

Final technical report – Small Technical Grants for Assessment

**ORGANISATION NAME: ETHIOPIAN
BIODIVERSITY INSTITUTE**

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General information

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List of Acronyms and Abbreviations

BIOPAMA	Biodiversity and Protected Area Management
CBD	Convention on Biological Diversity
EBI	Ethiopian Biodiversity Institute
EFAP	Ethiopian Forestry Action Programme
EFCCC	Environment, Forest and Climate Change Commission (of Ethiopia)
EFD	Ethiopian Forest Development
EPRDF	Ethiopian People's Revolutionary Democratic Front
EWCA	Ethiopian Wildlife Conservation Authority
FAO	Food and Agriculture Organization (of the United Nations)
GBO	Global Biodiversity Outlook
GD-PAME	Global Database on Protected Area Management Effectiveness
IBA	Important Bird Area
IUCN	International Union for Conservation of Nature
MDG	Millennium Development Goal
METT	Management Effectiveness Tracking Tool
NFPA	National Forest Priority Area
OCST	Office of Culture Sport and Tourism
OFWE	Oromia Forest and Wildlife Enterprise
PA	Protected Area

RAPPAM	Rapid Assessment and Prioritization of Protected Area Management
REDD+	Reducing emission from deforestation, forest degradation and other sustainable forest management activities
SNNPR	Southern Nations', Nationalities' and People's Region
STGA	Small Technical Grants for Assessment
UNEP	United Nations Environmental Programme
UNESCO-MAB	United Nations Educational, Scientific and Cultural Organization - Man and the Biosphere
WCMC	World Conservation Monitoring Centre
WDPA	World Database on Protected Areas
WH	World Heritage

I. Project overview

In this section, please provide a brief overview of the project main activities, including the priority area/s targeted (provide WDPA ID) if applicable, and the type of assessment/s undertaken.

Enhancing data providers/stakeholders of PAs RAPPAM assessment skill building and conducting RAPPAM assessment main activities were planned in the project. The spatial data quality status of PAs of the country with associated attributes, the possible contributing factors for data errors and its implications for governance and management effectiveness assessment were undertaken.

The assessment was originally planned to evaluate for the 98 PAs of the country for which data was available in the WDPA database as of 06 May 2021 (available at <https://www.protectedplanet.net/en>; accessed on 06 May 2021). However, there were many more PAs obtained from the RAPPAM survey that have not been registered in the WDPA database. These data were collected during the RAPPAM survey not by design. However, some participants filled out the RAPPAM online survey for some of the new PAs under their management. If we do another survey that considers an exhaustive assessment of PAs in the country, we may get even more data. On the contrary, some of the PAs among the 98 PAs subject to this investigation have already been abandoned/left without needed protection. Nevertheless, data on the abandoned PAs are still maintained in the WDPA database.

The assessment includes the different categories of PAs, which are administered by different agencies (i.e. federal or regional institutions). However, due to the security problem during the assessment period, the assessment does not include experts from the Tigray regional state. Fortunately, the PA in the Tigray region is managed by the federal government and those individuals participated in the assessment.

II. Project achievements and recommendations

In this section, please provide a brief summary of the main achievements of the project and key recommendations; as well as a high-level summary of the impact of the project.

This section describes a brief summary of the main achievements of the project and key recommendations; as well as a summary of the contributions of the project for engaging relevant stakeholders in PA data management.

i. Abrief summary of the main achievements

The enhanced skills of experts, created awareness of PA data providers, and the produced RAPPAM assessment report for 98 PAs of Ethiopia are the major achievements of the project.

a) Skill development and awareness creation

Thirty-six people working on park managers, experts and PA's data providers skill was enhanced on managing spatial data, conducting RAPPAM assessment, and managing geoportal data and information sharing. Moreover, as a party to the CBD, they aware of the need for fulfilling their obligations that Ethiopia has to submit the country's PA data to the PAs Programme of the UNEP-WCMC (United Nations Environmental Programme - World Conservation Monitoring Centre), Furthermore, they abled how to utilize the WDPA manual and explore platform and hence they familiarized with them.

Accordingly, they explored the platform and are aware that as of December 2020, Ethiopia has submitted and registered spatial data and associated attribute information for 98 PAs in the World Database on Protected Areas (WDPA) or IUCN database. Eventually, they understand the importance of data management for improved management of PAs and fill out the online survey and conduct the assessment .

b) Conducting the RAPPAM assessment

- The quality of the two data types (i.e., spatial and attribute) were evaluated, the

possible contributing factors for the data error were identified and some of the errors were fixed, while the rest have been documented for the subsequent priority actions.

