



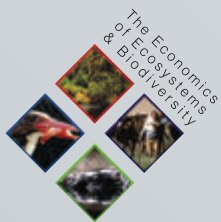
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**TEEB**  
SCOPING STUDY FOR

**Georgia**

MAIN FINDINGS AND WAY FORWARD

## Acknowledgements:

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This document is a joint effort of the Ministry of Environment and Natural Resources Protection, Government of Georgia, United Nations Environment Programme (UNEP) and WWF-Caucasus.

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Ioseb Kartsivadze (Ministry of Environment and Natural Resources Protection), Giorgi Sanadiradze and Tamaz Gamkrelidze (WWF-Caucasus); Ivonne Higuero and Nicolas Bertrand (UNEP) coordinated the project for their respective institutions.

We are indebted to Yolanda Kakabadse for initiating this project. We are also grateful to the Project Advisory Group for its guidance throughout the project. Finally, we would like to give special thanks to the many stakeholders for their contributions to the two project workshops.



Ministry of Environment  
and Natural Resources  
Protection of Georgia



UNEP



WWF



## Abbreviations

<b>CBD</b>	Convention on Biological Diversity
<b>EIA</b>	Environmental Impact Assessment
<b>GoG</b>	Government of Georgia
<b>HPP</b>	Hydropower plant
<b>IUCN</b>	International Union for Conservation of Nature
<b>MoENRP</b>	Ministry of Environment and Natural Resources Protection
<b>MoU</b>	Memorandum of Understanding
<b>MW</b>	Megawatts
<b>NBSAP</b>	National Biodiversity Strategy and Action Plan
<b>NGO</b>	Non Governmental Organization
<b>PAG</b>	Project Advisory Group
<b>TAB</b>	TEEB Advisory Board
<b>TCS</b>	TEEB Country Study
<b>TEEB</b>	The Economics of Ecosystems and Biodiversity
<b>UNEP</b>	United Nations Environment Programme
<b>WAVES</b>	Wealth Accounting and the Valuation of Ecosystem Services
<b>WWF</b>	Worldwide Fund for Nature

## **Foreword by Hon. Khatuna Gogaladze - Minister of Environment and Natural Resources Protection, Georgia**

The Economics of Ecosystems and Biodiversity (TEEB) Initiative aims at promoting a new economy in which the values of natural capital, and the ecosystem services this capital supplies, are fully reflected in public and private decision-making.

Georgia is a country of the Caucasus Eco-region, belonging to one of 34 globally significant “biodiversity hotspots” identified by Conservation International. So the global importance of the eco-region, the necessity of its protection and conservation is internationally recognized.

The richness of our species and landscape diversity is our treasure and pride. But these resources are not limitless and they need to be cared after and preserved for future generations.

Considering the transitional phase and rapid development in Georgia’s economy, TEEB initiative is exactly one of those effective instruments, which could successfully be applied for preserving ecosystems, and at the same time promoting sustainable growth of the economic sector.

Therefore it was excellent timing to declare Georgia as one of the pilot countries for implementation of TEEB Initiative in 2011.

The present scoping study identifies five core sectors of Georgian economy applicable for the TEEB Initiative; these are Energy, Tourism, Agriculture, Mining, and Forestry. The study highlights the substantial dependence of these driving forces of Georgian economy on natural capital and the services it provides.

Thus the study is an important step forward in valuing natural capital; though it necessarily needs to be followed by a full TEEB National Study to ensure the sustainability of the country’s commitment towards demonstration of strong relationship between economy and environment, and the integration of value of natural capital into national economic policies.

In the end we extend our cordial thanks to UNEP and the whole TEEB Team and look forward to continuing this valuable process of implementation of the Initiative.

### **Khatuna Gogaladze**

Minister of Environment and Natural Resources  
Protection of Georgia

## Foreword by Jan Dusik, Acting Regional Director, UNEP Regional Office for Europe

UNEP is proud to host The Economics of Ecosystems and Biodiversity (TEEB) initiative which has brought the multiple values, including the non-monetary values, of the globe's ecosystems and their services from the invisible into the visible spectrum of economic and developmental discourse. Not because the economics of nature are nature's only relevance to humanity -but in a world where the ups and downs of GDP currently define much of policy-making, bringing the wealth of the natural world to the attention of ministries in charge of finance and development may pave the way to better informed choices and policies for the environment.

