 tunnels Contractor: Guizhou Highway Engineering Group Co. Ltd and China National Technical Import & Export Corporation Funding: Asian Development Bank Budget: 582,777,310.00 GEL Duration: 2020 - Ongoing



The construction contract for the Shorapani-Argveta section of the E60 highway route <u>has</u> <u>been awarded</u> to the joint venture of two Chinese companies, Guizhou Highway Engineering Group Co. Ltd and China National Technical Import & Export Corporation, in 2020. The completion date for the project was December 2022, but the work is still ongoing.

It's important to note that, alongside many other errors, this project also faces significant environmental challenges.

Early in 2020, a number of environmental problems were discovered during the construction of the E60 highway's Shorapani-Argveta section. The absence of proper preventative measures was brought to light in the monitoring reports, particularly regarding waste management, soil erosion control, and the effects on the local flora and wildlife. Concerns about the possible pollution of nearby water sources as a result of runoff and poor waste disposal procedures at construction camps intensified as construction activities increased. The establishment of mechanisms to monitor and address these problems was the main goal of the early environmental management initiatives.

By <u>2021</u>, the ecological situation in this territory had become even more complex. The violations related to health, safety and the environment significantly increased, that was caused by construction activities. Environmental specialists regularly audited the site and found problems like improper handling of hazardous waste, a lack of guardrails, and worker safety concerns. A few specific incidents included the incorrect management of metal debris at camp areas and the absence of fences surrounding excavation sites.

In an attempt to <u>resolve</u> these problems, safety measures for employees were enforced, hazardous waste containers were introduced, and protective barriers were put in place. Furthermore, corrective measures were put in place, and the majority of the concerns brought up were resolved within the time frames given, demonstrating a determined attempt to enhance on-site environmental management procedures. However, the 2023 incidents are clear examples of how crucial it is that the Government takes preventive measures and monitors consistently so the ecological situation doesn't face similar concerns.

In May 2023, a hillside collapsed on the western freeway, damaging an under-construction tunnel and a bridge. Specialists believe the crucial project, already costing over 900 million GEL, began without conducting necessary additional studies. Given the challenging geological

conditions, special safety measures were required, and the government had been warned multiple times.

Based on the <u>ADB's January – June 2023 environmental monitoring report</u>, within the Shorapani-Argveta section construction project, the joint venture's construction activities affect the local community's well-being and have long-term ecological consequences in the area, such as:

**Infrastructure and asset damage**: Joint venture activities have jeopardized the drinking water supply system and private properties, resulting in 113 complaints due to flood risks.

Land acquisition and resettlement issues: Construction damaged land plots and restricted access to residential areas, leading to 35 complaints seeking compensation, design changes, and other resolutions.

Access limitations: Construction restricted some residents' access to their properties, prompting 25 complaints.

**Noise, dust, and vibration**: Seven complaints reported deteriorating living conditions due to construction-related disturbances, as noted in the Asian Development Bank report.

**Flooding risks**: Some residents have demanded a retaining wall and drainage channel due to flood risks, emphasizing the need for additional measures.

In October 2023, Civic IDEA and Green Alternative conducted fieldwork around the construction site and discovered several unresolved issues. Specifically, the following discrepancies persist:

*Cracked houses* have left local residents feeling unsafe. Damage to local homes has raised doubts about their sustainability following tunnel construction. Continuous drilling and blasting during tunnel construction prompted repeated appeals to the local municipality for assistance. Despite conveying their concerns to the Department of Highways, no one has taken responsibility or aided the affected residents.

Land collapse has occurred in two locations near the tunnel constructed by the joint venture. One hole was quickly filled using nearby earth, but the second hole remained open and surrounded by torn tape. The families living nearby fear that the void could extend towards their houses, causing future damage. They are also concerned about the risk of livestock falling into the pit. Despite sending an official letter to the Department of Highways, they have yet to receive a response.

Several local residents experienced *flooding* as water surged into their homes from the mountain. The construction company had created a reservoir on the mountain, where water used for construction was stored. The reservoir was overwhelmed during heavy rainfall, resulting in two families being completely washed away. Appeals to the Department of Highways were dismissed, with the incident being attributed to natural disasters.

Overall, the already postponed project of the Shorapani-Argveta section faces significant challenges, including a hillside collapse damaging the construction site. These issues highlight the necessity for enhanced safety measures and environmental considerations.

