



Ethiopian Biodiversity Institute (EBI)

Biodiversity and Ecosystem Services Network (BES-Net) Phase II

“Implementation of Component I in Ethiopia of Post-National Ecosystem Assessment Results Framework”

Assessment of Matters Related to “Biodiversity and Ecosystem Services (BES)”

December 2023

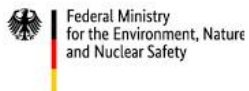
Addis Ababa, Ethiopia



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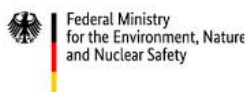
Summary

The Ethiopian Biodiversity Institute (EBI) is nationally mandated to the conservation, promoting the sustainable utilization of Ethiopia's biodiversity and ensuring fair and equitable sharing of the benefits accrued from genetic resources. EBI has conducted an assessment pertaining to the main actors: science -policy -practitioners with the objective to assess and review the mandates, achievements, interaction and coordination among like-minded institutions, the challenges encountered and the enabling environment (opportunities) to implement BES related activities. From a total of 131 institutions proposed to be members of the National Biodiversity Platform, 24 institutions were refined as key actors for this study. Accordingly, the mandates, interactions, challenges and enabling environments/opportunities of six ministries (Policy makers), 10 research, education and development institutions/authorities (Science communities) and eight non-government organizations (NGOs)/inter-governmental organizations (IGOS) i.e. practitioners were investigated.

The results of the assessment showed that the overall level of interactions of all actors ranged from weak to strong and the interactions among actors were remarkably diverse with respect to joint planning, information exchange, resource mobilization, research, conflict resolution, conservation and law enforcement. The interactions by main actors of Science-Policy-Practice categories in joint planning, research and advocacy, information and knowledge exchange and resource mobilization, capacity building and conservation related activities produced a different situation.

The overall level of interactions among Policy actors were found to be strong in elements of joint planning, information and knowledge exchange and resource mobilization; whereas the overall interaction of the Science actors in major elements of interaction and coordination was found to be weak. On the other hand, four (50%) Practitioners have rated their level of interaction as 'Moderate' and four (50%) organization have rated 'Strong' but none of the assessed organizations have rated their level of interaction as weak.

The interaction, coordination, and partnership between and among key stakeholders involved in Biodiversity and Ecosystem Services (BES) faced several challenges. These challenges include the scarcity, unreliability, and inaccessibility of BES data and information, limited collaboration,



coordination, and communication among BES stakeholders, and knowledge gaps and mismatches within the research and policy landscape. Moreover, there was a lack of defined and sustainable functional structure to facilitate the promotion of BES, resulting in a lack of synergy among efforts. On the other hand, enabling environments (opportunities) existed in the Science-Policy-Practitioners communities. Among others, the established National Biodiversity Platforms, Agricultural technologies and information exchange systems (e.g. in Ministry of Agriculture), National Biosafety Advisory Committee, the National Framework for Climate Services (NFCS), and joint planning and reporting mechanisms in some Science-Policy-Practitioners communities are excellent startups for the betterment of interactions and coordination.

Generally, the assessment produced valuable information on the mandates, interactions and coordination, challenges and enabling environments of key BES actors. However, the information could be more comprehensive and complete when the scope of the study includes both federal and regional institutions.



Acronyms

AASTU Addis Ababa Science and Technology University
AAU Addis Ababa University
ATI Agricultural Transformation Institute
BES-Net Biodiversity and Ecosystem Services Network
BETin Bio and Emerging Technology Institute
CBOs Community Based Organizations
CSOs Civil Society organizations
EBI Ethiopian Biodiversity Institute
EFD Ethiopian Forestry Development
EIAR Ethiopian Institute of Agricultural Research
EMI Ethiopian Metrological Institute
EPA Environmental Protection Authority
EWCA Ethiopian Wildlife Conservation Authority
GBG Gullele Botanical Garden
GGGI Global Green Growth Institute
IGOs Inter Governmental Organizations
IPBES Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
IUCN International Union for the Conservation of Nature
MILL Ministry of Irrigation and Lowland
MIT Ministry of Innovation and Technology
MoA Ministry of Agriculture
MoE Ministry of Education
MoPD Ministry of Planning and Development
MoT Ministry of Tourism
MoWE Ministry of Water and Energy
NBP National Biodiversity Platform
NGOs Non-Governmental Organizations
PFM Participatory Forest Management
PSI Policy Study Institute
UNDP United Nations Development Programme



UNEP-WCMC United Nations Environmental Programme World Conservation and Monitoring Center

UNESCO United Nations Educational, Scientific and Cultural Organization

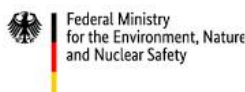
1. Introduction

1.1 Background

The Ethiopian Biodiversity Institute (EBI) is nationally mandated to the conservation, promoting the sustainable utilization of Ethiopia’s biodiversity and ensuring fair and equitable sharing of the benefits accrued from genetic resources. This includes maintaining and developing international relations with bilateral and multilateral bodies having the potential to providing technical assistance. The Institute, on the basis of national legislation, has the responsibility and duty to implement international conventions, agreements and obligations on biodiversity to which Ethiopia is a party.

The Biodiversity and Ecosystem Services Network (BES-Net) is a capacity sharing “network of networks” that promotes dialogue between science, policy and practice for more effective management of biodiversity and ecosystems, contributing to long term human well-being and sustainable development. The BES-Net is a collaborative effort among UNDP, UNEP-WCMC, and UNESCO, supported by the Government of Germany’s Climate Initiative (IKI) and SwedBio, aiming to promote the conservation of biodiversity and sustainable use of diverse ecosystem services which will translate into strengthened resilience for the planet and human welfare. BES-Net builds on the latest assessments of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) to offer transformative solutions for biodiversity on the ground. This runs in parallel with the collaborative platform for scientists, policymakers, and practitioners that foster effective BES management and multi-stakeholder networking, information and knowledge exchange and sharing.

EBI has conducted an assessment pertaining to the main actors: science -policy -practice or operators who have engagements, interactions and collaborations in BES related undertakings.



Moreover, the assessment was undertaken for analyzing the gaps and needs to strengthening the interface in achieving the BES objectives in Ethiopia.

Recognizing the inefficiency of conflicting mandates and wasted resources, the Ethiopian government has established government agencies with clearly defined, non-overlapping objectives through Proclamation No. 1263/2021. This cohesive structure is believed to promote concerted and cost-effective efforts and accountability in fulfilling entrusted duties. According to this proclamation, past attempts to reorganize the government through legislation have failed to produce lasting structures and consistent terminology, leading to disruptions in institutional continuity and inconsistent naming.

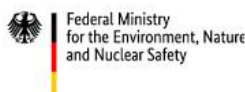
Consequently, the newly established government agencies with mandates and duties related to Biodiversity and Ecosystem Services (BES) were investigated with respect to mandate overlaps, achievements, interaction and coordination among like-minded institutions, the challenges encountered and the enabling environment (opportunities) to implement BES related activities.

1.2 Objectives

This study was carried out to assess and review the state of main actors of BES and their level of interactions in Ethiopia. The study involved describing the tripartite categories of actors (i.e., Science-Policy-Practice) related to BES, and defining the areas of interactions and analyzing the existing gaps.

The specific objectives of the assignment were to:

- Refine main actors of each category (science-policy-practice communities) related to BES and assess their types and level of interaction with each other
- Assess main outputs related to BES by each of science-policy-practice communities,
- Define elements of coordination with each other, and define gaps and needs for interaction and partnership; and
- Review the operation by each actor with respect to BES and the state of interaction among science-policy-practice communities.



1.3 Scope of the Study

The assignment has focused on evaluating and reviewing the key players involved in BES, including Policy makers (Ministries), Science (research institutions, educational institutions/universities, development partners), Practitioners (civil society organizations (CSOs), non-governmental organizations (NGOs), intergovernmental organizations and other pertinent entities). Through this process, the team has identified and prioritized the primary stakeholders, collected and analyzed data, and generated reports on their outputs, interactions, coordination, gaps and enabling environments.

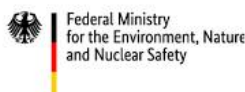
1.4 Limitations of the Study

The number of institutions supposed to have engagements in BES related activities are too many to address due to the time constraint or distance factors to reach. For these reasons, the key actors were selected for the like-minded institutions, which, of course, could involve the Science-Policy-Practice categories. Moreover, area wise, the assessment did not include institutions situated outside the capital-Addis Ababa. The mandates and duties of the Ethiopian Environmental Authority was extracted from the draft establishment regulation.

2. Methods

To assess and review the level of interactions, gaps and needs; firstly, all the actors were listed and recorded; secondly, the key actors pertinent to BES were selected by giving priority based on like-minded setting. Thirdly, primary data were collected by using semi-structured questionnaire, and fourthly, secondary data were gathered for the respective identified key actors. Along with this, the secondary data were collected through the scanning of the literature in the following areas.

- Project proposals, and documents pertinent to this assignment;
- National Ecosystem Assessment reports, books and policy briefs;
- Proclamation of “Definition of Powers and Duties of the Executive Organs” (No. 1263/2021) and establishment proclamations/regulations of each institution; and
- Relevant and available published and unpublished reports and documents for reference.



