Sweden/შვედეთი
Sverige

ISET
International School of Economics at TSU
Policy Institute

POLICY PAPER N2023/09

GEORGIA'S BIODIVERSITY: URGENCY OF EFFECTIVE POLICIES

DECEMBER 2023

AUTHORS:
Salome Gelashvili
Erekle Shubitidze

DISCLAIMER: This document has been produced with the financial support of Sweden. The contents are the sole responsibility of the authors and can under no circumstance be regarded as reflecting the position of Sweden.

INTRODUCTION

Biodiversity, as defined by the Convention of Biological Diversity (CDB), refers to “the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems” (CDB). Generally, it refers to the diversity of ecosystems and the variety of life on Earth**.**

Biodiversity conservation plays a fundamental role in maintaining the health of the planet and ensuring the well-being of all species, including humans. It is vital for ecological, economic, cultural, and ethical reasons as it ensures the sustainability of ecosystems and benefits both present and future generations. Protecting biodiversity is a global responsibility and a key component of sustainable development.

Georgia, which is situated in the Caucasus eco-region, is identified as one of WWF's 35 "priority places" and encompasses two of the 34 globally recognized "biodiversity hotspots": the Caucasus and Iran-Anatolian hotspots.[1] Nestled in the mountainous expanse of the South Caucasus, Georgia boasts a remarkable level of biodiversity, featuring abundant endemic species, rare habitat types, and diverse ecosystems.

According to Georgia’s Sixth National Report to the Convention on Biological Diversity 2014–2018, while providing an exact assessment of the status of Georgia's biodiversity is challenging due to the absence of systematic data collection on ecosystem conditions, habitats, and species, coupled with the incomplete operationalization of the national biodiversity monitoring system, it is estimated that around 60% of the total endemic plant species face threats. These threats stem from disturbances to their habitats, excessive utilization, pathogenic factors, and other pressures. Invertebrate populations across various groups are adversely affected by the encroachment into natural and semi-natural habitats, as well as intensified agricultural practices. Georgia's forests have experienced significant degradation, attributed to unsustainable logging, overgrazing, and inadequate management practices. Additionally, pollution poses a substantial threat to numerous species associated with Georgia's wetlands. While Georgia is a member of many international conventions related to biodiversity, public awareness about the value of biodiversity is still low. Moreover, the value of biodiversity is not sufficiently reflected in government policies, strategies

[1] Georgia’s Fifth National Report to the Convention on Biological Diversity. 2015. Ministry of Environmental Protection and Agriculture

and programs[2]. The country lacks resources to enforce regulations and implement procedures that are designed to safeguard biodiversity[3].

The purpose of this policy brief is to underscore the significance of biodiversity, examine its current state, discuss primary threats to biodiversity and recommend actions that can contribute to biodiversity conservation in Georgia.

POLICY CONTEXT

Georgia is a member of multiple international conventions related to biodiversity, including the Bern Convention,[4] which regulates the conservation of species by restricting their exploitation and protecting their habitats. The country also joined the Convention on Biological Diversity[5] (CBD) in 1994 and the Convention on International Trade in Endangered Species of Wild Fauna and Flora[6] (CITES) in 1997, among others. These conventions aim to protect endangered and vulnerable species and promote the sustainable use of biodiversity.

As a member of international conventions and in light of the Association Agreement[7], Georgia is obligated to align its regulations with those of the EU. With the Association Agreement, Georgia "acknowledges the importance of preserving and responsibly utilizing biological diversity in advancing sustainable development". It also affirms the dedication to the conservation and sustainable utilization of biological diversity, adhering to the principles outlined in the CBD and other applicable international agreements to which Georgia is a party.