Georgia took the initiative to become a pilot country and has participated in the preparation of this TEEB Scoping Study as a first step to demonstrate the value of its natural capital. And indeed many other countries in the pan European region wish to work with UNEP and other partners to implement TEEB-related activities. This is evident in the Pan-European 2020 Strategy for Biodiversity which includes activities to assist in the achievement of the Global Aichi Biodiversity Targets of the Strategic Plan for Biodiversity 2011-2020. Assessing and taking into account the economic, social and cultural value of ecosystems and biodiversity can play a key role in efforts to achieve these international biodiversity targets.

Georgia also kindly hosted the 6th Intergovernmental Conference Biodiversity in Europe (Batumi Conference) from 15 to 18 April 2013, which was recognized by many countries for its successful outcomes and momentum for biodiversity cooperation in the region. They discussed how the Pan European Biodiversity Platform could contribute to: the TEEB, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, the Biodiversity Indicators Platform, the MEA Information and Knowledge Management Initiative, the National Biodiversity Strategy and Action Plan Forum and the global biodiversity synergies work.

UNEP is certain that the TEEB Scoping Study for Georgia will inspire action within the region and support for the preparation of a full TEEB National Study in Georgia. This will further bring biodiversity and ecosystems from the margins into the centre of Georgia's political and financial decision-making processes.

### **Jan Dusik**

Acting Regional Director,  
UNEP Regional Office for Europe

## **Foreword by Yolanda Kakabadse, President - WWF, and Pavan Sukhdev, Chair - TEEB Advisory Board and UNEP Goodwill Ambassador**

Georgia is a country rich in natural resources and biodiversity – it has been listed as a terrestrial ecoregion and is part of two global hot-spots for biodiversity. Georgia is also an emerging economy that is on a path of growth and development.

Although development and environment have often been termed as being trade-offs the choices are not necessarily that opposed. Indeed, as this preliminary TEEB scoping study shows, nature plays a vital role in sustaining Georgia's important economic sectors and policy priorities. For example, with its abundance of rivers and varying terrain, the hydropower sector has immense potential for not only meeting domestic energy needs but also export. The sector however depends on both quality and quantity of freshwater guaranteed by forests upstream. The Agriculture sector employs nearly half the population of Georgia and it too depends on nature – relying on nutrient cycling and pollination services of insects and bees to produce food.

At the same time, this study highlights adverse impacts of these economic activities on Georgia's ecological base. For instance, unplanned growth in tourism has led to habitat loss, increased waste generation and impaired water quality; intensive agricultural practices have led to reduction of genetic diversity, and land degradation; and forest degradation has adversely impacted rural communities who rely upon forest goods and services for their lives and well-being.

These impacts and dependencies paint a complex picture, and cast doubts over the long-term sustainability of these sectors. Can we have growth in the agricultural sector if land degradation continues to increase? Can hydropower fulfill Georgia's long-term energy needs if water quality continues to decline?

What is at stake here? How is nature essential to Georgia's economic and social development? What changes can be made to business as usual and how will these reduce sectoral impacts on nature? What are the incentives that can lead this transformation? These are some of the questions that can be answered by a TEEB Country Study.

The government of Georgia has shown immense leadership and foresight by choosing to become a pilot country for TEEB. This scoping study is an important piece and lays the groundwork for undertaking a full TEEB study, which we hope will commence soon.

**Yolanda Kakabadse**  
President – WWF  
Member, TEEB Advisory Board

**Pavan Sukhdev**  
Chair, TEEB Advisory Board  
UNEP Goodwill Ambassador

## TEEB for Georgia: Introduction

Georgia is located in the South Caucasus region, bordering the Russian Federation in the north, Republic of Turkey and Armenia to the south, Azerbaijan to the east and the Black Sea to the west. Due to its diverse relief and climatic zones, Georgia is rich in biodiversity and hosts a high level of endemism (IUCN, 2012). The Caucasus, including Georgia, is on the list of 200 global terrestrial ecoregions of the WWF. Based on richness of biodiversity and related threats, 34 biodiversity hotspots have been identified in the world today and, of these, Georgia is part of two (Mittermeier et al, 2005).

Georgia has prioritized the environmental protection and sustainable use of its natural resources in its various national programmes, including the current Government Program for Strong, Democratic, United Georgia, endorsed by the Georgian Parliament in October 2012. As a Party to the Convention on Biological Diversity (CBD), Georgia prepared a Biodiversity Country Study (1996), a National Biodiversity Strategy and Action Plan (NBSAP) adopted in 2005, and in 2005-2010, Georgia submitted the second, third and fourth national reports to the CBD. Following the adoption of Strategic Plan for Biodiversity 2011-2020, the Ministry of Environment and Natural Resources Protection (MoENRP) of Georgia took the first steps towards the preparation of an updated National Biodiversity Strategy and Action Plan (NBSAP) to reflect the vision and mission of the Strategic Plan for Biodiversity and Aichi Targets (NBSAP-2, to be adopted in 2013).