Semi-structured questionnaire was designed to undertake an assessment on the state of the main actors related to Biodiversity and Ecosystem Services (BES) in Ethiopia (Appendix 3). Primary data collected through semi-structured questionnaires was analyzed using spreadsheet programmes.

3. Actors' Mandate Analysis

3.1 Refined Key Actors

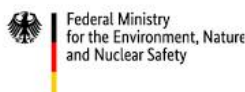
About 131 institutions/actors were found to be directly or indirectly involved in BES related activities (Table 1; Appendix 1). Among them, 24 representative institutions (key actors) in the Science -Policy -Practice community i.e. six policy makers, 10 science actors and eight practitioners were prioritized and refined (Appendix 2).

Table 1. Number of total and refined BES actors in each category/community

No.	Category/Community	Total Number institutions	Remark
1.	Policy	36	Parliament, Ministries, Commissions, etc.
2.	Science	46	Research, Development, Education, Authority
3.	Practice	49	Associations, NGOs, IGOs, CBOs, etc.
	Total	131	-

3.2 Ministries [Policy]

Ministry of Agriculture (MoA) works to enhance crop and livestock production, utilizing tools and technology for growth. The Ministry also acts as stewards, safeguarding and managing the valuable natural resources that sustain agriculture. Its focus is particularly on supporting smallholder farmers and pastoralists, ensuring the preservation of their landscapes and promoting sustainable practices for a future where abundant harvests and environmental sustainability coexist.

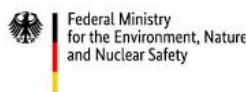


Ministry of Innovation and Technology (MIT) plays a multifaceted role in spearheading Ethiopia's technological transformation. It takes on the responsibilities that range from driving research and development initiatives to supporting capacity building, acting as a catalyst for innovation across various sectors. The ministry is responsible for fostering technology standards and assessing market needs to ensure that relevant advancements are accessible to the public. It empowers institutions and individuals, facilitates technology transfer, and provides incentives for inventors. Additionally, it focuses on building reliable digital infrastructure, overseeing telecommunication networks, and safeguarding data security.

The Ministry of Planning and Development (MoPD) plays a vital role in shaping Ethiopia's future. It formulates essential policies and strategies concerning development, population, climate, and the environment. The ministry plans the nation's trajectory, translating long-term visions into medium and short-term programs while ensuring fair spatial development. It analyzes economic trends, proposes policies, and meticulously evaluates development projects. The MoPD establishes a robust statistical system, providing the economic guidance necessary for the nation's journey. Additionally, it serves as a champion for climate and the environment, coordinating efforts to protect Ethiopia's natural heritage.

Ministry of Water and Energy (MoWE) plays a crucial role in managing the nation's essential resources of water and energy. With a multifaceted approach, it develops policies and plans that guide the sustainable management of precious water resources across different basins. The ministry takes measures to protect these ecosystems, addressing issues such as flood protection and pollution control, and ensuring that water utilization is equitable for communities and regions. It also focuses on promoting access to clean water, improving sanitation, and encouraging private sector involvement. Additionally, the ministry drives the development of electric power, explores renewable energy sources, and fosters private sector participation in the energy sector.

Ministry of Irrigation and Lowland (MILL) plays a pivotal role in Ethiopia's water-harvesting and lowland development efforts. The ministry is responsible for crafting national irrigation strategies, expanding development initiatives, and promoting innovative water usage practices. Through comprehensive water basin studies, it identifies and harnesses both ground and surface water



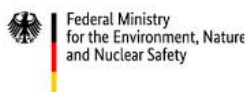
resources to efficiently expand irrigation coverage. Basin-wide collaboration ensures holistic development, with the ministry overseeing the management of dams and critical infrastructure. Additionally, the ministry focuses on unlocking the potential of lowland areas through research and targeted irrigation plans, empowering pastoral and semi-pastoral communities.

The Ministry of Tourism (MoT) plays a vital role in orchestrating sustainable development by fostering collaboration between public and private initiatives. The ministry develops policies that showcase Ethiopia's natural and cultural treasures, creating an environment where these attractions can thrive with the necessary infrastructure. Through market research, branding, and expansion efforts, Ethiopia is connected to the global tourism market, while private investments drive growth by establishing new destinations and offering competitive services. The ministry prioritizes the preservation of the country's heritage, promotes research and technology adoption, and actively engages in collaborative partnerships with regional entities, private stakeholders, and the global community to ensure the delivery of high-quality services and visitor safety.

The Ministry of Education (MoE) assumes a multifaceted role in shaping Ethiopia's educational landscape. It formulates policies, develops curricula, and establishes qualification frameworks for both general and higher education. The ministry is responsible for overseeing national examinations, fostering research and technology development in higher education institutions, and ensuring that equitable access to quality education is available at all levels. From setting educational standards to monitoring performance and promoting collaborations between research and industry, the ministry serves as both the architect and guardian of Ethiopia's educational future.

3.3 Research and Development Institutions [Science]

The Ethiopian Biodiversity Institute (EBI) was established as a plant genetic resources conservation center in 1969. However, since 1998, the mandate of the Institute has expanded to encompass the conservation and sustainable utilization of all forms of biological resources, including plants, animals, microbial genetic resources, and associated indigenous knowledge. Additionally, there is recognition of the importance of ecosystem management, which is given priority. The Institute is vested with the authority and responsibilities to conserve and promote the sustainable utilization of Ethiopia's biodiversity. This includes establishing and nurturing



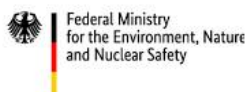
international relationships with bilateral and multilateral organizations capable of providing technical assistance. Furthermore, the Institute, guided by national legislation, has the duty and obligation to implement international conventions, agreements, and commitments pertaining to biodiversity, of which Ethiopia is a party. The Ethiopian Biodiversity Institute (EBI) serves as the focal institution for the Convention on Biological Diversity (CBD), the Nagoya Access and Benefit-Sharing Protocol, and the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA).

The Ethiopian Institute of Agricultural Research (EIAR) has been established with the mission of conducting research that will provide market competitive agricultural technologies that will contribute to increased agricultural productivity and nutrition quality, sustainable food security, economic development, and conservation of the integrity of natural resources and the environment. Its mandate includes generation and adaptation of improved agricultural technologies, demonstration and popularization of improved technologies and multiplication and provision of source technologies.

The Agricultural Transformation Institute (ATI) is a strategy and delivery-oriented government agency created to help accelerate the growth and transformation of Ethiopia's agriculture sector. The Agency's mandate is focused solely on improving the livelihoods of smallholder farmers across the country.

Policy Study Institute (PSI) serves as a vital link connecting knowledge and action, committed to conducting rigorous research in the fields of economics, social sciences, and governance. Its primary objective is to shed light on policy options that pave the way towards a more promising future. Through its extensive analysis, collaborative research publications, and initiatives aimed at enhancing capabilities, PSI empowers both researchers and the individuals who benefit from their work.

The Bio and Emerging Technology Institute (BETin) acts as a central hub for Ethiopia's scientific progress. Established in 2016 under the Ministry of Innovation and Technology, it unites scattered research efforts across universities and institutes. BETin tackles critical challenges in health, food security, and sustainability, laying the groundwork for industrialization and overall human

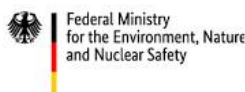


development. Its prime focus is world-class research in biotechnology and emerging technologies, driving Ethiopia's economic growth and societal well-being through ethically grounded scientific advancements. In essence, BETin stands as a beacon of collaboration and innovation, guiding Ethiopia towards a brighter future powered by science.

The main responsibilities of the Ethiopian Metrological Institute (EMI) include: fulfilling national requirements and international commitments related to meteorology; establishing and managing a nationwide network of meteorological stations; disseminating informative and educational materials to the public concerning meteorological matters; offering meteorological services to various stakeholders, collaborators, and the general public; providing guidance and timely warnings regarding the adverse impacts of weather and climate to relevant institutions and the public; and upholding Ethiopia's obligations under international treaties in the field of meteorology.

The Ethiopian Forestry Development (EFD) assumes a role as a curator integrating the elements of forest conservation and development. Through collaborative efforts with local authorities, EFD conducts mapping and safeguards of forested lands, ensuring comprehensive protection through appropriate management plans. EFD monitors forest health, carbon balance, and the movement of forest products, accumulating a substantial body of knowledge and data that elucidate the sector's significant contributions to the economic and social well-being of the nation.

The Environmental Protection Authority (EPA) main duties and powers encompass a range of responsibilities. These include initiating and coordinating the development of environment and climate change policies, strategies, and laws, and subsequently regulating their implementation upon approval. The EPA also collaborates with relevant agencies to establish environmental standards and ensure compliance. It reviews environmental impact study reports, makes decisions, and oversees their implementation based on authorized conditions. Furthermore, the EPA issues licenses and regulates activities related to the collection, transportation, storage, reuse, recycling, and trans-boundary movement of hazardous waste, as well as the creation, use, containment, release, import, export, transit, transportation, and storage of modified organisms.