- An updated dataset which will be complies with the Protected Planet Data Standards was produced, the National Biodiversity and PACs monitoring system i.e., the Ethiopian Biodiversity Institute geoportal (geoportal.ebi.gov.et) was improved as well as the updated data was uploaded to the portal and will be shared with the Eastern Southern Africa Regional Reference Information System (RRIS) <https://esahub.rcmrd.org/en/ethiopia/109-ethiopia-summary> once ground thruth based data validation will be condcuted. Becuase of budget limitation ground truth based data valiadation was not conduted in this assessment. Hence, in the future this activtiy demands looking for financial resources.

ii. Key recommendations for future action

The assessment results revealed that both the geometry of the polygons and the associated attribute data of PAs in Ethiopia suffered from critical quality problems. The results from the RAPPAM survey do not perfectly fit with the reported values for some of the variables indicating the presence of inconsistent data or incoherent reporting. The values for some of the variables like designation status were reported decades ago and have not been updated and submitted as per the IUCN -WPDA schedule. Even after the status for some of them has been changed, typical example National Forest Priority Areas. Limitations in conducting regular assessments of the status of PA data brought about a lack of updating problems. Implications of the PAs data quality problems for their governance and management effectiveness assessments were identified.

Accordingly, the following points have been suggested as subsequent priority action for enhancing the quality of both data and improving the data management efforts.

- Nationally adopted and internationally accepted PA definition and designation categories are important for a proper understanding of the context and effective management. However, in Ethiopia there is a lack of comprehensive documents showing designation categories and their corresponding definition of protected areas that complies with international standards. The national-level classification of PAs designation stated in different legislation documents should be discussed and harmonized in line with the requirements for international commitments and produce one national guideline.
- In-country the data providers institutions have a limited tradition of maintaining a spatial database system. This is due to their lack of integrated database systems within and among them. This indicates that the tradition should be changed, otherwise, the sector will not be able to cope with the escalating demand for updated information and benefit the stakeholders engaged in PA management. Strengthening, good practice for the use of spatial database systems will resolve the problems of duplication/overlaps, inconsistency, outdatedness, duplicated efforts and data defragmentation. Therefore, the national biodiversity and PAs spatial database system i.e., the EBI geoportal should be improved with respect to the data providers limited data management tradition.
- There is a need for capacity enhancement programs in the sector. Experts engaged in PA management and data handling should get refresher courses in database management, spatial data handling and related topics

using integrated database systems modality including the updated WDPA platform. The training level should be intermediate and advanced-level.

- The PAs management authority should give a priority for land certification issues to keep land users engaged in development endeavours with a sustainable land use approach to achieve sustainable development. Particularly, the private sector remains reluctant of involving in big and long-term investments like PAs centered forestry, ecotourism and other land-based development projects. They demand certification issues be settled a priori. In Oromia region the Oromia Forest and Wildlife has a good practice on this issue and hence other regional states need to be adopt this practice.
- The government should decide on the institutional setup of many of the PA management agencies, especially the forestry sector. The assessment results have shown that most of the irregularities in the PA data occur for the NFPAs. The institutional arrangement of this sector has been changed so often. Although planned changes are useful, this dynamicity should not limit data management efforts. For the sector to be effective in producing useful information and supporting development and conservation objectives, a stable institution is needed.
- Furthermore, PA management authorities should establish a kind of consortium to harmonize their data collection protocols and strengthen the existing Ethiopian Biodiversity Institute geoportal to use it as integrated database systems for ease of updating their data. Accordingly, the governance structure of most of the PAs should be checked for their feasibility of effective data sharing and updates.

iii. High-level summary of the impact of the project

The project products, mainly the updated PAs data and improved EBI geoportal, contributes towards the country related policy, program and strategy.

The contribution can be at their different stages i.e., formulation/preparation, implementation, monitoring and evaluation. Integrated Land Use Planning and Policy Preparation initiative, Forest Sector Development Programme, and Post 2020 Global Biodiversity Framework (GBF) are among thematic areas can benefit from the project outcomes.

National Integrated Land Use Planning and Policy Preparation Project

The National Integrated Land Use Planning and Policy Preparation Project Office, which is housed in the Ethiopian Ministry of Planning and Development (MoPD), has started formulating a National Integrated Land Use and Planning policy frame-work.

It is a broad policy frame-work that links the issues of biodiversity conservation in Protected Areas to other sectors to monitor the sectoral trade-offs and synergies. The frame-work is required due to lack of appropriate integrated policy that guides the land uses of different sectors and resources that are competing for the same type of land resources. It is believed that the policy will bring a halt to natural resources degradation that is happening at an alarming rate.