In the pan European regional context, conservation and sustainable use of biological diversity and incorporating the values of biodiversity, ecosystems and ecosystem services are key priorities. The Pan European 2020 Strategy for Biodiversity promotes the use of new tools in the region to assist policymakers in decision-making and help achieve “an improvement in the outlook for biodiversity, ecosystems and the provision of goods and services to 2020 and beyond” (UNEP, 2012).

Additionally, various other projects have been carried out that have contributed to the ecosystem services discourse in Georgia. These include recognition and valuation of services derived from national parks and protected areas such as Borjomi-Kharagauli, Mtirala and Tusheti national parks. Furthermore, willingness to pay studies have been conducted to explore ascertain tourist preferences and revenue generation potential of protected areas. Studies like these can certainly inform public policies for effective management and governance of natural resources in Georgia.

It is in this context that Georgia proposed to become a pilot country for The Economics of Ecosystems and Biodiversity (TEEB). TEEB aims to inform policy making at national levels by increasing the evidence base for countries to account for their natural assets in decision-making and policy formulation. In the operating space of public policy, TEEB recommendations cover a large spectrum, including public policies for subsidy reform, land use management, protected area management, investment in natural infrastructure restoration, and national accounting to include natural capital.

These generic recommendations are being tailored and taken forward at the country level by “TEEB Country Studies”. TEEB Country Studies are in-depth examinations to identify ways to ‘work with nature’ to meet specific policy priorities and thematic concerns of the country; within a ‘TEEB Country Study,’ ecosystem services that are vital to meeting the country’s policy priorities are identified, and examined in detail to be internalized into the policy process.

<b>Box 1: Policies echoing TEEB for Georgia</b>	
Georgia’s National Biodiversity Strategy and Action Plan (NBSAP) which was adopted in the year 2005 (Prime Minister’s Decree N 27, 19.2.05). <sup>1</sup>	<p>“Furthermore, at present, few efforts have been made to assess the economic value of biological diversity in Georgia, and to express its usefulness in financial terms, which will be necessary to underlie appropriate pricing for environmental services and damage.” (NBSAP – Georgia, 2005)</p> <p>“The real values of biodiversity (and possible costs of damage to the resource base) are not taken into account in determining taxes on natural resource use, resulting in unsustainable use of natural resources and under-valuation” (NBSAP – Georgia, 2005)</p> <p>“Strategic Goal H: To ensure appropriate financial and economic programmes are in place in order to support effective conservation of biodiversity, and to ensure the delivery of the BSAP - H1 - Collect data necessary for the valuation of biodiversity (including opinion surveys with key stakeholders, identification of primary risk factors and use of internationally accepted methods)” (NBSAP – Georgia, 2005)</p>
Pan-European 2020 Strategy for Biodiversity	Promotes the use of new tools in the region to assist policymakers in decision-making and help achieve “an improvement in the outlook for biodiversity, ecosystems and the provision of goods and services to 2020 and beyond” Action 7 of the action plan that explicitly recommends TEEB <sup>2</sup> to account for natural capital and ecosystem services for decision making
the Aichi Biodiversity Targets	<p>In particular Targets 2, 3, and 11 (Rode et al, 2012) under Strategic goal A and C (“Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society”; and “To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity”)</p> <p>(i) Target 2 “By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.”;</p>

<sup>1</sup> As a Party to the CBD, Georgia has prepared a national document outlining its future policy and plans to meet its responsibilities under this Convention to protect biodiversity, to ensure its sustainable use and to enable fair access to the benefits of biodiversity (as per Article 6(a) of the Convention).

<sup>2</sup> “The Economics of Ecosystems and Biodiversity (TEEB): Placing a value on natural capital, including biodiversity and ecosystem services, through a range of economic tools and policies to take proper account of this value.”