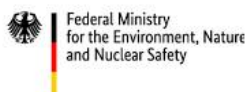
The Ethiopian Wildlife Conservation Authority (EWCA) stands as the guardian of Ethiopia's precious wild heritage. From establishing and administering protected areas to controlling illegal activities within them, EWCA safeguards the very ecosystems that sustain countless species. From issuing permits for hunting and tourism to regulating wildlife product exports, EWCA ensures responsible interactions with wildlife and minimizes harmful impacts. EWCA fosters international partnerships, implements conservation treaties, and represents Ethiopia at the global stage, ensuring synchronized efforts for wildlife protection. EWCA extends its expertise to regional bodies, delegating powers and providing guidance for effective wildlife management across the nation.

The Gullele Botanical Garden (GBG) is a newly established conservation initiative located at the northwestern tip of the Addis Ababa City Administration. Underpinning the establishment of GBG is the fact that a number of Ethiopia's endemic plant species are facing extinction and require protection. The main objectives of the botanical garden are to safeguard the future survival of a diverse set of species, conduct plant research, create an urban park for recreation, and improve the practical knowledge of students and the general public in the fields of sustainable gardening, horticulture, floriculture, urban agriculture and forestry.

3.4 Higher Learning Institutions [Science]

Founded in 1950 as the University College of Addis Ababa (UCAA), Addis Ababa University (AAU) stands as Ethiopia's enduring beacon of higher learning and research. For decades, it has served as the nation's leading center for teaching, research, and community service. In a milestone move, the Ethiopian Council of Ministers recently approved an autonomous establishment draft regulation for AAU during its August 2023 meeting. This landmark decision paves the way for AAU's self-governance, guided by its unwavering commitment to quality education as enshrined in its vision, mission, core values, and strategic theses.

Established in 2011, Addis Ababa Science and Technology University (AASTU) carve its path guided by dual frameworks: the national Ethiopian Higher Education Proclamation and its own resolute vision. AASTU aspires to become a national hub of science and technology, achieving this by delivering world-class education and training in fields aligning with national economic



demands, conducting problem-solving research that fuels the productivity and competitiveness of local industries, serving as a hub for knowledge and technology adaptation, fostering innovation and knowledge transfer and building the technical and managerial capabilities of industries, creating a ripple effect of progress.

3.5 NGOs and IGOs [Practitioners]

Non-Governmental Organizations (NGOs) are indispensable actors when it comes to tackling social and environmental challenges with respect to BES. Their diverse mandates contribute significantly to sustainable development and biodiversity conservation. NGOs have adopted key mandates that encompass various areas such as environmental governance, eco-friendly livelihood improvement, agro-ecology and food systems, environmental protection, biodiversity conservation, sustainable resource utilization, forest and landscape restoration, land management, gender equality, climate change, and academia-practitioner collaboration. Specifically, local NGOs promote the sustainable utilization of natural resources; advocate for responsible extraction, waste reduction, pollution control, and resource efficiency. By collaborating with industries and communities, local NGOs seek innovative solutions that balance economic development with environmental sustainability. Moreover, local NGOs actively engage in forest and landscape restoration; participate in reforestation projects, support sustainable forest management practices, and promote the conservation of natural habitats. These efforts enhance ecosystem resilience and contribute to mitigating climate change ensuring the sustainability of Biodiversity and Ecosystem Services.

The mandates of International Union for the Conservation of Nature (IUCN) encompass a broad spectrum of responsibilities aimed at safeguarding our natural world. Firstly, IUCN conducts innovative research, delving into environmental, social, and economic complexities across different scales, guided by scientific principles. Secondly, the organization seeks to inspire and empower societies globally, fostering a deeper connection with nature and promoting its conservation. Lastly, IUCN plays a crucial role in advocating for sustainable practices, ensuring the equitable and responsible use of resources for a thriving future, both for humanity and the planet.



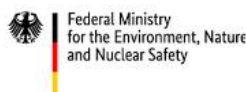
The Global Green Growth Institute (GGGI) is a treaty-based international, inter-governmental organization dedicated to supporting and promoting strong, inclusive and sustainable economic growth in developing countries and emerging economies. It works to reduce greenhouse gas emissions; create green jobs, increase access to sustainable services (clean, affordable energy; improved sanitation; sustainable waste management; sustainable public transport), improve air quality, increase biodiversity conservation and ecosystem services, enhance adaptation to climate change.

4. Actors' Impacts/Achievements

4.1 Ministries [Policy]

The Ministry of Agriculture has made significant achievements in various sectors, particularly in the areas of natural resources, crop production, and animal husbandry. Notably, it has formulated the Watershed Development, Management, and Utilization of Community Watersheds Proclamation (Proclamation No.1223/2020), which aims to promote sustainable watershed practices. Additionally, the ministry has successfully developed over 10,000 watersheds, contributing to the conservation of biodiversity at the watershed level. They have also implemented a watershed strategy that incorporates the benefit-sharing mechanism as one of its strategic objectives. Furthermore, the establishment of Watershed Users Cooperatives as a legal entity has been a noteworthy accomplishment. These efforts have resulted in the adoption of diverse crop varieties and improved the living standards of rural communities.

The Ministry of Planning and Development (MoPD) has accomplished significant milestones in its efforts to lead the coordination, support, and follow-up of integrating major interventions and components of Biodiversity and Ecosystem Services (BES) into the development plans of key macro sectors. Additionally, the ministry plays a crucial role in coordinating the development of policies and strategies for various sectors, fostering a comprehensive and coordinated approach to sectorial development. MoPD's achievements in these areas have facilitated the integration of



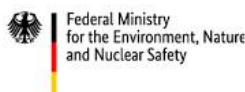
biodiversity and ecosystem services considerations into development planning, leading to sustainable practices, improved conservation efforts, and enhanced environmental stewardship.

The Ministry of Innovation and Technology has been actively making efforts in generating technologies supporting effective utilization of ecosystem resources and services. For example, among the others, a manually operated modern plowing design was generated by this ministry that facilitate the activity of plowing by reducing the monotonous and archaic hand to mouth technology and this paves the way for increasing income of farmers by fattening and supplying to the market the oxen's used for farming.

4.2 Research and Development Institutions [Science]

The Ethiopian Biodiversity Institute (EBI) has achieved significant milestones in Biodiversity and Ecosystem Services (BES)-related activities. One notable accomplishment is the *ex-situ* conservation of genetic resources through the establishment of cold rooms and field gene banks. These facilities provide controlled environments for the storage and preservation of plant, microbial and animal genetic resources, ensuring the long-term availability of valuable genetic resources. Additionally, the EBI has made strides in *in-situ* conservation by establishing crop and forest conservation areas in different regions of Ethiopia. These protected areas serve as crucial habitats for a diverse range of species, contributing to the preservation of biodiversity and ecosystem services. Furthermore, the institute has played a pivotal role in the establishment of national BES platforms, which serve as an important forum for stakeholders to collaborate, share knowledge, and develop strategies for the conservation and sustainable use of Ethiopia's biodiversity and ecosystem services. These achievements highlight the EBI's commitment to safeguarding biodiversity and promoting the sustainable management of ecosystem services in Ethiopia.

The Ethiopian Institute of Agricultural Research (EIAR) has made significant steps in advancing agricultural production and productivity technologies, thus playing a crucial role in ensuring food security and contributing to the growth of the national economy. One of its main achievements is the generation of a multitude of useful technologies and management practices that have had a tangible impact on agricultural output. Through crop improvement and the development of

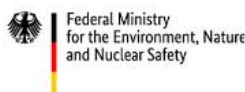


improved varieties, EIAR has facilitated the adoption of more efficient farming methods, resulting in increased yields and enhanced sustainability. Moreover, the institute's efforts have created a substantial demand for agricultural technologies and information throughout the value chain, demonstrating the widespread recognition and utilization of their innovations by beneficiaries. Overall, EIAR's accomplishments have been instrumental in transforming the agricultural sector and promoting socioeconomic development in Ethiopia.

EWCA is another institution which operates in the area of BES. The key achievements of EWCA in relation to BES include preserving of unique ecosystems; creation of awareness especially with law enforcement bodies and the judiciary regarding wildlife and its conservation; improving engagement of communities and partners in wildlife conservation; increasing the coverage of wildlife protected areas; conservation of threatened species (with regard to development and implementation of species specific action plans); and addressing policy issues (development of legal frameworks like policy and strategy, proclamations, regulations, directives).

The Ethiopian Meteorological Agency (EMI) has made significant paces in its operations and services. One of its key achievements is the provision of daily public weather forecasts, ensuring that individuals and organizations have access to up-to-date meteorological information. In addition, EMI plays a crucial role in collecting, processing, and disseminating meteorological data, enabling informed decision-making in various sectors. Another notable accomplishment is the agency's provision of weather and climate advisories to stakeholders, helping them mitigate risks and adapt to changing weather patterns. Furthermore, EMI has contributed to the establishment of the National Council for Climate Services, promoting collaboration and coordination among different entities involved in climate-related activities.

Equally noteworthy are the accomplishments of the Ethiopian Environmental Protection Authority (EPA). The agency (the then Environment, Forest and Climate Change Commission, EFCCC) has been instrumental in drafting a proclamation on payment for ecosystem services, recognizing the importance of valuing and preserving natural resources. EPA has also developed a comprehensive National Invasive Alien Species Management Strategy and Action Plan for the period 2021-2030, aiming to combat the negative impacts of non-native species on the environment. Furthermore, the



agency conducts environmental and social impact assessments for various programs and projects, ensuring that potential consequences are identified and mitigated. EPA has taken significant steps in establishing a biosafety regulatory framework, ensuring the safe transfer, handling, and use of living modified organisms. Lastly, the agency has successfully established the National Biosafety Advisory Committee, which contributes to the development and implementation of effective biosafety measures.