The hitherto land use plan considers mainly the rural land resources and hence the updated PAs data and developed geoportal would improve the planning process to implicitly consider conservation in PAs as part of a range of appropriate land uses, and seek to avoid conflict between the conservation and other sectors, such as agriculture, forestry, fishery, mining, tourism, and urban and regional planning. It should also serve the decision-making processes through supplementing the land use policy should put a strategy to guide in

allocating a representative PAs system to protect the ecosystems and its services as well as biodiversity of the country.

To follow up the implementation process EBI will communicate the Integrated Land Use Planning and Policy Preparation Project Office and other relevant entities within the ministry in combinations of various means of communications such as in person, telephone, e-mail, and a meeting to make sure that conservation of biodiversity in PAs is an integral part of integrated land use planning.

The Ethiopian Biodiversity Institute Geo-portal (geo.portal.ebi.gov.et), will be employed as means of communication. The focal persons who will be assigned, registered and provided with privileges to access the geo-portal and updated PAs data.

Forest sector development programme

The country has formulated and started implementing the ten years National Forest Sector Development Plan (NFSDP) (2016-2025). This plan is a country-driven initiative that serves as a master plan for the enhancement of sustainable forest management in the country for the period ranging from 2016 to 2025.

Currently, the NFSDP is serving as a guiding document for policymakers, development partners, NGOs, CSOs and the private sectors outlining the key actions that will lead to the transformation of the forest sector

Effective forest biodiversity conservation in PAs, Biosphere Reserves and *National Forest Priority Areas (own italic)* are among priority actions which are identified in the program, however, the status of NFPAs need investigation. Therefore, these project products can contribute to strengthening further status assessment of the country NFPAs.

To follow up the implementation process EBI will communicate the agency in combinations of various means of communications such as in person, telephone, e-mail, and a meeting to make sure that conservation of biodiversity in PAs is conducted as per the 10 years FSDP action plan.

The Ethiopian Biodiversity Institute Geo-portal (geo.portal.ebi.gov.et), will be employed as means of communication. The focal persons who will be assigned, registered and provided with privileges to access the geo-portal and the updated PAs data.

National Spatial Biodiversity Assessment and Post2020 GBF

Moreover, the project products will be used for updating the next spatial biodiversity prioritization and assessment of the country. Ethiopia has conducted its first kind spatial biodiversity assessment that will provide information with which the planners can design, implement and monitor policies, strategies and action plans (detailed are found <http://geo.portal.ebi.gov.et/documents/884>). The assessment is updated every five years.

Furthermore, the project provides support for the upcoming post-2020 National Biodiversity Planning target setting, tracking implementation and monitoring through exercising spatial planning approach and mapping techniques particularly target one and three of the framework. Since spatial planning includes a variety of approaches and initiatives, tools and instruments, from which lessons may be learnt for biodiversity governance, the good practice documented by implementing these STGA products will be used for the improvement of spatial planning process of the country. Ethiopian Biodiversity Institute will coordinate the implementation of this recommendation.

However, in general, at this stage, the geo-portal is not fully functional and hence this urges searching for additional funds to strengthen and fully functional: additional analytical tools and further training are required.

III. Work accomplished by project activities

In this section, please describe the work carried out for each planned activity and associated results, following the structure of your logical framework*. Ensure to submit an updated version of your logical framework (Excel document) with this report and complete the table in Annex 1. Please also highlight any activity that could not be carried out.

This section presents the **planned activities and associated results** as per the logical framework. Developed data providers/stakeholders of PAs RAPPAM assessment skill and conducted RAPPAM assessment results were accomplished.

Result 1 Developed data providers/stakeholders of PAs RAPPAM assessment skill

Activity 1.1. Providing training to workshop participants (park managers, data providers/stakeholders of PAs) on RAPPAM assessment, basic of GIS and EBI geoportal manipulation.

The trainings were conducted for enhancing human capacity through awareness raising and hands-on training during the consultative workshop and face-to-face discussion during the backstop support at their respective offices based on the RAPPAM methodology. The methodology is the most thorough and effective approach to holding an interactive workshop in which PA managers, policymakers and other stakeholders participate fully to conduct the assessment

Totally, sixty-seven participants (58 males and 9 females) attended the training workshop. Out of the 67 participants, 36 were trainees whereas the rest 31 were officials from different sectors and support staff. Senior scientists from Addis

Ababa University, EFCCC (Environment, Forest and Climate Change Commission; currently restructured as Ethiopian Forest Development - EFD), Ethiopian Biodiversity Institute (EBI), Ethiopian Wildlife Conservation Authority (EWCA), officers from regional (sub-national) bureaus and PA managers from regional and federal institutions attended the workshop.

The skill enhancement has focused on spatial data management, the RAPPAM survey methodology and information dissemination on the GeoNode data management system.