	<ul style="list-style-type: none"> <li>(i) Target 2 “By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.”;</li> <li>(ii) Target 3 By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio economic condition;</li> <li>(iii) Target 11 By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes</li> </ul>
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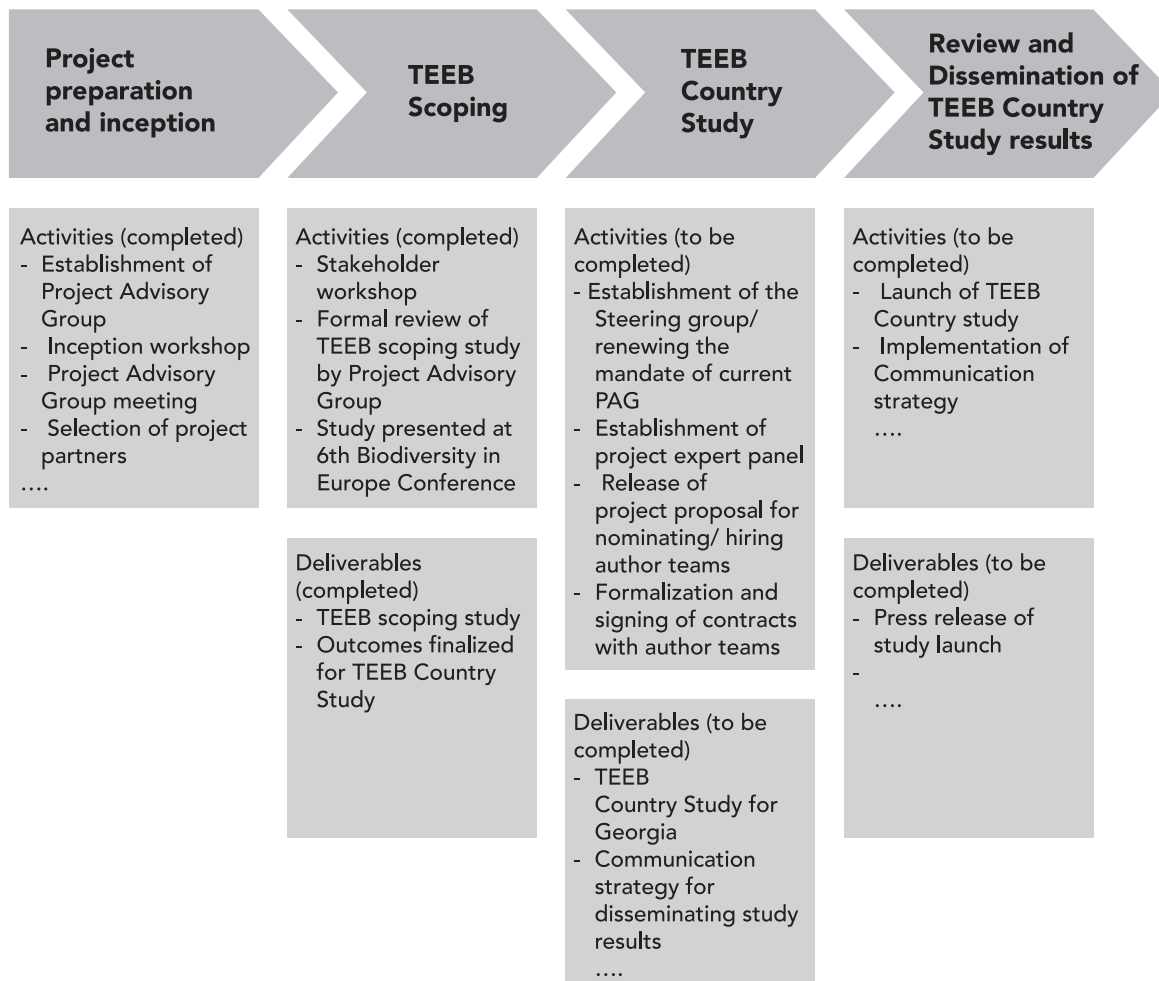
‘TEEB Georgia: Scoping Study’ is a preliminary study that sets the stage for undertaking a full TEEB study for Georgia. A full TEEB study for Georgia would provide decision makers with data and recommendations on questions that the scoping study identifies. To that end, the scoping study - takes stock of work that has been done thus far on biodiversity and ecosystem services assessments in Georgia; prioritizes five important economic sectors and formulates policy questions that may be answered by a full TEEB study in the context of these five sectors; and provides a roadmap for undertaking a full TEEB study in Georgia.