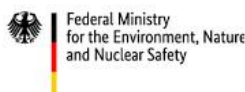
4.3 Higher Learning Institutions [Science]

The impacts of the AAU and AASTU are similar; in that, as higher learning institutions, they have been training several professionals, generate information and knowledge related to BES through research and publications. Similarly, the ministry of Education of Ethiopia (MOE) as per its duties and responsibilities, has sustainably built an education and training system that ensures quality and equitable education for all citizens and that continuously produces a competent and competitive workforce fueling the country's economic development.

4.4 NGOs and IGOs [Practitioners]

Based on their thematic areas, the NGOs and IGOs have registered the following Key achievements. One of the key achievements is capacity building and registration of Biosphere areas in different regions of Ethiopia such as Sheka, Majang, Yayu and Lake Tana Biosphere Reserves. Local NGOs developed procedures for sacred sites and organized communities for ecological governance, establishment of community seed banks and policy advocacy works.

By conducting inventory/ biodiversity assessment methodology to the areas of rich biodiversity, the organizations have succeeded in the demarcation for conservation of birds, wetlands and natural forest areas. Through employing Participatory Forest Management (PFM) approach, thousands of hectares of forest lands have been properly managed and those degraded ones rehabilitated making sure that the local communities have benefited. The development of land use plans in some regions has enabled better management of natural resources.



Various projects implemented by the development partners have enabled to build capacities of local communities (men, women and youth), CBOs and government officials to sustain the impacts of development interventions. The different community livelihood projects designed and implemented by the NGOs were key to reduce pressure on the natural environment (soil, water, forests and air) and are contributors for climate change adaptation and mitigation efforts.

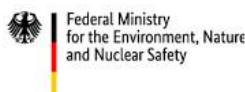
The identified partners have different interventions regarding improving the production of food crops and generate income by the rural households. The implementation of agro-ecology projects by some of the partners has enabled to improve soil management; conservation of farmer managed seeds, reduced pesticide application and enhanced youth and women engagement. The use of local inputs and introduction of farm friendly technologies are some of the best interventions that contributed to improvement of local biodiversity and ecosystem services.

The NGOs and IGOs have demonstrated successful cases of documenting their best practices, starting from the different baseline assessments to the projects impacts evaluations which they have shared in their networks and different platforms. These endeavors have helped them to share their areas of expertise and enhance cross learning and strengthen partnership.

5. Integration/interactions and Coordination Among Actors

Identified areas of integration and coordination among actors (policy-Science-practices)

- 1) Joint planning,
- 2) Information exchange,
- 3) Resource mobilization,
- 4) Research,
- 5) Conflict resolution,
- 6) Conservation
- 7) Law enforcement



The overall level of integration/interactions of all actors ranged from weak to strong and the interactions among actors were remarkably diverse with respect to joint planning, information exchange, resource mobilization, research, conflict resolution, conservation and law enforcement (Fig. 1). The level of interaction of law enforcement among actors was weak, while conservation and information exchange were moderate.

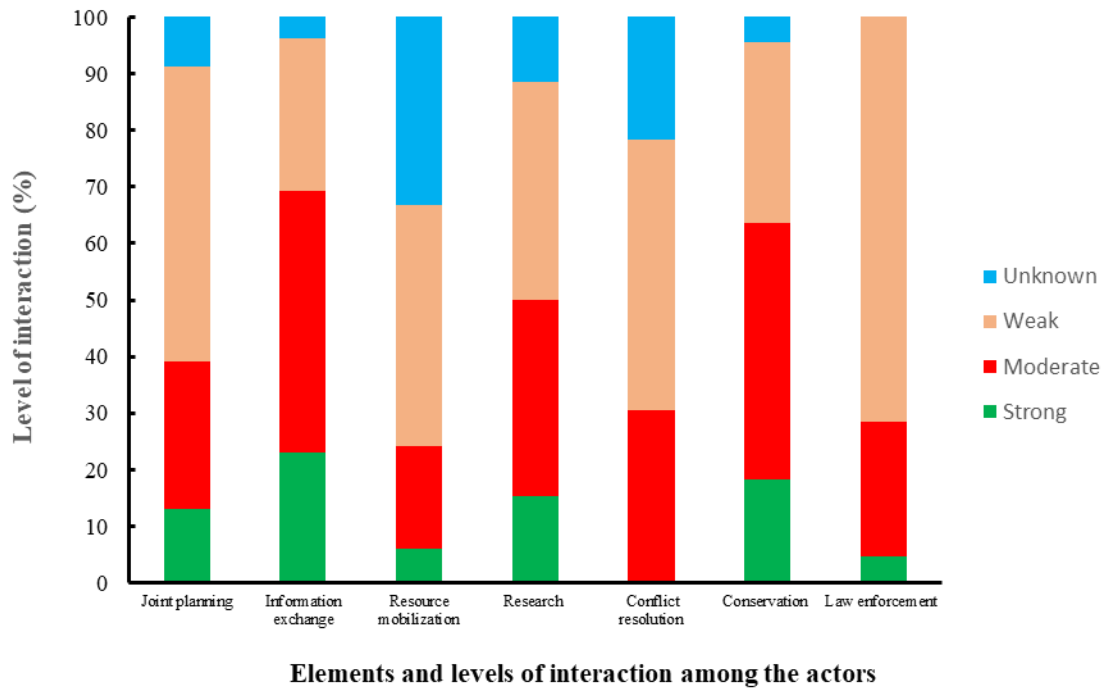


Figure 1. Elements and level of interaction/interactions among all actors

The interactions by main actors of Science-Policy-Practitioners categories in joint planning, research and advocacy, information and knowledge exchange and resource mobilization, capacity building and conservation related activities produced a different situation. The Policy actors (Ministries) interaction was moderate in most cases; while the interaction of Practitioners (NGOs and IGOs) was weak. The majority of interactions in the Science communities was equally weak and medium; and the number of communities which provided no data or declined to comment were equivalent to strong interactions among actors.

The detailed interactions in each category of actors (Science-Policy-Practitioners) are presented in subsequent subchapters.

5.1 Ministries [Policy]

The overall level of interactions among Policy actors was strong in elements of joint planning, information and knowledge exchange but weak in resource mobilization (Fig. 2). However, this interaction was not uniform to each Policy actor.

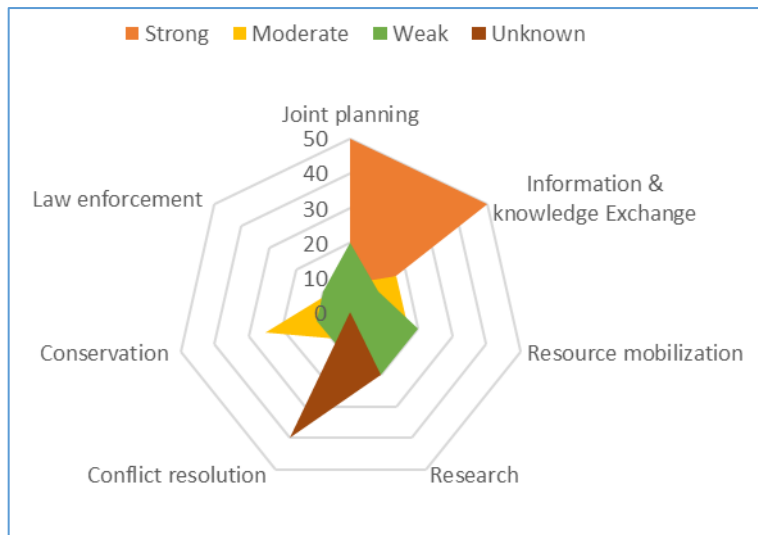


Figure 2. The radar graph showing the level of interactions/integrations among Policy actors.

The Ministry of Agriculture (MoA) is a multi-stakeholder institution. MoA interact with other actors of BES such as with government institutions, non-government organizations (NGO) and private organizations. MoA mainly interacts with actors of BES; specifically, EFD, EBI, EIAR, EMI, MoWE, international DPs like GIZ, ILRI, ICRAF, WFP, WB, local NGOs and regional counterparts that work on land rehabilitation interventions and enhance crop and animal productivity. The interaction and coordination process, was found to be expressed at different levels. The level of interaction with some of the stakeholders was indicated as ‘strong’ and with the others expressed as moderate and weak. Although the vertical interaction and coordination of the MoA with the stakeholders is strong, on the other hand, the horizontal relationship even with the accountable institutions is mostly weak and has a gap; this was confirmed from the secondary data collected from the document released by the institution and the completed questionnaires. The

key actors, MoA was found to interact with on the areas of BES related undertakings, were mainly focusing on joint planning, information and knowledge exchange, resource mobilization and sharing, conservation-related activities, capacity building watershed development, institutionalizing watershed user cooperative (WUC), watershed related livelihood, etc.

The results also showed that the Ministry of Agriculture has been undertaking various collaboration mechanisms or communication channels to interact with the stakeholders on a permanently and temporary basis. The communication channels used for accessing and sharing information were via exchange of regular reports, review and assessment results use of digital media, especially e-mails, websites, and social medias. In addition to these letter exchange, conducting meetings/workshops, and telephone communication have been used.