The details of the initial workshop are presented in text box 1. The main reason for documenting the workshop process and making a component of this report is to trace back their engagement for future periodic assessments. This will help them retrieve the problems with the data and make corrections based on their mandate related to PAs in Ethiopia and capacity-building approaches.

Box 1: The initial workshop run for adopting the RAPPAM approaches

The initial workshop was held for three days from August 31 - September 02, 2021, at the Ethiopian Management Institute in Bishoftu town, Ethiopia.

The General Director of the EFD, H.E. Mr Kebede Yimam; the General Director of the EBI, Dr Melesse Maryo; the Deputy General Director of EBI, Dr Feleke Woldeyess; and the Director General of the Ethiopian Wildlife Conservation Authority (EWCA), Mr Kumera Wakjira attended the workshop. These institutions represented by the higher officials are the key government bodies responsible for managing PAs in Ethiopia. In general terms, at the national level, wildlife PAs, natural forests, and *in situ* conserved natural forests and biosphere reserves are coordinated by EWCA, EFD, and EBI, respectively.

The consultative workshop had components of presentation, hands-on training and group discussion. The training targeted introducing the basics of spatial data evaluation and editing using QGIS, describing the RAPPAM methodology, and highlighting the EBI geoportal user interface. Alpha geomatics consulting firm undertook the technical tasks

of the workshop and assisted the RAPPAM survey. The consultant prepared training material ahead of the workshop, which was given to the participants during the workshop. The RAPPAM survey was administered online using the google forms platform.

Higher officials participated in the opening and closing sessions of the workshop. In the opening ceremony, Mr Tariku Geda who is the project coordinator at the EBI introduced the schedule . Following the introduction of the workshop schedule, the General Director of the EBI, Dr Melesse Maryo highlighted the workshop objectives and issues such as the role of biodiversity and PAs for sustainable development, Ethiopia's efforts in biodiversity and PA conservation as well as the post-2020 global biodiversity framework. He also noted that EBI has long been engaged in various aspects of biodiversity conservation with great contributions to the national biodiversity database/geoportal/ development. He further stressed that Ethiopia's PA data needs updating as per the WDPA standard/ manual and why the assessment of Ethiopia's PA data quality: for improved PA management and governance-RAPPAM assessment' project implementation has been proposed. Afterwards, he invited the guest of honour, the General Director of the EFD of the Federal Democratic Republic of Ethiopia, H.E. Mr Kebede Yimam to open the workshop.

H.E. Mr Kebede highlighted the role of forest biodiversity in sustainable development in ecotourism and agricultural production. "However, a vast area of land faced degradation problems," said H.E. Mr Kedebe. Accordingly, to cope with these challenges, Ethiopia has formulated a Climate Resilient Green Economy Strategy (CRGE) in which the forest sector is identified as one of the four pillars and has planned to implement it in a Green Growth development approach. In line with this, the country has formulated and started implementing the REDD+ strategy, Bamboo development strategy and a ten years National Forest Sector Development Plan (NFSDP) (2016-2025). This plan is a country-driven initiative that serves as a master plan for the enhancement of sustainable forest management in the country for the period ranging from 2016 to 2025.

Currently, the NFSDP is serving as a guiding document for policymakers, development partners, NGOs, CSOs and the private sectors outlining the key actions that will lead to the transformation of the forest sector, said H.E.

He further stated that effective forest biodiversity conservation in PAs, Biosphere Reserves and *National Forest Priority Areas (own italic)* are among priority actions which

are identified in the program, however, it is paradoxical to see Ethiopia importing forest products while we have suitable climate and environmental conditions to grow forests. Therefore, to alleviate the conservation-related challenges in the country several conservation measures have been taken through different conservation approaches such as Participatory Forest Management, Area Closure and other forest landscape restoration initiatives.

According to Mr Kebede nowadays, these priority actions are being implemented in collaboration efforts among different stakeholders' including federal institutions such as the Ethiopian Biodiversity Institute and Ethiopian Wildlife Conservation Authority and the regional respective bureaus. H.E. recognized the role of these institutions and the STGA in improving the PA data quality in compliance with WDPA.

After the opening remarks, Mr Kumera Wakjira, the Director General of EWCA, gave a keynote speech. In his speech, it is recognized that we are ineffective in PA and other conserved areas management, which manifests itself through the PA data quality in compliance with WDPA that remained un-updated for a long time as per the IUCN-WDPA schedule.

He further noted that the ineffectiveness arises from inadequate human and financial resources, and less participation of the public in conservation among others. Mr Kumera added that the small technical grant fund obtained by EBI from the European Union and the Organization of Africa, Caribbean and Pacific States for the assessment of PA data quality is believed to contribute towards improving and updating Ethiopia's PA data in compliance with WDPA.