In an attempt to integrate biodiversity topic into policy agenda, back in 2014 the Ministry of Environmental Protection and Agriculture (MEPA) developed the National Biodiversity Strategy and Action Plan (NBSAP) 2014-2020, where it outlined twenty national targets for safeguarding Georgia's biodiversity together with strategic goals[8]. Those strategic goals include a) addressing

[2] Georgia's Sixth National Report to the Convention on Biological Diversity 2014–2018. 2020. Ministry of Environmental Protection and Agriculture. Retrieved from: https://www.cbd.int/doc/nr/nr-06/ge-nr-06-en.pdf

[3] Ibid

[4] Convention on the conservation of European wildlife and natural habitats, Bern, 1979. Retrieved from: https://rm.coe.int/1680479eb9

[5] Convention on Biological Diversity. Accessed on Sep 15, 2023. Retrieved from: https://www.cbd.int/doc/legal/cbd-en.pdf

[6] Convention on International Trade in Endangered Species of Wild Fauna and Flora. Accessed on Sept 15, 2023. Retrieved from: https://cites.org/eng

[7] Association Agreement between the European Union and the European Atomic Energy Community and their Member States, of the one part, and Georgia, of the other part. Accessed on Dec 12, 2023. Retrieved from: https://eur-lex.europa.eu/legal content/en/TXT/PDF/?uri=CELEX:22014A0830%2802%29

[8] National Biodiversity Strategy and Action Plan of Georgia 2014 – 2020. 2014. Ministry of Environmental protection and Agriculture of Georgia. Retrieved from: https://faolex.fao.org/docs/pdf/geo158253.pdf

the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society; b) reducing the direct pressures on biodiversity and promote sustainable use; c) improving the status of biodiversity by safeguarding ecosystems, species and genetic diversity; d) enhancing the benefits to all from biodiversity and ecosystem services and e) enhancing implementation through participatory planning, knowledge management and capacity-building[9].

In line with CBD requirements, Georgia reports on its progress towards achieving biodiversity related targets in national reports. The latest one is Georgia's Sixth National Report to the Convention on Biological Diversity 2014–2018 developed by MEPA and submitted in 2020. The sixth national report provides information on national targets, main measures, the effectiveness of these measures, progress towards the national targets, and progress towards the achievement of each Aichi Biodiversity Target[10].

As the strategies and national reports show, biodiversity conservation is a complex and multifaceted process and Georgia similarly to many other developing countries, continues to work on balancing conservation goals with economic development priorities.

STOCK OF NATURAL RESOURCES IN GEORGIA

As outlined above, Georgia is rich with biodiversity. Georgian **forests**, encompassing approximately 40% of the country's land area, hold immense value as a shared asset and a vital natural resource.[11] Their significance extends not only to the nation but also regionally and globally. These forests serve as guardians of unique biodiversity while continuously providing essential benefits and critical resources, directly or indirectly, to the population.

The Forest Code of Georgia categorizes Georgian forests into four distinct groups, based on their ecological, social, and economic roles, as well as their primary management objectives:

1. Protected Forests: These forests are primarily dedicated to safeguarding biodiversity and protecting rare and endangered species, as well as vulnerable forest ecosystems.
2. Protection Forests: The main objective in case of these forests is the preservation and enhancement of their protective functions, particularly in terms of regulatory ecosystem services.
3. Resort and Recreational Forests: The primary goal for this category is to maintain and enhance the recreational function of these forests, along with preserving their scenic landscapes and natural elements.

[9] Ibid.
[10] Aichi Target includes strategic goals (A-E) mentioned above.
[11] National Resources of Georgia and Environmental protection. 2022. Geostat. Retrieved from: https://www.geostat.ge/media/58572/Garemo_2022_eng.pdf

4. Commercial Forests: These forests are managed with the primary objective of ensuring the sustainable utilization of forest resources while also safeguarding their protective functions.

Within the **woodland reserve**, one can find approximately 40 different types of trees and shrubs. The breakdown of grove sizes and the prevalence of the primary woody species responsible for shaping the forest can be expressed in the following percentages: Beech (42.6%), Oak (10.3%), Hornbeam (10.3%), Alder (7.2%), Fir (7.2%), Spruce (5%), Pine (4.2%), Chestnut (3.8%), other (9.4%).[12]

Furthermore, **protected areas** play an essential role in contributing to the delivery of various ecosystem services that are critical to the biological diversity of woodlands. Crucially, the World Wildlife Fund (WWF) has identified Georgia as a global eco-region of particular importance. There are 14 strict nature reserves, 12 national parks, 23 managed nature reserves, 40 natural monuments in Georgia. Within Georgian protected territories there are copious major animal and bird species inhibited, such as Chamois, Brown bear, Red deer, Grey wolf, Nutria, Jackal, Roe, Rock partridge, Blackbird, Eurasian jay, Eurasian woodcock and so on.[13]

Among those species of animal and bird under the risk of extinction are the chamois, brown bears, red deer, wild goats, lynxes, roe, East Caucasian (Daghestan) turs, eastern imperial eagles, golden eagles, gyps, Caucasian grouse, cinereous vultures, black storks, and Caucasian snowcocks. These species are all included in the Georgian Red List. Furthermore, for biodiversity protection, the Agency of Protected Areas began intensive monitoring and research on various unique species in 2016.