## TEEB for Georgia: Methodology

The study has been commissioned by UNEP to support the implementation of a TEEB for Georgia. It is a multi-agency effort and is meant to inform future TEEB efforts in Georgia. The process has been informed by the involvement of key stakeholders and policies in Georgia. It has taken cognizance of the work that has been done thus far on bringing biodiversity and ecosystem services into decision-making, and seeks to complement that work. The process for this study was initiated by the Georgian government expressing interest for Georgia to become one of the pilot countries for implementing TEEB. WWF-Caucasus, in association with the Ministry of Environment Protection of Georgia, and UNEP, conducted an inception workshop “Development of a TEEB Scoping Study for Georgia” in Tbilisi, Georgia on 28 May 2012. In order to provide maximal involvement in the project and increase the level of process ownership it was decided to establish a Project Advisory Group (PAG) completed by officials from line-ministries, science, business and NGO sector.

The first meeting of PAG was conducted shortly before first initiation workshop of stakeholders “Development of a TEEB Scoping Study for Georgia” in 2012. The PAG meeting and the initiation workshop resulted in agreed structure of scoping study to be conducted during 2012. The Board conducted similar meeting before arranging the second workshop of stakeholders which was dedicated to the presentation of draft document and discussions on its structure, possible gaps and the way forward.

The TEEB process in Georgia may broadly be divided into four-phases (figure 1). Of these, various activities have been completed in the inception and scoping phases. The scope of the full TEEB Country Study for Georgia has been developed as part of the scoping exercise. The full TEEB country study for Georgia and subsequent activities may be undertaken upon successful securing of funding sources.



## Scoping Study: Main findings and recommendations

The scoping study is a first step towards a full TEEB for Georgia study. It aims to scope both thematic and policy questions that a full TEEB for Georgia would answer. To that end, the scoping study identifies five sectors. The sectors have been selected by taking account of various policy programmes of the government of Georgia and inputs from policymakers. These sectors have also been chosen to maximize synergies between TEEB work in Georgia and thematic components identified under Georgia's NBSAP<sup>3</sup>. These sectors are energy, forestry, agriculture, mining, and tourism. Georgia's current government programme entitled "For Strong, democratic, United Georgia," explicitly identifies sustainable use of land resources and development of agriculture as priorities. The forthcoming NBSAP- 2, currently in preparation, identifies protected areas, agricultural biodiversity, and biodiversity of forests as three of its eleven thematic components.

Preliminary analyses conducted as part of the scoping study show the critical importance of healthy ecosystems to the functioning of four of Georgia's important economic sectors. The analyses also highlight that if business as usual is not changed, the sustainability of these sectors is questionable. Lastly, while the scoping study presents analyses of four sectors, the scope of the full TEEB study has been extended to cover five sectors to account for stakeholder inputs.

1. The **Hydropower** sector has increasingly gained importance in Georgia's national policy. The Strategic "10-Point Plan" of the Government of Georgia for Modernization and Employment states "The task of Georgian Government is to satisfy 100% of the country's demand for electricity by hydropower produced in Georgia. Georgia is to become an important exporter of electricity to Turkey, Europe and Middle East." In this context, by the end of 2012, memorandum of understanding agreements between the Government of Georgia and various investors were signed for construction of 5 large (capacity greater than 100 MW), 28 medium (10-100 MW), and 12 small scale (capacity less than 10 MW) hydropower plants. Of these, fifteen are under construction.

While hydropower is a renewable resource, it both depends on and impacts upon ecosystem services and biodiversity. It depends on a regular supply of water; both quality and quantity of freshwater is critical for the functioning of this sector. Some of the impacts of the hydropower sector include habitat loss, displacement of local communities and emissions. These impacts however are not always appropriately addressed in current environmental assessments of HPP. To this end, a TEEB study to inform the environmental impact assessment processes may be undertaken to inform Georgia's broader energy policy by considering the environmental and distributional impacts of the Georgian energy sector, and how these impacts might be mitigated through mechanisms such as biodiversity offsets.

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<sup>3</sup> This view has been expressed during the latest stakeholder workshop conducted on 26 February 2013 in Tbilisi, Georgia

Furthermore, this work would strengthen the impact assessment goal echoed in Georgia's current government programme "For Strong, democratic, United Georgia"; it states "a modern principle-based system of strategic assessment of environmental impact and environmental monitoring" will be put in place.

### **TEEB FOR THE ENERGY SECTOR WOULD ASK THE FOLLOWING QUESTIONS:**

1. Examine and quantify, wherever applicable, the biodiversity and ecosystem services impacts and dependencies of the energy sector in Georgia, particularly hydropower;
2. Suggest means and sequencing of integrating this information in EIA in energy projects;
3. Look at other ways, beyond EIA, of integrating this information into energy policy making (such as biodiversity offsets, investment decisions, subsidies for specific technologies, and research and development);
4. Any specific recommendations for energy development may be accompanied by recommendations for policy instruments; and
5. Policy instruments may be assessed on the basis of distributional, economic, social and environmental impacts.