In discharging its duties and responsibilities, the Ministry of Water and Energy interacts with various BES actors. The most important actors cited were the Ministry of Agriculture (MoA), the Ethiopian Meteorological Institute (EMI) and the Ethiopian Forest Development (EFD). However, the level of the interaction was found to be weak. The most recent joint planning with the Ministry of Agriculture was conducted during the annual afforestation program of the Green Legacy. The ministry interacts in areas of joint planning, conservation-related activities; capacity building; and monitoring and evaluation. The ministry accesses and shares BES-related data and information via planned meetings, exchange of reports and using websites.

The Ministry of Planning and Development's coordination efforts are instrumental in achieving sustainable development objectives, particularly in the areas of development plans and programs, and climate change adaptation and mitigation activities mainstreaming, including the Climate Resilience Green Economy (CRGE) initiative. Through forums, workshops, and meetings, the ministry fosters collaboration, knowledge exchange, and consensus building among various stakeholders. This coordination enhances the effectiveness and efficiency of development initiatives, promotes climate resilience, and facilitates the transition to a green economy. The level of interaction between the Ministry of Planning and Development (MoPD) and the actors in the Biodiversity and Ecosystem Services (BES) was found to be strong in the areas of information and knowledge exchange, as well as resource mobilization and sharing. However, the level of



interaction in conflict resolution mechanisms, conservation-related activities and law enforcement was assessed to be moderate.

5.2 Research and Development Institutions [Science]

Coordination plays a vital role in various aspects of governance and policy implementation, particularly in Ethiopia's efforts towards sustainable development and climate change adaptation. In the context of joint planning, information and knowledge sharing, resource mobilization, law enforcement, and advocacy work, coordination serves as a critical mechanism for effective collaboration among stakeholders.

The overall interaction of the Science actors in major elements of coordination was found to be weak (Fig. 3); which is in contrast to the modern world where research activities are carried out in collaborations. In other words, research in itself is a collaborative and an interactive process which requires researchers to work in strong partnerships across the disciplines and the sectors. Science, technology and innovation can come about through innovative and well-managed partnerships between existing institutions at national and regional levels.

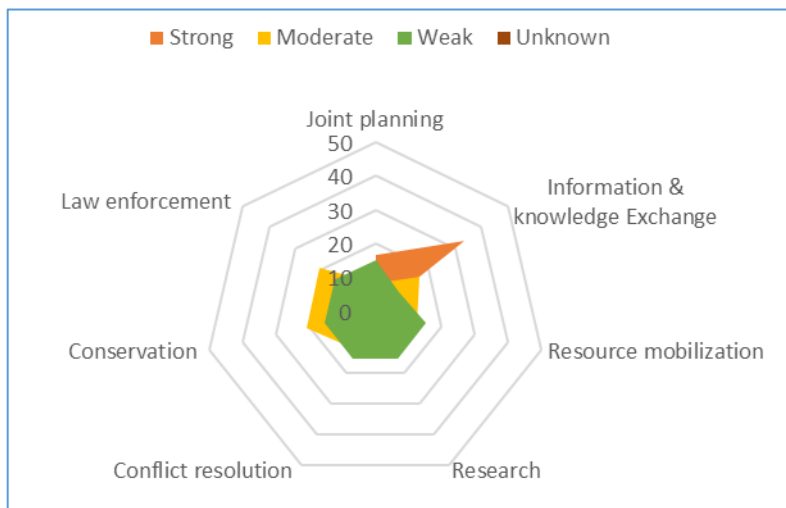
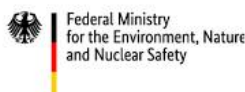


Figure 3. The radar graph showing the level of interactions among the Science actors in major elements of coordination.

EIAR has interaction with BES related actors across the disciplines. EIAR interacts with other actors of BES such as government institutions, non-profit organizations (NGO) and private organizations. EIAR mainly interacts with other actors of BES Specifically, the MoA, EBI, international DPs, local NGOs and regional counterparts in which all actors are working on research on crop and animal productivity. The vertical interaction and coordination of the EIAR with the stakeholders is strong, on the other hand, the horizontal relationship even with the accountable institutions is mostly weak and has a gap.

The Ethiopian Institute of Agricultural Research (EIAR) plays a significant role in engaging with key actors involved in various activities related to Biodiversity and Ecosystem Services (BES). The interaction between EIAR and these actors primarily focuses on information and knowledge exchange, agricultural technology-related activities, and technology dissemination. EIAR serves as a hub for sharing scientific research, data, and best practices related to BES. Through collaborations with other research institutions, government agencies, non-governmental organizations (NGOs), and international partners, EIAR facilitates the dissemination of valuable information and promotes the exchange of knowledge on ecosystem services and sustainable agricultural practices. This exchange of information helps to enhance understanding, build capacity, and foster innovation in the field of BES.

Ethiopian Wildlife Conservation Authority (EWCA) is one of the stakeholder-oriented organizations. Hence, it has interaction with other main actors of BES. These include Ethiopian Biodiversity Institute (EBI); Ministry of Agriculture (MoA); Ministry of Water and Energy (MoWE); Environmental Protection Authority (EPA); and the Ethiopian Forest Development (EFD). In addition to the above main actors, EWCA also interacts with other stakeholders like regional Wildlife and Environmental Bureaus; Ministry of Defense (MoD); Federal police, Regional police offices; police colleges & training centers; all higher learning institutions, all conservation oriented NGOs and partners (GEF/UNDP, Frankfurt Zoological Society (FZS); African Wildlife Federation (AWF), GIZ, KfW, Born Free Foundation (BFF), Wetland International, PHE, Ethiopian Wildlife and Natural History Society (EWNHS); NABU, Melca



Ethiopia, HoAREC/N, International Fund for Animal Welfare (IFAW); Monitoring Illegal Killing of Elephants (MIKE); Ethio-wetlands; etc.); and private investors (Safari organizations). The nature of the relationship and interaction varies from one main actor to the other. With the most main actors the nature of the interaction can be considered to be at weak level. With other close stakeholders like regional wildlife and environment bureaus, conservation-oriented NGOs and private investors, the level of interaction was mostly assessed to be strong. With most of the main actors of BES, the collaboration is mostly limited only to exchange of information. However, with some of the stakeholders like regional wildlife and environment bureaus, conservation-oriented NGOs and private investors, the interaction has grown to the level of joint planning, resource mobilization and sharing, capacity building and other conservation related activities. The communication channels with main actors of BES are mostly related with meetings, workshops and use of internet (emails).

5.3 Higher Learning Institutions [Science]

The statuses of the interactions or the coordination related to the BES significantly vary among the actors. Accordingly, AAU and MIT have strong collaborations or interactions when compared with MOE and AASTU regarding the BES. In general, the areas of interactions are joint planning, information and knowledge exchange and resources mobilization, research and advocacy, capacity building and conservation related activities.

5.4 NGOs and IGOs [Practitioners]

From the assessment work it has become clear that the NGOs have been interacting with the different actors based on their thematic areas of operation at the level of policy, academic and operational levels. Based on their responses, four (50%) organizations have rated their level of interaction as ‘moderate’ and equivalently four (50%) organization have rated ‘strong’ but none of the assessed organizations have rated their level of interaction as weak (Fig. 4).



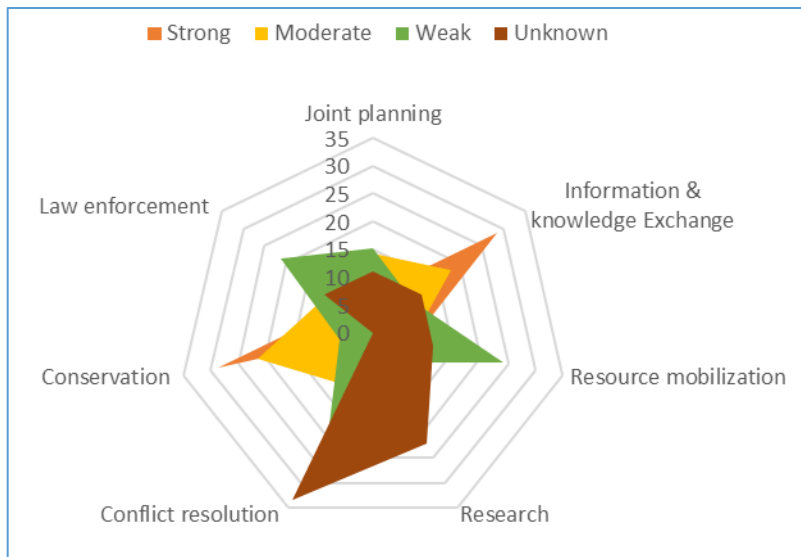


Figure 4. The radar graph showing the level of interactions among the Practitioners in major elements of coordination.

All the institutions who have participated in this exercise have established interactions with government different level decision makers starting from federal to local level which is directly related to their thematic areas of operations. The assessment has also clearly indicated that the different NGOs have an ongoing interaction in terms of developing partnerships with government learning and research institutions to support the development interventions with research works. The community level interaction is so immense that the NGOs are considered to be in the community and working for ecosystem revival. Regarding coordination among the organizations who have responded to the questionnaire, it is indicated that the element of coordination was rated strong by three (38%) organizations and rated weak by the other three (38%) where as two (24%) organizations did not respond to this specific question.