Georgia is considered to be rich in **water resources**. However, these resources are not evenly distributed and are mainly accumulated in the western part of the country.

Georgia being rich in water resources, has more than 26,060 rivers with a total length of 59,000 km. Although the majority of rivers (99.4%) are short (less than 25 km long). There are also up to 860 lakes in Georgia, most of which have a small surface area; their total surface area represents 170km^2, which is 0.2% of the country's territory. In total, there are 44 water reservoirs in Georgia with a total area of 163 km^2 and volume of 3.3 million m^3. The reservoirs are mostly used for hydropower plants, though also for irrigation, fishing, and recreational purposes. Also, it was estimated that in 2015 there were 637 glaciers in Georgia, covering 355.8 km^2.[14]

[12]Review of the condition of the environment and stocks of natural resources in Georgia. 2021. ISET Policy Institute. Retrieved from: https://iset-pi.ge/storage/media/other/2021-09-30/62eeb1c0-21c7-11ec-9ad0-11781c04cd19.pdf

[13] Ibid

[14] National Resources of Georgia and Environmental protection. 2022. Geostat. Retrieved from: https://www.geostat.ge/media/58572/Garemo_2022_eng.pdf

The Black Sea is rich in a variety of **fish species** as well. Available information indicates that in the early 1980s, there were 184 different species and subspecies inhabiting the Black Sea, with 104 of them being present in the coastal area of Georgia. However, over time, both the quantity of fish and the number of species have been diminishing. For example, at the beginning of the 21st century, only 69 of those species were observed in these regions, as reported by the Food and Agriculture Organization in 2006. According to the same data source, the most commonly found species in the Black Sea by 2006 included the Black Sea anchovy, Black Sea sprat, Black Sea whiting, spiny dogfish, and the red mullet. Among these, anchovies were the most abundant, with an estimated total of 250,000 tons of Black Sea anchovies in 2004-2005.[15]

THREATS TO BIODIVERSITY

Biodiversity is currently deteriorating at a rapid pace, largely due to significant pressures from the local population[16]. Those pressures are driven by poor socio-economic conditions, as well as exploitation of natural resources by the private sector and government. On a global scale, major causes of biodiversity loss include habitat loss, climate change, overexploitation, invasive alien species, and pollution.

According to interviews with stakeholders, the primary threats to biodiversity in Georgia are attributed to **the intensification of agriculture**[17], which involves larger cultivated areas and more intensive practices, including tillage, drainage, monoculture, and excessive use of fertilizers and pesticides that harm and endanger flora and fauna. This is further exacerbated by planting and harvesting activities that disturb species and habitats, as well as overgrazing of marginal grasslands and heaths due to an increased number of sheep, leading to the destruction of many habitats, particularly peat lands.

Moreover, infrastructure development projects, such as roads, negatively affect biodiversity by altering ecological conditions, cutting through natural habitats, and causing landscape fragmentation that reduces the areas of habitats, affecting species that need large spaces or migrate seasonally[18]. The indirect effects of **infrastructure projects** also affect the landscape through emissions, noise or changes in the microclimate.