All the speakers acknowledged the BIOPAMA program for sponsoring this project, which is a basic step for enhancing the quality of data and improving the management and governance of PAs in the country.

After the keynote address, participants introduced each other and four presentations were conducted. The presenters are from EWCA, EFD and EBI and the main objectives of their presentation were to share experiences based on the institutional mandates of the presenters related to the agenda. Mr Gebremeskel Gizaw from EWCA (focal person of BIOPAMA to Ethiopia) presented the assessment report on lessons learnt on wildlife PA database status of Ethiopia. In his presentation, much scientific evidence was raised

on the lack of unanimous countrywide data reporting and ambiguity in the status of wildlife PAs. Similarly, Mr Bizuayehu Alemu who is a GIS expert of the EFD presented the status of Ethiopia's *National Forest Priority Areas (NFPAs)* (own italic) data. Mr Tariku Geda presented the data status of Ethiopia's biosphere reserves, which are coordinated at the national level by EBI. He also gave an overview of the EU and ACP BIOPAMA program action component and the BIOPAMA STGA project.

Then, the fourth presentation was technical and was given by the Alpha Geomatics consulting team. Dr Habitamu Taddese, a trainer from the Alpha Geomatics consulting team, provided an overview of the RAPPAM methodology for evaluating the data quality of PAs in Ethiopia. There was a brief introductory training and hands-on practice on the basics of QGIS for spatial data manipulation.

Finally, the training component from the consulting team was a briefing on the importance of integrating the PA data with EBI geoportal and practical demonstration. This presentation gave the overall highlight of the activities and the senses of the RAPPAM questionnaire and objectives. It helped the participants to understand the RAPPAM methodology and determine the priority actions based on the assessment of the status of the PAs. It enabled participants to understand the importance of the RAPPAM survey. Furthermore, it helped them to investigate the data quality problems of PAs and provided background justification for exploring remedies. Hands-on training was offered on the basics of geographic information systems using QGIS and the application of the GeoNode content management system for managing and visualizing data of PAs in Ethiopia.

Discussion continued with participants chaired by the EBI Deputy Director, Dr Feleke Woldeyes and Mr Kumera Wakjira. Senior scientists from different organizations raised important scientific issues and gave suggestions. Participants and senior scientists from Addis Ababa University, EFCCC, EBI, EWCA, regional bureaus and protected managers reflected on the presentations. The discussion facilitators and participants forwarded ongoing activities and gave responses to some questions raised during the discussion. Key messages from these individuals are described under objective 2 below.

The following results are generated based on the feedback from participants and RAPPAM questionnaire response

Objective 2. Conducting RAPPAM assessment

Activity 2.1. Conducting the RAPPAM assessment and improving PACs monitoring system (EBI geoportal).

The assessment was conducted following the steps and assumptions outlined in the RAPPAM methodology. The RAPPAM methodology includes the following steps.

1. Determining the scope of the assessment,
2. Assessing the existing information for each PA,
3. Administering the Rapid Assessment Questionnaire,
4. Analysing the findings, and
5. Identifying the next steps and recommendations.

The first two steps were described in detail to present the context of PAs in Ethiopia. The section was concluded by a highlight of the other three steps. Sections 3 and 4 dealt with the major findings of the assessment and the major recommendations as explained in section II.

The lack of formal definition of PA and that of the different designation types in Ethiopia is one of the problems of the PA data quality that needs urgent solution to be able to address the other problems. In fact, the CBD signatory should harmonise the definition of PAs in the country with the relevant international conventions and common standards. Accordingly, the stakeholders have been discussed to create a common understanding of PAs in this assessment.

Since, the methodology assumes the definition of PA, as agreed upon at the fourth world congress on national parks and PAs in 1992 (IUCN, 1994), to contextualize it

for Ethiopia case, the participants recognized this definition which is stated as “An area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means”.

The categorization of protected areas varies by country and protection levels. The IUCN's categorization of protected areas is widely accepted on the international level and is recognized by organizations such as the United Nations and many national governments. It sets up a global standard for defining and classifying protected areas based on management objectives. However, not all protected areas fall neatly into these categories, which is also true for Ethiopia.

Therefore, although there has not been a standard document stating a national definition of PAs and all designation types and definition for Ethiopia, for this assessment, the concepts indicated in the different proclamations were used to determine designation types of the PAs. These fundamental laws include the council of ministers regulation to establish the Ethiopian Biodiversity Institute (FNG, 2013), the proclamation to provide for the development, conservation and utilization of wildlife (FNG, 2007) and forest development, conservation and utilisation proclamation (FNG, 2018).