6. Challenges and Opportunities

6.1 Ministries [Policy]

Several challenges hinder the effective management and conservation of Biodiversity and Ecosystem Services (BES) in Ethiopia. These challenges include the lack of a well-organized data

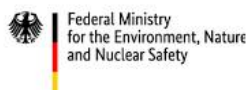
and information management system, knowledge and skill gaps, an awareness gap regarding BES, and a scarcity of resources. Accurate and up-to-date data is crucial for informed decision-making and effective planning in BES management. However, the lack of a centralized and comprehensive system for collecting, storing, and analyzing data poses a significant obstacle. This hampers the ability to monitor biodiversity trends, assess ecosystem services, and evaluate the impacts of human activities on the environment. Without reliable data, it becomes difficult to develop evidence-based policies and strategies for BES conservation and sustainable use.

Another challenge is the knowledge and skill gap among stakeholders involved in BES management. Adequate knowledge and skills are essential for understanding the intricate relationships between biodiversity, ecosystems, and human activities. However, there is a need to enhance the capacity of government agencies, researchers, local communities, and other stakeholders in biodiversity conservation and ecosystem management. This includes training programs, workshops, and knowledge-sharing initiatives to promote a deeper understanding of BES dynamics and effective strategies for their conservation.

Furthermore, there is an awareness gap regarding BES among the general public and key decision-makers. Many individuals may not fully comprehend the importance of biodiversity and ecosystem services or the consequences of their degradation. This lack of awareness can lead to unsustainable practices and insufficient support for conservation efforts. Raising awareness through educational campaigns, public outreach programs, and targeted advocacy can help bridge this gap and foster a greater appreciation for the value of BES.

Additionally, the scarcity of resources poses a challenge to effective BES management. Adequate financial, human, and technological resources are necessary to implement conservation measures, conduct research, and enforce regulations. However, limited funding, staffing shortages, and insufficient infrastructure hinder the efforts to protect and manage biodiversity and ecosystem services. Addressing these challenges require increased investment in BES conservation, both from domestic and international sources, as well as improved resource allocation and utilization.

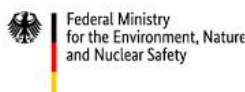
Biodiversity and ecosystem service degradation is continuing in Ethiopia due to population pressure and over exploitation of natural resources; poor watershed management; weak local



institutions setup and capacity for management; limited or no coordination among national institutions for the sustainable management of BES; poor knowledge and lack of awareness about it. Amongst others, lack of proper policy, law and organizational arrangements to enhance coordinated management of the natural resource and the existed legal frameworks and enforcement gap are key factors contributing to unsustainable utilization of biodiversity in the country. Often, wetland wise use is affected by policies that have been developed by governments at different scales. Ability to define root causes and measures including strategies to reverse the challenges affect their impacts. Environmental law has to be founded upon fair, clear, and implementable laws. Sustainable natural resource governance also requires coherent policies that manage cross-cutting issues and promote coordination of actions amongst stakeholders.

The challenges outlined above apply to most Policy Making institutions and MoPD has similar challenges. Lack of well-organized data and information management system, knowledge and skill gap, awareness gap on BES and Scarcity of resource are the most daunting challenges so far identified.

The interaction, coordination, and partnership between the Ministry of Agriculture (MoA) and other key stakeholders involved in Biodiversity and Ecosystem Services (BES) face several significant gaps as outlined above. One major challenge is the presence of sectorial gaps and overlapping institutional mandates across sectors. Different agencies may have conflicting objectives and responsibilities, resulting in a lack of cohesive action and collaboration. Additionally, the policies of these agencies may be misaligned, further hindering effective coordination. Another gap is the absence of a legal framework that facilitates cooperative work among stakeholders. The existing system does not prioritize cooperation during planning, programming, or the exchange of information and knowledge, as each agency focuses solely on implementing its respective mandates. Furthermore, there is a lack of capacity and awareness among stakeholders, limiting their ability to engage effectively in BES-related activities. The ministry encounters challenges in both accessing and sharing of BES-related data and information with other BES actors. The major challenges are unavailability and shortage of complete and sustainable data and information. The causes of these challenges are focusing only on the day-to-



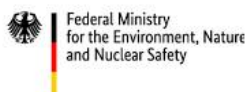
day activities rather than giving attention for the vision and weak follow up on major common issues shared with other main actors. So far some efforts to improve awareness on the challenges have been made so many times but were not effective. For effective tackling of the challenges, the root causes of the gap needs to be identified.

The interaction is very limited that the main actors even don't have common/shared planning and they don't have coordinated monitoring and evaluation programs. Moreover, there is also very weak coordination and limited partnership in that they don't have at least memorandum of understanding (MOU) to work together.

Addressing these gaps is essential to promote better interaction, coordination, and partnership among stakeholders, leading to more effective and sustainable management of Biodiversity and Ecosystem Services.

Despite the above facts, in order to digitize the MoA's operations, preliminary preparation and implementation works based on digitization projects were done by the executive's office. Also, in the renovation work that is going on in the institution, expansion is being done so that the institution has a standard network infrastructure, and the purchase of network equipment is being completed. Tablets were issued from Central Statistics Agency to regions to strengthen agricultural information system in order to modernize agriculture data and information sharing and accessing. Different actors may create enabling conditions/ opportunities within it and for their respective stakeholders. For example, MoA collaborated with World Bank by allocating budget establishing Natural Resource Management -Mapped database information System (NRM-MDIS). Currently the project is found at roll out phase and roll out strategy has been finalized. The MoA has recognized the need to pursue the task of coding watersheds in order to achieve effective watershed management, planning, implementation, progress monitoring, change tracking, and impact studies, establishing platforms, use of the govt structure in all level and updated Community-based Participatory Watershed and Rangeland Development guideline in three volumes among them.

Therefore, developing information management system is crucial, to establish a national biodiversity database to facilitate access to accurate and up to date information and thereby



enhance a nationwide biodiversity monitoring system that enables to tracking of the status and trend of genetic, species, habitats, ecological community diversity and associated knowledge.

6.2 Research and Development Institutions [Science]

Several challenges hinder effective management and conservation of Biodiversity and Ecosystem Services (BES) among the science community (research, education and development institutions/authorities). These challenges include the scarcity, unreliability, and inaccessibility of BES data and information, limited collaboration, coordination, and communication among BES stakeholders, and knowledge gaps and mismatches within the research and policy landscape. The availability of accurate and comprehensive data on BES is crucial for informed decision-making and planning. However, such data is often scarce, unreliable, and difficult to obtain, making it challenging to assess the state of biodiversity and ecosystem services accurately. Additionally, there is a lack of effective collaboration, coordination, and communication among scientists, decision-makers, implementers, and beneficiaries of BES initiatives. This hampers efforts to develop integrated strategies and implement cohesive actions for BES conservation and sustainable use. Furthermore, there are knowledge gaps and mismatches within the BES research and policy domains, as well as among different disciplines and sectors.

Since the major undertakings of EWCA are basically stakeholder-oriented requiring involvement of many relevant actors, lack of interaction or coordination affects the complete fulfillment of its objectives and missions. The main challenges in accessing and sharing BES-related data and information with other BES actors include lack of reliable and up-to-date data and information and lack of commitment among the main actors. The root causes of the challenges are lack of integrated framework and collaboration modality among the main actors and other stakeholders; placement of conservation-oriented institutions under different structural frameworks and sectors; lack of support/funds for establishing platforms, forums, frameworks, database systems, etc. There had been no satisfactory efforts to address the gaps and challenges in accessing and sharing data and information with the main actors and the effectiveness remains at weak level and needs to be strengthened. To that effect, there should be more effective channels of communications that would strengthen the interactions. These could be devising up-to-date information exchange

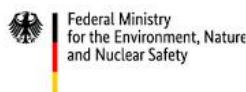


systems, like use of regular reporting formats, arranging of various stakeholders forums at fixed times and establishment of database systems.

The availability of policy and legal instruments is crucial for effective governance and coordination in various fields, including Biodiversity and Ecosystem Services (BES). These instruments provide a framework for establishing guidelines, regulations, and standards that guide the actions of stakeholders. Policy and legal instruments help ensure consistency, accountability, and compliance with international commitments and national priorities in BES management. By providing a clear and robust legal framework, these instruments facilitate coordination and collaboration among stakeholders, enabling them to work together towards common goals.

In addition to policy and legal instruments, the availability of coordination platforms and advisory committees further enhances interaction and coordination among key actors involved in BES. The National Framework for Climate Services (NFCS) serves as a coordination platform specifically designed to enhance resilience to climate-related hazards through improved provision of climate information and services. This platform brings together representatives from regional states, city administrations, and various government agencies, such as the Ministry of Water, Irrigation, and Energy (MoWE), the Ministry of Agriculture (MoA), the Ethiopian Meteorological Institute (EMI), the Environmental Protection Agency (EPA), and the National Disaster Risk Management Commission (NDRMC). The NFCS facilitates regular meetings and discussions, enabling stakeholders to exchange knowledge, share experiences, and jointly plan and implement climate adaptation and mitigation strategies.