- 2. Tourism** has been a steadily growing sector of the Georgian economy. According to the National Statistics Office of Georgia, total output of tourism related services increased by 73.5% between 2006 and 2011, and amounted to 7.1% of the country's total economic output (National Statistics Office of Georgia, GoG). Furthermore, tourists to protected areas have increased by fifty fold in the same period.

While there are quick revenues to be generated from the tourism sector, various adverse impacts of tourism on ecosystems have been observed. Some of these include: habitat loss due to land encroachment, waste generation, and water quality impacts. Moreover, some of these adverse effects from uncontrolled expansion in tourism may negatively impinge upon the tourist experience (e.g. untreated sewage affecting bathing water quality; soil erosion from off-road vehicles making pathways and roads impassable; draining coastal wetlands which can increase the prevalence and intensity of storm events; unregulated waste disposal implying plastic litter in otherwise pristine nature spots). A TEEB study for sustainable tourism in Georgia therefore may be undertaken to better inform tourism planning and development (zoning, protected area management), and to identify opportunities and threats for long-term sustainable tourism.

1. Examine and quantify, wherever applicable, the biodiversity and ecosystem services impacts and dependencies of the tourism sector;
2. Examine ways to internalize this information in tourism policies (such as land acquisition, eco-tourism, and community led tourism development etc.)
3. Any specific recommendations for land use and planning may be accompanied with policy instruments to attain these goals; and
4. Policy instruments may be assessed on the basis of distributional, economic, social and environmental impacts

- 3. Agriculture** employs 53% of the Georgian workforce (National Statistics Office of Georgia, GoG) and has been identified by the Government of Georgia as a main vehicle for rural development. The current government programme, "Government Program for Strong, Democratic, United Georgia", states that "Development of agriculture will be one of the main priorities of the government of Georgia, which will be guaranteed by clear rural and regional policy and increasing of financing of agriculture."

However, within agriculture, reduction of genetic diversity, land degradation due to salinization and soil erosion are some of the many issues that challenge the long-term sustainability of the agricultural sector. Hence there is a risk of reducing long term crop yields if incentives are not provided to promote, for example, limited pesticide and chemical fertilizer use, biological pest control, soil conservation techniques, water use efficiency, food safety, crop rotation, and farm diversification. A TEEB for Agriculture, a sectoral examination, may be undertaken to inform agricultural policies in Georgia to ensure food security, improve agricultural biodiversity, and reduce the extent of land degradation. This work would complement the thematic component on agricultural biodiversity of the forthcoming NBSAP-2 and will also be aligned with Georgia's "Government Program For Strong, Democratic, United Georgia", that states "...obligatory labelling of finished genetically modified products will be introduced, preservation of local cultural varieties will be promoted, as well as development of organic farming..."

#### **TEEB FOR AGRICULTURE WOULD ASK THE FOLLOWING QUESTIONS:**

1. Examine and quantify, wherever applicable, the biodiversity and ecosystem services impacts and dependencies of the agricultural sector;
2. Examine ways to internalize this information in agricultural policies (such as subsidy reform,
3. research and development, pasture land management, and organic agriculture)  
Any specific policy recommendations may be accompanied with policy instruments to attain these goals; and
4. Policy instruments may be assessed on the basis of distributional, economic, social, and environmental impacts

4. **Forests** cover around 40% of Georgia's territory and are a source of livelihoods for the rural population. Furthermore, they provide habitat for a significant number of fauna and flora species of Georgia. The current government programme states "...The mechanisms of sustainable use of land resources will be worked out, for soil erosion reduction, prevention of desertification and preservation of soil fertile layer; the complex of actions required for protection and maintenance of biodiversity will be performed, modern methods will be implemented in forestry ..." Furthermore, at the Pan European level, the 2020 Strategy for biodiversity identifies forests as one of the thematic actions that need to be taken as part of to prevent further loss of biodiversity in the pan-European region, in line with the global biodiversity targets (UNEP, 2012).

Forests however are under threat from unsustainable logging, overgrazing and land encroachment. These actions often adversely impact rural communities who rely on forest services such as firewood, non-timber forest products, habitat services, and freshwater. A TEEB for sustainable forestry management may be undertaken for Georgia, identifying ways to maximize the benefits of forests through measures such as sustainable forestry, zoning, and changes in land tenure arrangements. This work would strengthen the private ownership related goals of the current government programme "Government Program for Strong, Democratic, United Georgia" which states, "At the first stage, legal status of every community (village, settlement, and town) will be determined. Land (arable lands, pastures, and forests), water, and real estate, necessary for existence and development will be transferred to them into ownership" Furthermore, the upcoming NBSAP - 2 identifies forest biodiversity as one of the eleven thematic components which may also be aligned with this work.