Overexploitation of resources[19] is prevalent in Georgia, with overfishing, poaching and illegal hunting being the main drivers of resource depletion due to poor socio-economic conditions of

[15] Ibid
[16] Regulatory Impact Assessment (RIA) of the Draft Law of Georgia on Biodiversity, ISET Policy Institute, 2018.
[17] Ibid
[18] Ibid
[19] Ibid

households. The annual limit for the use of forests is set to 600,000 m^3, but recent investigations show that on average, 2.5 mln. m^3 of trees are used for non-industrial purposes, leading to resource depletion and respective habitat loss. Previous studies suggest most of these trees were likely cut down for social reasons, with rural populations using trees for fuel. Moreover, Global Forest Watch data suggests that in 2019 almost 94% of such logging was due to social causes and approximately 6% of the deforestation was commercial.[20] Also, every year a significant number of trees are lost to illegal logging; according to Geostat, in 2021, almost 12 thsd. m^3 (0.4% of the area of the forest fund) timber have been illegally felled.[21]

Climate change[22] resulting in natural disasters also contributes to the degradation of biodiversity. In Georgia, extreme weather events, such as forest fires, have become more frequent due to high temperatures and low precipitation brought about by climate change. The latter paired with other extreme weather events negatively affects biodiversity.

Additionally, the **underdeveloped waste management systems**[23] in the country are contributing to pollution of the environment and rivers, which can lead to the death of fish, birds, and mammals, resulting in further damage to biodiversity and ecosystem services.

Another reason for the loss of biodiversity is believed to be the **lack of public awareness**[24]**.** People do not comprehend the importance of biodiversity, are not educated about the harmful effects of their actions, and as a result, cannot assess the consequences of depleting or harming natural resources. According to a recent study,[25] "Public Knowledge, Attitude and Practice (KAP) assessment in relation to Biodiversity and Environmental issues (Georgia)," the level of knowledge about biodiversity in Georgia is low, and the population is unaware of the environmental organizations functioning in the country. Additionally, the local people are not actively engaged in initiatives connected to biodiversity. About 40% of those surveyed in Georgia prioritize employment over the environment. Decision makers' insufficient awareness is also an issue as they often overlook biodiversity when making decisions.

Moreover, there is **a lack of comprehensive data collection** and **monitoring** system related to biodiversity. The national agencies responsible for biodiversity may have records of certain species and ecosystems, but the monitoring process is often incomplete and irregular. This results

20 Global Forest Watch. 2023. Retrieved from: https://www.globalforestwatch.org/dashboards/country/GEO/?category=land-cover

21 National Resources of Georgia and Environmental protection. 2022. Geostat. Retrieved from: https://www.geostat.ge/media/58572/Garemo_2022_eng.pdf

22 Regulatory Impact Assessment (RIA) of the Draft Law of Georgia on Biodiversity, ISET Policy Institute, 2018.

23 Ibid

24 Regulatory Impact Assessment (RIA) of the Draft Law of Georgia on Biodiversity. 2018.ISET Policy Institute.

25 Georgian Opinion Research Business International. 2017. Retrieved from: https://biodivers-southcaucasus.org/uploads/files/83222212_GORBI_KAP-Survey-Final-Reoport-Georgia_2017.pdf

in knowledge gaps when it comes to tracking changes in species populations, habitat health, and the overall state of biodiversity in Georgia.

A substantial portion of the data is not collected systematically and relies on datasets acquired in the 20th century. For instance, as reported by the Geothermal Association of Georgia, the most recent investigation into the country's resources dates back to the 1970s. This also holds true for water resources, with only major rivers, lakes, and glaciers being examined in recent decades. Consequently, knowledge about overall water resources in Georgia is limited and the quantity of available resources can be only approximately estimated.

Regarding the mining industry, the most recent data on these resources also extends back to the 20th century. Presently, information regarding the current inventory of minerals in Georgia is unavailable because there is no monitoring of resource extraction. According to the National Agency of Mines, while they issue licenses to individuals and entities for resource extraction, the actual extraction process and the precise quantity of resources extracted are not verified. Therefore, there is a concern regarding the extraction and utilization of natural resources impacting biodiversity.

Biodiversity conservation suffers from a **shortage of both human and financial resources**[26]. The supervisory department of the MEPA is understaffed and lacks the necessary rangers to effectively monitor protected areas. In addition, there is a shortage of qualified personnel with the appropriate knowledge and skills related to biodiversity, which results in subpar information provided to decision makers and the public. Furthermore, there is a lack of funding for training, hiring more rangers, and establishing a comprehensive monitoring system for biodiversity conservation.

Weak enforcement of regulations[27] aimed at protecting biodiversity is yet another challenge. This is caused by multiple factors such as insufficient resources and weak political will among authorities and policymakers in Georgia. A specific example of the lack of enforcement is the widespread hunting of migratory raptors along the Georgian coastline.