Moreover, the establishment of the National Biosafety Advisory Committee provides a specialized platform for addressing biosafety concerns. Comprising representatives from government bodies, higher education institutions, civil societies, and non-governmental organizations, this committee advises the Ethiopian government on issues related to biosafety. By convening biannually, the committee fosters dialogue, knowledge exchange, and collaboration among stakeholders involved in biosafety, ensuring that decisions and policies are informed by diverse perspectives and expertise.



Furthermore, the availability of different forums and platforms, including the Biosafety Clearing-House (BCH), enhances information sharing and cooperation. The BCH serves as an online platform for the exchange of information on Living Modified Organisms (LMO) and is a key tool for implementing the Cartagena Protocol on Biosafety. It enables stakeholders to access and share information, data, and experiences related to biosafety, promoting transparency and facilitating informed decision-making.

Additionally, digital information sharing tools play a vital role in enhancing interaction and coordination among BES stakeholders. These tools, such as online databases, information portals, and communication platforms, enable stakeholders to access and share data, research findings, and best practices. They facilitate real-time collaboration, knowledge exchange, and coordination, overcoming geographical barriers and promoting efficient decision-making processes.

Availability of modern technologies like internet and social media can be potential growth areas for strengthening collaboration and interactions among main actors. In addition to that usage of internationally accredited scientific journals on the web can be effective means of communication channel among major stakeholders (especially regarding the findings of researches in areas of BES).

The growing attention given to the sector by the government and the community, the green footprint program receiving attention, our country's diverse ecosystem and biodiversity has a high potential, especially for cultivating forest plants and supplying the products in abundance to the domestic and international markets. Growing public awareness of the role of forestry in mitigating the effects of climate change; the existence of continental and international agreements to save the climate change and to develop and protect our country's forest resources. The growing demand for forest products in the country and internationally is worth mentioning that there are non-governmental institutions that can make significant contributions in the sector.

6.3 Higher Learning Institutions [Science]

The key challenges mentioned by the four actors are the rules and regulations on the research especially on the requirements (e.g. asking for proposals, duplicate specimens, among others) for the transfer of genetic materials, though this challenge has long been resolved through discussions

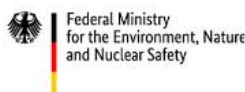


with the national competent authority. Moreover, the lack of systems of joint planning for resource mobilization is a bottleneck for the weak interactions among actors. To tackle, these challenges, the actors have high interests and commitments to enhance interactions through collaborations in areas of joint planning on capacity building, consultation, knowledge generation and resource mobilization.

6.4 NGOs and IGOs [Practitioners]

The assessment feedback regarding whether the NGOs have faced challenges in terms of accessing and sharing BES related data and information has confirmed that out of the eight institutions who completed the questionnaire, five (63%) have responded they have not faced any challenge regarding the subject. Despite this fact, NGOs and IGOs have identified several key challenges in the promotion of Biodiversity and Ecosystem Services (BES). Firstly, there is a lack of a defined and sustainable functional structure to facilitate the promotion of BES, resulting in a lack of synergy among efforts. Without a cohesive and well-organized structure, it becomes difficult to coordinate and align actions for BES conservation and sustainable use effectively. Secondly, there is a shortage of developed databases and standardized data in the field of BES. The absence of comprehensive and standardized data hinders the ability to assess and monitor biodiversity and ecosystem services accurately. Thirdly, there is a need for clear communication lines and sufficient resources to disseminate information to the public. Effective communication and public awareness are vital for fostering support and engagement in BES initiatives. Additionally, institutional restructuring in government sector offices and turnover of staff in local government decision-making positions pose challenges in maintaining sustainable access to information. The lack of a vibrant National Biodiversity Platform (NBP) contributes to weak levels of networking and limited access to updated information. Finally, gaining information about the mandates of different actors and the level of understanding of BES is difficult, as awareness and understanding of BES remain at an immature stage among various stakeholders. Addressing these challenges is essential to improve the promotion and management of Biodiversity and Ecosystem Services.

It is suggested that the presence of NBP is an opportunity to map and mobilize together the key actors of the subject matter through strengthening its human technical, financial capacities to make



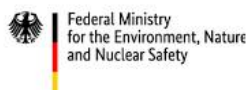
it vibrant platform. The presence of international networks for sharing information and building capacities of partners is another useful opportunity. Working through building partnerships with the universities through signing MoUs is an added value to the different actors to bring in updating of data and generating information for synergized advocacy. The presence of the different actors at different levels is the given opportunity together with local community wisdom for accessing and sharing information. Increasing the level of interaction among the different actors using joint events such as capacity building, campaigns, organizing joint public speeches using the appropriate channel are some of the best opportunities which are required to be emphasized.

5. Recommendations

Based on the key findings of the assessment about the interactions, coordination, challenges and opportunities among key actors involved in Biodiversity and Ecosystem Services (BES), here are some recommendations:

1. Improve interactions and coordination:

- **Information and knowledge sharing:** Establish a central repository for BES data and information that is accessible, reliable, and user-friendly for all stakeholders. This could involve creating a national BES information system or platform.
- **Enhance collaboration and communication:** Organize regular meetings, workshops, and conferences for stakeholders from different sectors to share knowledge, discuss challenges, and develop joint initiatives. Encourage the use of communication tools and platforms to facilitate ongoing information exchange.
- **Bridge knowledge gaps:** Foster closer collaboration between research institutions and policymakers to ensure that research findings are translated into practical policies and programs. Invest in capacity building initiatives to address knowledge gaps within specific stakeholder groups.
- **Develop a sustainable functional structure:** Establish a clearly defined and well-coordinated mechanism for BES governance and implementation. This could involve creating a national BES council or task force composed of representatives from key stakeholder groups.



2. Build on existing opportunities:

- **Strengthen National Biodiversity Platforms:** Utilize existing platforms as hubs for collaboration and knowledge exchange among stakeholders. Invest in their functionality and ensure their inclusivity and effectiveness.
- **Leverage agricultural technologies and information systems:** Integrate BES considerations into existing agricultural technologies and information exchange systems to promote sustainable land management practices.
- **Utilize the National Biosafety Advisory Committee:** Engage the committee in discussions on the potential impacts of BES activities and ensure alignment with biosafety regulations.
- **Expand joint planning and reporting mechanisms:** Encourage the adoption of joint planning and reporting across all stakeholder groups to improve coordination and track progress towards BES goals.

3. Additional recommendations:

- **Expand the scope of the study:** Include both federal and regional institutions in future assessments to obtain a more comprehensive understanding of the BES landscape in Ethiopia.
- **Conduct regular monitoring and evaluation:** Regularly assess the effectiveness of interventions and adjust strategies as needed to ensure continued progress towards BES goals.
- **Raise awareness and build public support:** Engage with the public through education and outreach programs to raise awareness of the importance of BES and garner support for conservation efforts.

By implementing these recommendations, the EBI and other stakeholders can improve interactions and coordination among key actors, address challenges, and capitalize on existing opportunities to promote the conservation and sustainable use of Ethiopia's biodiversity and ecosystem services.



6. Acknowledgment

The working team would like to extend its grateful gratitude to the Ethiopian Biodiversity Institute (EBI) for arranging and facilitating these assessment undertakings; the BES-NET II project for financing the assessment and providing valuable resources; and all Institutions who have collaborated with us in delivering the required information.

7. References

- The BES-NET II project documents;
- National Ecosystem Assessment (NEA) books and policy briefs;
- Proclamation of “Definition of Powers and Duties of the Executive Organs” (No. 1263/2021) and establishment proclamations/regulations of each institution;
- National Biodiversity Strategy and Action Plan document

8. Appendix

Appendix 1. List of National Biodiversity Platform [Potential] Members in Ethiopia

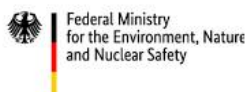
No.	Name of Institution	Category
1.	Agricultural Affairs Committee	Parliament Committees
2.	Legal and Justice Affairs Committee	
3.	Water, Irrigation lowland development Affairs Committee	
4.	Industrial and Mining Development Affairs Committee	
5.	Trade and Tourism Affairs Committee	
6.	Urban Infrastructure and Transport Affairs Committee	
7.	Health, Social Development, Culture and Sport Affairs Committee	
8.	Democracy Affairs Committee	
9.	Government Development Institutions Affairs Committee	
10.	Plan, Budget & Finance Affairs Committee	
11.	Office of the Prime Minister	Ministries
12.	Ministry of Agriculture	
13.	Ministry of Foreign Affairs	
14.	Ministry of Irrigation and Lowland	
15.	Ministry of Water and Energy	
16.	Ministry of Trade and Regional Integration	