#### **TEEB FOR THE FORESTRY SECTOR WOULD ASK THE FOLLOWING QUESTIONS:**

1. Examine and quantify, wherever applicable, the biodiversity and ecosystem services impacts and dependencies of the forestry sector;
  2. Examine ways to internalize this information in existing forestry policies (such as licensing,
  3. protected area management, and forest management);  
Any specific recommendations for land use planning may be accompanied with policy instruments to attain these goals; and
  4. Policy instruments may be assessed on the basis of distributional, economic, social, and environmental impacts
5. While **mining** is not part of the sectoral analyses presented in this scoping report, Stakeholders have expressed a strong interest in this sector, and therefore it may be undertaken as part of the full TEEB study. Georgia has various mineral deposits of Manganese, Gold, Cooper, Arsenic, Barite, Benitonite, Diatomite, and others. Majority of these deposits are of national and international importance (Ministry of Energy, GoG).

Furthermore, the “Government Program for Strong, Democratic, United Georgia” identifies rational use of natural resources as a policy priority. While mining has brought revenues to Georgia, it has also resulted in adverse impacts on water and soil quality. Furthermore, both soil and water qualities are important priorities for the ministry of environmental protection, while according to current Georgian legislation, mining is not a subject of environmental impact assessment.

### **TEEB FOR THE MINING SECTOR WOULD ASK THE FOLLOWING QUESTIONS:**

1. Examine and quantify, wherever applicable, the biodiversity and ecosystem services impacts and dependencies of the mining sector;
2. Examine ways to internalize this information in existing mining policies (such as licensing);
3. Any specific recommendations for changing business as usual may be accompanied with policy instruments to attain these goals; and
4. Policy instruments may be assessed on the basis of distributional, economic, social, and environmental impacts.

A synthesis report may also be part of the TEEB study. It would summarize sectoral policy recommendations, but also provide findings from cross-sectoral initiatives that relate to TEEB and its recommendations. For example, natural capital valuation has emerged as an important exercise for stock taking of a country’s natural assets. There are strong synergies between World Bank’s project on Wealth Accounting and Valuation of Ecosystem Services (WAVES<sup>4</sup>) and TEEB.

### **TEEB for Georgia: Way forward**

TEEB recommends a six step approach to undertaking TEEB projects at the country level.

- Step 1: Further consult relevant stakeholders and find agreement on outcomes of the full TEEB study;
- Step 2: If needed, further define which ecosystem services are most relevant given the results of the scoping study and within the context of the decision-making problems identified above;
- Step 3: Define information needs and select appropriate methods for the specific situation of Georgia. The scoping study has already pointed some areas of weakness concerning information and data and these should be addressed early on;
- Step 4: Undertake the actual assessment of ecosystem services, possibly, but not necessarily, by monetary valuation;
- Step 5: Look at possible policy responses and the policy instruments at hand, some of which have been preliminarily reviewed in the scoping study, and assess their distributional impacts

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<sup>4</sup> WAVES is a global partnership that aims to promote sustainable development by ensuring that the national accounts used to measure and plan for economic growth include the value of natural resources.

## Step 6: Review, revise, and report results

These steps and related activities may be supported by a strong governance and project management team. The governance for TEEB Georgia may be undertaken through a Steering/ Advisory group which would take decisions to guide the study, ensuring that the project is delivered to meet its agreed objectives (Guidance Manual for TEEB Country Studies Version 1.0, 2013). For Georgia, the existing Project Advisory Group constituted in 2012, may oversee future TEEB activities and can act as the Steering group. An Expert Panel composed of experts from relevant disciplines who would lead in the design and review of technical aspects of the study may also be established. This type of group can provide specific input (scientific, policy, and stakeholder), quality assurance, help develop key messages and facilitate outreach and communication to the scientific community. Author Teams to undertake technical work of the study may be nominated or hired through a competitive bidding process. Authors can come from a range of agencies and may include government departments/ministries, independent consultancies, universities and other academic organizations. Lastly, a mix of national and international peer reviewers may be selected to revise and review the study. It may also be useful to have review editors for each of the five sectoral reports suggested in this scoping study.

A tentative project roadmap is presented below.