Therefore, the depletion of biodiversity is the result of various reasons that are both independent and interconnected and require immediate actions from private sector, civil society and government.

[26] Regulatory Impact Assessment (RIA) of the Draft Law of Georgia on Biodiversity, ISET Policy Institute, 2018.
[27] Ibid

THE WAY FORWARD

To create effective policies for conserving biodiversity in Georgia, all the aforementioned issues should be taken into consideration. The recommended policy actions to support biodiversity conservation include:

Finalizing the adoption of biodiversity data collection and monitoring system and ensuring its public availability. While Georgia started to develop National Biodiversity Monitoring System (NBMS) based on 26 indicators chosen according to the OECD's Pressure/State/Response Model, NBMS is not finalized yet and the information regarding the progress in this area is not publicly available. Accurate evaluation of NBMS indicators can aid in making well-informed decisions concerning policies aimed at safeguarding biodiversity and enhancing public understanding of the advantages of biodiversity conservation.

Designing different incentive mechanisms for various stakeholder groups: It is crucial to use financial, social and ethical incentives to support biodiversity conservation[28]. Financial incentives can be created in different forms such as subsidies, compensation payments and taxes. Notably, financial incentives such as compensation payments/environmental subsidies are the most common instruments used in EU countries[29]. As to social and ethical incentives, the information campaigns and public recognitions are the examples of non-monetary incentives for private landowners to conserve biodiversity under their property[30]. Such incentives encourage landowners to manage biodiversity resources sustainably and this generates a sense of responsibility. In times of constrained public budgets, non-monetary incentives enable policymakers to encourage private landowners to conserve biodiversity without increasing public subsidies. Other incentives, such as legal tools, can be employed to encourage stakeholders to conserve biodiversity.

Improving policy framework: Biodiversity conservation requires strengthening and enforcing environmental laws and regulations related to biodiversity. This also assumes development and implementation of policies that further integrate conservation into broader national development plans.

Increasing public awareness: It is critical to raise awareness about the importance of biodiversity among the general public through education and outreach programs. Fostering a sense of responsibility and environmental stewardship among the population can be achieved

[28] Ibid
[29] Ibid
[30] Ibid

through educational workshops and seminars, podcasts, art and creativity competitions, school curriculum integration, community evens etc.

Promoting sustainable tourism practices: Eco-tourism related initiatives can contribute to biodiversity conservation. It is recommended to adopt practices like organizing educational programs for tourists to learn about local conservation challenges and initiatives; allow visitors to participate in conservation activities, such as tree planting or wildlife monitoring; facilitate responsible volunteer programs that allow tourists to contribute directly to conservation projects or community development initiatives.

Encouraging community-based conservation initiatives: Such initiatives imply direct involvement of community in the management and protection of natural resources. Apart from co-management of natural resources, the examples of such initiatives include training of community members to monitor and collect data on local ecosystems and wildlife; using the information gathered for informed decision-making and to identify conservation priorities and recognizing and rewarding communities for their contributions to research and monitoring efforts. It is important to ensure that communities benefit from conservation efforts.

Fostering international collaboration: International collaboration is critical for both knowledge exchange and attracting funds for biodiversity conservation. Collaboration with international organizations, NGOs, and neighboring countries allows to share expertise, resources, and best practices and improves access to international funding mechanisms to support large-scale conservation projects.

Implementing these recommendations requires collaboration between different stakeholders with an objective to reduce biodiversity loss and contribute to sustainable development of Georgia.

ISET

International School of Economics at TSU
Policy Institute

ISET POLICY INSTITUTE

ISET Policy Institute is the top independent economic policy think tank in Georgia, focusing on the South Caucasus region. It is a one-stop shop for policy research and consulting, training and public policy debate. ISET Policy Institute is the university-based think-tank and its affiliation with the International School of Economics (ISET) at TSU drives intellectual and financial synergies, as well contribution to delivering of world-class economic education, strengthening good governance and inclusive economic development in Georgia and in the region.

ISET Policy Institute
www.iset-pi.ge
iset-pi@iset.ge
+995 322 507 177