The Ethiopian PA system designation categories were identified in the national biodiversity strategic action plan 2015-2020 (EBI, 2015) without specifying the formal definition. The PA designation categories identified in the document were controlled hunting area, national priority forest area, national park, wildlife sanctuary, biosphere reserve, wildlife reserve, community conservation area, wildlife rescue centre, community managed ecotourism and hunting area, open hunting area, commercial ranch, botanical gardens and herbarium, and municipal park, and land occupied by research centres and governmental institutions.

The concepts stated in proclamations stated above and the WDPA manual were used to contextualize the definition of PAs in Ethiopia. Therefore, this assessment was conducted under the conditions and definitions of the terms indicated in box 2.

The box below describes the definition of PAs by the two prominent international organizations (i.e. the IUCN and CBD), which are very much related in meaning (Lopoukhine and Dias, 2012) followed by the national descriptions.

Box 2: Definitions of PA

IUCN: A protected area is a clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation **of nature with** associated ecosystem services and cultural values.

CBD: A geographically defined area, which is designated or regulated and managed to achieve specific conservation objectives (Article 2).

WDPA¹: Despite the requirements for meeting these two international definitions when making submissions to the WDPAs, some countries use their *national definitions* of PAs. However, most often the national definitions may not align with the international definitions of PAs that demand discussions and updates before registration.

National description: According to the proclamation on development, conservation and utilization of wildlife (FNG, 2007), the definition of wildlife conservation area is considered as PA. In the proclamation wildlife conservation area is defined as an area designated for the conservation of wildlife. The proclamation defined wildlife² as any live or dead vertebrate or invertebrate animal, other than domestic animals. The proclamation also defined “wildlife habitat” as an area within or out of the wildlife conservation area, in which wildlife inhabits and includes land, water bodies or both.

¹ WDPA denotes World Database on Protected Areas (please refer to www.protectedplanet.net for further information about the WDPA and descriptions of the database).

² The proclamation merely defines wildlife, without mentioning the habitats.

Accordingly, in the proclamation, the conservation context and protected area designation were described as follows.

- **"Wildlife conservation parks"** is an area designated to conserve wildlife and associated natural resources to preserve the scenic and scientific value of the area, which may include lakes and other aquatic areas;
- **"Wildlife sanctuary"** is an area designated to conserve one or more species of wildlife that require high conservation priority;
- **"Wildlife reserve"** is an area designated to conserve wildlife where indigenous local communities are allowed to live together with and conserve the wildlife;
- **"Wildlife controlled hunting area"** is an area designated to conserve wildlife and to carry out legal and controlled hunting.

Because wildlife conservation areas in Ethiopia are found in the remnant forests, the description of PA should also consider the other proclamation on forests (FNG, 2018). The proclamation on forests implicitly assumes the conservation and management of both fauna and flora. It defines forest as a collection of plants (predominantly trees) and other biodiversity at and in the surrounding of forest lands, roadsides, riversides, farm and grazing lands as well as residential areas or parks that grow naturally or developed in some other ways. Forest land is also defined as any plot of land demarcated or designated for forest development and conservation. Conservation activities are carried out in the natural forest, which is defined as a forest composed of naturally grown trees, shrubs and other woody and non-woody plants.

Therefore, the **designation** of the forest as a PA was viewed based on the contextual definition given to the natural forest and its protection modalities by the proclamation. Protected forest and preserved forest designation types are also identified in the proclamation and clearly defined as the following.

- **Protected forest** is a forest type that provides various ecosystem services and is utilized in accordance with a forest management plan developed by an authorised body without affecting the sustainability of the forest ecosystem value,
- **Preserved forest** is a forest that is free from intervention by humans and domestic animals and preserved for conservation of biological diversity, historical and research purposes.

Accordingly, the workshop participants agreed to use these designation types (i.e. protected and preserved forests) for non-wildlife PAs or forests.

In terms of governance type, the proclamation identified state forest, participatory forest management and concession forest. The issue of management authority concerning the PAs is viewed based on the description of the forest ownership in the proclamations. According to the proclamation, based on ownership type, there are private forest, community forest, association forest and state forest types in Ethiopia.

- **Private forest** is a forest other than state or community type and developed on private or institution holdings;
- **community forest** is a forest developed, conserved, utilized and administered by the community on its private or communal land possession based on by-laws and plans developed by the community; and
- **Association forest** is a forest developed, conserved, utilized and administered by associations established to develop a forest.
- **State forest** is any exclusively conserved and productive forest, which is under the ownership of the federal government or a regional state.

Community conservation areas, which have been described in the national biodiversity strategic action plan (EBI, 2015) are beyond the context of the IUCN and CBD definitions.

The definition of **biosphere reserve** is based on the UNESCO-MAB biosphere reserves.