Activity	Activity details	Outputs	Agencies responsible	T=0	T + 1 month	T + 2	T + 3	T + 4	T + 6	T + 8	T + 10	T + 12	T + 14	T + 15	T + 24	T + 26	T + 30
Launch of TEEB Scoping Study	Conduct a high level launch event of scoping study	Press release	Focal ministry/ MoENRP														
Establish steering/ advisory group/ (or renew mandate of existing Project Advisory Group)	Invite members from donor agencies and line-ministries to form Steering group and sign MoU with terms of reference that broadly outlines roles and responsibilities of the steering group	List of members of Steering/ Advisory Group and signed MoU between MoENRP and steering/ advisory group	Focal ministry/ MoENRP														
Appointment of Study Chair	Nominate and appoint a study chair (the study chair would ideally head the Project Advisory Board)	Study chair	MoENRP and Steering Group														
Establish Expert Panel*	Invite technical experts from academia, NGOs, and TEEB community and sign MoU with terms of reference that broadly outlines	List of members of Expert Panel and signed MoU between MoENRP and Expert Panel	Focal ministry. MoENRP														

Activity	Activity details	Outputs	Agencies responsible	T=0	T + 1 month	T + 2	T + 3	T + 4	T + 6	T + 8	T + 10	T + 12	T + 14	T + 15	T + 24	T + 26	T + 30
	roles and responsibilities of the Expert Panel	Press release	Focal ministry/ MoENRP														
Appoint reviewers for deliverables	Appoint/ contract two reviewers	List of 2 reviewers	Focal ministry/ MoENRP with support from UNEP TEEB Office														
Appointment of Study Chair	Calculate budget, identify interim deliverables, including terms of reference for author teams/academic institutions/consultants, project reporting structure, timelines, and key donors for fundraising	Financial estimate for undertaking the full TEEB study and list of potential donors	MoENRP (with technical support from UNEP)														
Funding for TEEB Country Study (TCS)	Fundraising for TCS	Funds	Focal ministry/ MoENRP with support from UNEP and UNEP-														

Activity	Activity details	Outputs	Agencies responsible	T=0	T+1 month	T+2	T+3	T+4	T+6	T+8	T+10	T+12	T+14	T+15	T+24	T+26	T+30
			TEEB Office														
Author team and communication team selection	Release Request For Proposals/ Expression of Interest to get author teams/academic institutions/consultants and communication teams on board (through competitive bidding or nomination).	Contract between MoENRP and author/academic institutions/consultants and communication teams	Focal ministry/ MoENRP														
	Sign contract with author teams/academic institution/consultants		Focal ministry														
TEEB Country Study	Refine the objectives of the TCS if necessary (as identified in the scoping phase)		Author team/academic institutions/c consultants														
	Identify the most relevant ecosystems and ecosystem services cross checking against		Author team/academic institutions/c consultants														

Activity	Activity details	Outputs	Agencies responsible	T=0	T + 1 month	T + 2	T + 3	T + 4	T + 6	T + 8	T + 10	T + 12	T + 14	T + 15	T + 24	T + 26	T + 30	
	the scoping study		TEEB Office															
	Define information needs and select appropriate methods		Author team/ academic institutions/ consultants															
	Assess and value ecosystem services		Author team/ academic institutions/ consultants															
	Identify and outline pros and cons of policy options and instruments, including distributional impacts		Author team/ academic institutions/ consultants															
Peer review	Send TCS for peer review	Inputs of review team	Focal ministry/ MoENRP															
Stakeholder input	Send to stakeholders for validation	Validation of scoping report from stakeholders	Focal ministry; Steering group; Expert Panel; other line-ministries and author team/ academic															

Activity	Activity details	Outputs	Agencies responsible	T=0	T+1 month	T+2	T+3	T+4	T+6	T+8	T+10	T+12	T+14	T+15	T+24	T+26	T+30
			institutions/consultants														
Revise	Incorporate comments	Final TEEB Country Study	Author team/academic institutions/consultants														
TEEB Advisory Board (TAB) review	UNEP-TEEB to send TCS to TEEB Advisory Board along with approval form	Approval from TEEB Advisory Board	UNEP-TEEB Office														
Launch final report	Launch report on the margins of a regional conference/event	Press release of launch	Focal ministry/MoENRP; author team/academic institutions/consultants, and UNEP - TEEB Office														
Communication and awareness building	Regular newsletters and blogs to maintain momentum of TEEB process	Newsletter and blogs	Focal ministry/MoENRP														

\*\* This is a tentative plan and is subject to funding and agreement with focal ministry

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