17.	Ministry of Industry	
18.	Ministry of Education	
19.	Ministry of Innovation and Technology	
20.	Ministry of Tourism	
21.	Ministry of Planning and Development	
22.	Ministry of Finance	
23.	Ministry of Women and Social Affairs	
24.	Ministry of Defense	
25.	Ministry of Peace	
26.	Civil Service Commission	Commissions and Services
27.	Government Communication Service	
28.	Industry Parks Development Corporation	
29.	Ethiopian Investment Commission	
30.	Ethiopian Customs Commission	
31.	Federal Police Commission	
32.	DHL Ethiopia	
33.	Ethiopia Postal Service	
34.	The Ethiopian Cooperatives Commission	
35.	Ethiopian Statistical Service	
36.	Ethiopian Road Administration	Federal Research Institutions and Authorities
37.	Ethiopian Community Health Institute	
38.	Environment Protection Authority	
39.	Ethiopian Intellectual Property Authority	
40.	Ethiopian Space Science and Technology Institute	
41.	Agricultural Transformation Institute	
42.	Ethiopian Biotechnology Institute	
43.	Ethiopian Meteorology Institute	
44.	Ethiopian Forestry Development	
45.	Ethiopian Institute of Agricultural Research	
46.	Policy Study Institute	
47.	Ethiopian Biodiversity Institute	
48.	Ethiopian Geospatial Information Institute	
49.	Petroleum and Energy Authority	
50.	Ethiopian Biodiversity Institute Biodiversity Centers	
51.	Gullele Botanic Garden	
52.	The Ethiopian Veterinary Institute	

53.	Ethiopian Wildlife Conservation Authority	
54.	The Livestock Development Institute	
55.	The Ethiopian Coffee and Tea Authority	
56.	The Ethiopian Agricultural Authority	
57.	Ethiopian Geological Institute	
58.	Mineral Industry Development Institute	
59.	Ethiopian Cultural Heritage Authority	
60.	Technical and Vocational Training Institute	
61.	The Biotechnology and Emerging Technology Institute	
62.	The Ethiopian Technology Authority	
63.	The Space Science and Geospatial Institute	
64.	The Water Technology Institute	
65.	The Ethiopian Public Health Institute	
66.	The Armauer Hansen Research Institute	
67.	The Ethiopian Food and Drug Authority	
68.	Addis Ababa University	Higher Education Institutions
69.	Haramaya University	
70.	Gonder University	
71.	Bahirdar University	
72.	Jimma University	
73.	Hawassa University	
74.	Arba Minich University	
75.	Mekelle University	
76.	Semera University	
77.	Jigjiga University	
78.	Gambella University	
79.	Asosa University	
80.	Kotebe Education University	
81.	Federal Technical and Vocational and Training Institute	
82.	Civil Service University	
83.	Biological Society of Ethiopia	
84.	Forestry Society of Ethiopia	
85.	Fisheries Society of Ethiopia	
86.	Ethiopian Environmental Health Professionals Association	
87.	Association of Art Professionals	

88.	Association of Media Professionals	Regional Institutions
89.	Association of Traditional Medicine Practitioners	
90.	Amhara Region Agricultural Research Institute	
91.	Oromia Region Agricultural Research Institute	
92.	Tigray Region Agricultural Research Institute	
93.	Debub Agricultural Research Institute	
94.	Somali Region Pastoral and Agro-pastoral Research Institute	
95.	Afar Pastoral and Agro-pastoral Research Institute	
96.	Oromia Forest and Wild Life Enterprise	
97.	Amhara Forest Enterprise	
98.	SNNPR Forest Development Enterprise	Industry/Companies
99.	MIDROC Ethiopia	
100.	BGI Ethiopia	
101.	HEINEKEN Ethiopia	
102.	Ethio-Leather Industry	
103.	Eden Business Co., Ltd (Eden Spring Water)	
104.	Ethiopian Horticulture Producer Exporters Association	
105.	Yes Spring Water	NGOs/IGOs
106.	MELCA Ethiopia	
107.	Farm Africa	
108.	NABU	
109.	Pelem Ethiopia	
110.	Institute for Sustainable Development	
111.	Ethio-Wetlands Association	
112.	PHE Ethiopia Consortium	
113.	Organization for Rehabilitation and Development in Amhara	
114.	Ethiopian Wildlife and Natural History Society	
115.	International Livestock Research Institute	
116.	Horn of Africa Regional Environment Center and Network	
117.	International Maize and Wheat Improvement Center	
118.	Center for International Forestry Research	
119.	Global Green Growth Institute	
120.	BIODEV/IUCN	
121.	Inter-Religious Council of Ethiopia	



122.	Ethiopia Broadcasting Corporation	Media
123.	Fana Broadcasting	
124.	Walta Information Center	
125.	EBS	
126.	The Ethiopian Herald	
127.	Addis Zemen	
128.	Ethiopian Press Agency	
129.	Ethiopian Radio	
130.	Sheger FM	
131.	Bisrat Radio	

Appendix 2. List of prioritized/refined institutions related to BES (Science -Policy -Practice).

No.	Name	Category	Type
1.	Ministry of Agriculture	Policy	Government
2.	Ministry of Energy and Water	Policy	Government
3.	Ministry of Irrigation and Lowland	Policy	Government
4.	Ministry of Planning and Development	Policy	Government
5.	Ministry of Education	Policy	Government
6.	Ministry of Innovation and Technology	Policy	Government
7.	Ethiopian Biodiversity Institute	Science	Government, Research
8.	Ethiopian Institute of Agricultural Research	Science	Government, Research
9.	Ethiopian Meteorological Institute	Science	Government, Research
10.	Ethiopian Agricultural Transformation Institute	Science	Government, Research
11.	Ethiopian Forest Development	Science	Government, Development



No.	Name	Category	Type
12.	Environmental Protection Authority	Science	Government, Authority
13.	Bio and Emerging Technology Institute	Science	Government, Research
14.	Ethiopian Wildlife Conservation Authority	Science	Government, Authority/Research
15.	Policy Study Institute	Science	Government, Research
16.	Gullele Botanic Garden	Science	Government, Research
17.	Ethiopian Wildlife and Natural History Society	Practitioner	Local NGO
18.	Institute for Sustainable Development	Practitioner	Local NGO
19.	Melca Ethiopia	Practitioner	Local NGO
20.	ETHIO Wetlands	Practitioner	Local NGO
21.	HOAREC&N	Practitioner	Regional Network
22.	PELUM-ETH	Practitioner	Local NGO
23.	GGGI	Practitioner	IGO
24.	IUCN	Practitioner	IGO

Appendix 3. Semi-structured Questionnaire for the assessment on the state of the main actors related to Biodiversity and Ecosystem Services (**BES**) in Ethiopia.

I. General information

1. Name of the main stakeholder-----
2. Address-----
3. Year of establishment -----
4. Types of stakeholders
 - A/ Government
 - B/ CSO/NGO/ Development Partners
 - C/ Private sector
 - D/ Others
5. Category of the stakeholder
 - A/ Science
 - B/ policy
 - C/ Practitioner/Operator
6. Key mandate and responsibilities of the stakeholder

II. Institution specific questions

1. Does your Institution take part in BES -related undertakings A/ “yes” B/ “No”
2. Does your Institution interact with other actors of BES? A/ “yes” B/ “No”
3. If you answer to Q2 is “yes”, which actors does your Institution interact with? ----
-----,-----,-----
4. If your answer to Q2 is “Yes”, how do you judge the level of interaction among the stakeholder?



A/ Strong B/ Moderate C/ Weak D/ No idea

5. In what areas of BES related undertakings does your Institution interacts?

A/ Joint planning B/ Information & knowledge exchange, B/ resource mobilization and sharing, C/ research & advocacy works, D/ conflict resolution mechanisms, E/ Conservation-related activities F/ Capacity building G/ Law enforcement H/ Monitoring and evaluation I/Other(specify). -----,-----,-----
-----,-----,-----

6. What are your Institution’s key achievements in relation to BES? -----
-----,-----,-----

7. How do you access and share BES -related data and information? -----

8. Did your Institution encounter challenge in accessing/sharing BES-related data and information and also sharing with other BES actors?

8a/ Would you please specify the challenges? -----
-----,-----

8b/ Is there is any efforts to resolve these challenges? -----

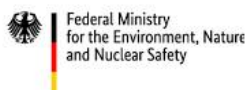
8c/ What are the opportunities for improving knowledge and information accessing/sharing among BES stakeholders? -----,-----
-----,-----

9. Is there any coordination between your institution and other stakeholders of BES?

A/ yes, B/No

10. If your answer to Q9 is “Yes”, what do the element and level of coordination looks like?

	Level of coordination
--	-----------------------



Element of coordination	high	Medium	low	No idea
Joint Planning				
Information & knowledge exchange				
Resource mobilization and sharing				
Research & advocacy works				
Conflict resolution mechanisms,				
Conservation-related activities				
Law enforcement				

11. What are the major gaps regarding interaction, coordination and partnership among main BES stakeholders; -----, -----, -----

12. What do you think are the major needs required to strengthen the interaction and partnership among main BES stakeholders;

13. What are the possible contributions your Institution will make towards enhancing the interaction and coordination among BES stakeholders? -----

Appendix 4. Composition of the Working Team

No.	Name	Affiliation	Remark
1.	Dr. Abiyot Berhanu	Ethiopian Biodiversity Institute	Chair
2.	Ato Abera Seyum	Ethiopian Biodiversity Institute	Secretary
3.	Ato Wubshet Teshome	Ethiopian Biodiversity Institute	Member
4.	Dr. Debissa Lemessa	Addis Ababa University	Member
5.	Ato Gizaw Gebremariam	Institute for Sustainable Development	Member
6.	Ato Befekadu Berhanie	Ministry of Agriculture	Member
7.	Ato Tegene Tadesse	Ethiopian Forest Development	Member
8.	Ato Shimekit Beyene	Ethiopian Environmental Protection Authority	Member
9.	Ato Mesfin Hailu	Ethiopian Wildlife Conservation Authority	Member