## KVESHETI-KOBI ROAD PROJECT

(North-South Corridor)

Road Length: 22.7 km 2-lane road Structure: 6 bridges, 5 tunnels Lots: Lot 1, Lot 2 Contractor: Railway Tunnel Group Co. Ltd. (Lot 1), China Railway 23rd Bureau Group Co. Ltd (Lot 2) Funding: Asian Development Bank, European Bank for Reconstruction and Development Budget: 1.2 billion GEL Duration: 2019 - Ongoing



Unfortunately, this project also faced many environmental challenges, resulting in fatal incidents. Earlier in 2018, the Ministry of Environment and Agriculture conducted a workshop to discuss the environmental issues surrounding the construction and operation of the Kvesheti-Kobi Road project. During the meeting, the chairman of the Roads Department of Georgia, Irakli Karseladze, <u>mentioned</u> that after analyzing multiple factors like environmental impact, technical feasibility, economic viability, functionality, geological considerations, and biodiversity, the project was chosen as the most balanced among nine alternatives. Although already in 2019, local NGOs and tourism companies focused on human rights, environmental protection, and cultural monument preservation have <u>sent an appeal</u> to the Prime Minister of Georgia, as well as the presidents of the Asian Development Bank and the European Bank for Reconstruction and Development. The signatory organizations assert that the Kvesheti-Kobi highway project started without adequate studies, <u>posing a severe threat</u> to the Khada Valley's historical heritage. This includes the potential destruction of unique towers, archaeological sites, exceptional biodiversity, one of the most popular hiking-tourist routes, and the overall well-being of the local village populations.

According to the <u>report</u> released by the Asian Development Bank (ADB), after five years, seven cultural and archaeological monuments have continuously faced significant threats. This was primarily due to the absence of an avalanche protection wall in their vicinity. These monuments include:

- Kvelatsminda church
- Naraydze tower
- Zakaidze tower
- old graves (crypts)
- Mill complex
- Old cemetery
- Church of the Virgin

In June 2022, China Railway Tunnel Group Co. Ltd. conducted <u>blasting</u> in emergency tunnel #5. Shortly after, there was a sudden gas outburst near the tunnel face. Workers immediately felt discomfort, experienced breathing difficulties, and requested evacuation from the emergency response team. Four workers were safely evacuated, while rescuing one employee posed additional risks due to high oxygen deficiency and CO2 concentrations, hindering evacuation efforts. Tragically, when external emergency responders entered, the CRTG employee had already passed away due to <u>CO2 accumulation from the blast</u>, while two employees were injured and hospitalized.

Reviewing the ADB environmental monitoring report preceding the tragic incident reveals that "Daily safety inspection of the construction site is being conducted by HSE representatives as a continuous process" and "Contractors are providing the PPEs (Personnel Protective Equipment) to the Workers; however, enforcement to use is lacking". Additionally, the report notes air monitoring at tunnel #1 exit portal for toxic gases but does not mention similar measures for tunnel #5. Consequently, this occasion demonstrates the insufficient safety and monitoring measures taken by the contractor and the apparent lack of social and environmental responsibility, causing significant shortcomings and fatal incidents.

## BAKURTSIKHE-TSNORI BYPASS ROAD

Road Length: **16.6- km 2-lane road** Contractor: **China Road and Bridge Corporation** Funding: **Asian Development Bank, World Bank** Budget: **87.8 million GEL** Duration: **2021 - Ongoing** 



The Bakurtsikhe-Tsnori bypass road is an essential segment of the main Kakheti route (Tbilisi-Bakurtsikhe-Lagodekhi), known for its heavy transit traffic through densely populated regions. This road bypasses the crowded areas of Tsnori and six neighboring villages: Bakurtsikhe, Kardenakhi, Anagi, Vakiri, Mashnari, and Sakobo. Construction <u>began in 2021</u>, with an initial two-year completion estimate. However, the project is still ongoing and has not been completed on schedule.

Notably, the road construction area encompasses numerous agricultural plots and vineyards cultivated by a large portion of the population. In 2023, the locals <u>complained</u> that the construction activities had entirely disrupted the irrigation system, affecting the crops. The contractor CRBC failed to verify the technical layout of the water pipes, a fact confirmed by the Georgian Amelioration Service as well. According to the World Bank's 2018 <u>feasibility report</u>, "annual crops will be valued Crop compensation in cash at market rate by default at gross crop value of expected harvest for 3 years." However, the local population reports that they have not received any compensation. The <u>2023 ADB Environment monitoring report</u> claims that Contractors must participate in the Local Grievance Redress Mechanism (LGRM) to address grievances. Failure to comply with LGRM decisions, including refusal to pay compensation or restore damaged assets as determined by the LGRM, constitutes a violation.

In addition, the ADB report reveals other environmental issues related to The Bakurtsikhe-Tsnori bypass road:

**Loss of Agricultural Land** - The project affects 717 families who will lose arable land used for agricultural needs, impacting their livelihoods.