Once the PAs definition and categories are contextualized the next step was administering the RAPPAM questionnaire. The RAPPAM questionnaire was prepared using the Google forms (<https://forms.gle/WT4LUEGHUZRNTm98>) online platform. The participants were trained on the online RAPPAM questionnaire to enhance everyone's engagement. Then, the participants commented on the contents of the questionnaire and feedback was incorporated before the final version was administered. The project coordinator and the consultant supervised the survey and provided reinforcement. The resulting data was analysed and presented in tables, graphs and maps. Finally, the key recommendations and suggestions were drawn from the findings as priority action plans that indicate the way forward for supporting future interventions as

explained above in the section II (a brief summary of the main achievements of the project and key recommendations).

Activity 2.2 Inventorying the data quality, and verifying the national current 98 PAs data, and prepare a new dataset which will comply with the Protected Planet Data Standards, and share with RO and RIS.

Ensuring the data accuracy is an integral component of RAPPAM assessment (Step-2. Assessing existing information for each PA), because the most important issue to consider in administering the rapid assessment questionnaire is the accuracy and credibility of the responses which depend on the accuracy of the data. The data was evaluated for completeness of the attributes, geometric quality of the polygons, timeliness of the data and other quality metrics. As described above, the data quality evaluation was carried out for both the attribute and spatial data types and the results are discussed in detail below.

The criteria for evaluating the datasets include completeness, consistency, timeliness, accuracy, validity and uniqueness. Furthermore, data quality implication on the overall governance and management structure of PAs was evaluated.

The RAPPAM assessment method coupled with different spatial analysis techniques were used for evaluating the PA data maintained by the WDPA database. Spatial data exploration and descriptive statistics techniques were employed for evaluating the data quality and the results are presented in maps, graphs and tables. The spatial data quality assessment was conducted using QGIS software. Different spatial analysis techniques, mainly spatial overlay and topology checker tools were employed for evaluating the quality of the polygons of PAs. Spatial data of PA obtained from the managing authorities were used for comparison. Polygons of the 98 PAs downloaded from WDPA were used as base

maps while their corresponding shapefile obtained from workshop participants were overlaid on top of them to explore their correctness. Moreover, topological rules were checked to identify geometric errors of duplication, invalid polygons and overlaps. Both shapefiles were overlaid on Google Earth satellite imagery to validate the land use conversion status.

A. Quality assessment of attribute data

A discussion of the results of the attribute data quality evaluation using the different methods described above are presented below.

i. The absence of data updating

Updating the data at regular time intervals is referred to as timeliness of the data, which measures whether the data is available when needed. Based on preliminary evaluation of the datasets, the participants have identified some of the problems of the PA data associated with lack of updating during the initial consultative workshop participants for discussion. The workshop participants discussed further some of the issues in detail. As indicated in Table 1, a summary of the existing data of PAs in the WDPA reveals that PAs in Ethiopia are designated into seven designation types, which are recognized under six IUCN categories (i.e., categories I - VI).

Table 1. Designation types and number of protected areas in Ethiopia.

Designation type	Number of PAs
Controlled hunting area	13
National forest priority area	58
National Park	17
Sanctuary	3
UNESCO-MAB biosphere reserve	1

Wildlife reserve	5
World heritage site (natural or mixed)	1
Total	98

Although the data maintained in the WDPA have already been described as state-verified records, according to the outcome of the assessment in the initial workshop, there is no any NFPA (national forest priority area) designation type in Ethiopia now. The participants justified that the majority of the NFPAs have been changed to other land uses or abandoned. Some NFPAs transformed into different PA types; however, the changes have not been updated in the database. This has happened because of the lack of regular reporting by respective managing authorities and updating this designation type in the WDPA database. The discussion outcomes justified the cause of this problem, which is attributed to the history of the establishment of NFPAs in Ethiopia and their management in relation to regime changes as described in Box 3.

Box 3 : The history of the establishment of NFPAs in Ethiopia and their management in relation to regime changes.

The Ethiopian government has been involved in the management of natural forests since the 1880s. However, an organized effort to conserve the forest resources started at the beginning of the 1970s in response to the alarming deterioration of the resources. The government at the time conducted the first reconnaissance forest inventory to identify the existing natural forests. Following the result of the inventory, at that time, the newly created Forestry and Wildlife Development Authority (FaWDA) launched a natural forest management program in 1977. Five natural forest areas; namely Munessa-Shashemene, Tiro-Boter Becho, Menagesha-Suba, Dindin and Megada state forests were selected as pilot projects for introducing an integrated forest management system. The management

activities included detailed inventories, road construction, improved logging techniques and testing of various silvicultural operations and systems.