Impact on Trees and Vineyards - The project resulted in the loss of many trees and grapevines, with 131,524 trees and 119,621 grape trees affected, leading to substantial environmental and economic impact. This damage was anticipated in the <u>2018 World Bank report</u>, which stated, "a cash amount will be allocated per each affected non-fruit bearing tree to allow the PAP (project affected people) to purchase saplings and plant them on the remaining portion or a newly allocated replacement land parcel" and "cash compensation at market value based on type, age, and productive value of fruit tree" is also included although the amount of compensation is not specified. Besides, this situation indicates that no preventive measures have been implemented within the past five years to address this environmental issue.

**Effect on Vulnerable Households** - 615 households were severely affected due to the loss of more than 10% of their productive land, and 28 households were recognized as vulnerable, need-ing special assistance.

In conclusion, The Bakurtsikhe-Tsnori bypass road, a critical part of the main Kakheti route, was designed to alleviate heavy transit traffic through densely populated areas. Despite an initial two-year completion estimate and substantial financial support from the ADB and World Bank, the project, managed by China Road and Bridge Corporation, has remained incomplete since its start in 2021. The construction has severely impacted local agriculture, disrupted irrigation systems, and caused significant loss of arable land, trees, and vineyards. Despite promises of compensation and grievance redress mechanisms, the local population reports no compensation received, highlighting a failure to implement preventive measures and address environmental and social issues effectively.

## CONCLUSION

Our research evaluated the environmental impacts of various highway construction projects in Georgia, specifically those funded and executed by international financial institutions (IFIs) and contractors from the People's Republic of China. The study covered multiple projects, including the Kobuleti Bypass, Samtredia-Grigoleti, Chumateleti-Khevi, Khevi-Ubisa, Ubisa-Shorapani, Shorapani-Argveta, the Kvesheti-Kobi and Bakurtsikhe-Tsnori road projects. Each section was scrutinized for environmental compliance, management practices, and the impact on local communities and ecosystems.

For the Kobuleti Bypass Road, issues like poor water resource management, soil erosion, air quality, and noise pollution were prevalent, adversely affecting aquatic ecosystems and local residents. The Samtredia-Grigoleti Section suffered from the absence of detailed environmental monitoring reports, leading to protests against construction companies for environmental harm. In the Chumateleti-Khevi Section, tunnel deviations, landslide risks, riverbed narrowing, and pollution raised significant community concerns about flooding and landslides. The Khevi-Ubisa Section faced problems like poor waste management, hazardous material handling, and air and water pollution, worsened by inadequate housekeeping practices. The Ubisa-Shorapani Section experienced geological issues and pollution in the Dzirula river, landslides, and seismic risks due to insufficient studies and poor construction quality control. The Shorapani-Argyeta Section encountered environmental challenges, including a hillside collapse, property damage, noise, and dust, stemming from a lack of additional studies and safety measures. For the Kvesheti-Kobi Road Project, environmental concerns impacted local ecosystems and communities, underlining the need for rigorous monitoring and compliance. The Bakurtsikhe-Tsnori bypass road construction has severely impacted local agriculture, disrupted irrigation systems, and caused significant loss of arable land, trees, and vineyards, affecting 717 families and 615 vulnerable households without receiving any compensation as promised, highlighting failures in preventive measures and environmental management.

The research underscored the critical role of both IFIs and the Georgian government in ensuring environmental compliance and accountability. It was noted that some IFIs do not have adequate environmental monitoring reports despite their obligation to oversee the projects they finance. Specifically, the Georgian Road Department produces environmental monitoring reports only under the Asian Development Bank (ADB) because there is a direct obligation to do so. In other cases, the government neglects its obligations to citizens stipulated under the constitution or the Georgian Law on Environmental Protection. The Environmental State Agency, responsible for creating reports on ecological conditions and risks around the country, does not capacity and knowledge to research its causes. This lack of reporting makes it difficult to take preventive measures, emphasizing the importance of hiring experienced private entities to conduct thorough environmental assessments. By not doing this, the government is again neglecting its constitutional and legal responsibilities. The Georgian government, as the recipient of the financing, is responsible for ensuring compliance with international standards and addressing violations. This includes holding contractors accountable for their actions and taking preventive measures before project commencement. However, based on the example of several projects, it is evident that the government is ignorant of environmental challenges and does not prioritize hiring environmentally cautious and reputable companies through diligent selection processes. Due to this circumstance, many environmental errors remain unaddressed.

Overall, the findings highlight a pressing need for improved environmental management practices, stricter enforcement of regulations, and greater accountability from all parties involved in these infrastructure projects to mitigate their environmental impact and safeguard community well-being.