The Derg regime in the 1980s, in a *commendable*³ (own italic) modality, gave great attention to managing the forest resources of the country and the concept of pilot projects grew to establishing NFPAs. The government's effort to manage remnant natural forests concentrated on the identification and *establishment*⁴ of the 58 most important natural forest territories within the “high forest” areas as NFPAs in 1988 (FAO, 2003). The Ethiopian Forestry Action Programme (EFAP) defines natural high forests as land covered by a closed stand of trees with a more or less continuous canopy rising 7 to 30 m and a sparse ground cover of grass (EFAP, 1994).

Although many NFPAs were demarcated, they have not yet been gazetted or legally registered, i.e., the legal framework is not established.

After 1992, following the establishment of the federal government system in Ethiopia, the responsibility for the legal establishment, administration and management of the NFPAs was transferred to the regional bureaus of agriculture (NFSDP, 2016). Then, the administration and management of NFPAs fall under the jurisdiction of the Agricultural Bureaus of the concerned Regional States. In most cases, the management of these forest areas is run with little or no participation of the local communities. However, the local people, through their local organizations (Peasant Associations or PAs), have the mandate to conserve and manage small forest areas (natural forests and plantations/ community woodlots) outside the NFPAs. The associations also have the responsibility to collaborate with the government forestry service in protecting the conservation areas of the state, such

³ The then government adopted a top-down approach of governance.

⁴ Here, establishment refers to the demarcation of the PA boundary, which was carried out in agreements with the representatives of the adjacent farmers' associations.

as NFPAs and National Parks, from fire, illegal felling, poaching and any other activities that are harmful to these areas.

However, during that period, according to (Reusing, 1998), the analysis clearly shows that in some NFPAs, no natural high forests are remaining at all, whereas, in most of them, the forest stands have been either partly deforested or at least severely degraded. Moreover, the forestry services at the national and regional levels lack clear legal titles for these areas. This has contributed to the creation of an open-access situation where these forests continue to be threatened by illegal cutting and encroachment by local people.

Then, the majority of the proposed NFPAs are heavily deforested and fragmented as a result of forest clearance and land use conversion for smallholder agricultural expansion, promotion of large-scale commercial and state development investments in forest frontiers, illegal extraction and collection of forest products, government-led human settlement in forest areas, forest fires and increasing development of infrastructure and road networks in forest proximities (Bekele et al. 2015; NFSDP, 2016).

Management of the high forests fails to achieve its conservation objectives and the natural forest management program did not bring about the expected results (FAO, 2003).

Within this status, the NFPAs were reported to UNEP-WCMC WDPA as “Proposed” status by the State Forest Conservation and Development Department of the 1980s of MoA. These NFPAs were meant for sustainable management and they can best be used for in-situ conservation (EFAP, 1994; NFSDP, 2016).

Due to regime changes in the country, many of the PA governance types and management authorities were changed from national to sub-national (regional)

status. But the old designation type is maintained in the WDPA database without being updated. Even some of them are abandoned. However, the NFPAs designation types archived in the WDPA database still remain in their original status.

Moreover, the date of establishment, governance type, management authority, and owner type of some PAs, particularly the NFPAs and UNESCO's Man and the Biosphere (MAB) reserves haven't been updated.

A summary of the designation status and management authority of PAs in Ethiopia is shown in Table 2 for illustrating the problems related to the absence of data updating. Although the data has been archived for many years, the managing authority of more than 70% of the 98 PAs are not known. Similarly, close to 60% of the PAs are at the proposed stage. Some PAs have stayed at the proposal stage for decades without an update. For example, the Halledeghe Asobot national park was a proposed national park in 1973 but is still in the same status now. Of the 58 NFPAs in Ethiopia whose data have been kept in the WDPA database, only Abelti Gibie forest has a designated status. Whereas the remaining 57 NFPAs are reported as proposed NFPAs. The year in which the NFPAs were proposed or designated (e.g. Abelti Gibie NFPA) has not been documented. Only 38 of the PAs are designated or recognized through legal means. Of all the 98 PAs, only 2 of them were inscribed or designated under the World Heritage Convention.

The above realities revealed the lack of data updating and provision of the current situation of PAs in Ethiopia. There is an acute need for updating the database in accordance with the prevailing changes.

B. Quality assessment of spatial data

The discrepancy between the reported and calculated areas, shifting of the site against the actual area, duplication, overlap and presence of gaps between

adjacent polygons, existence of invalid polygons are among the indicators to determine the spatial data quality. Therefore, a critical exploration of geometric errors of the PA polygons was carried out.

As explained earlier, one of the causes of error in the reported area estimates could be the gaps, overlaps and wrong geometry of polygons for which the areas have been reported.

The shapefiles of the 98 PAs were checked for common topological errors. Although the density of PAs varies across the country, PAs are found everywhere in each regional state (Figure 1).

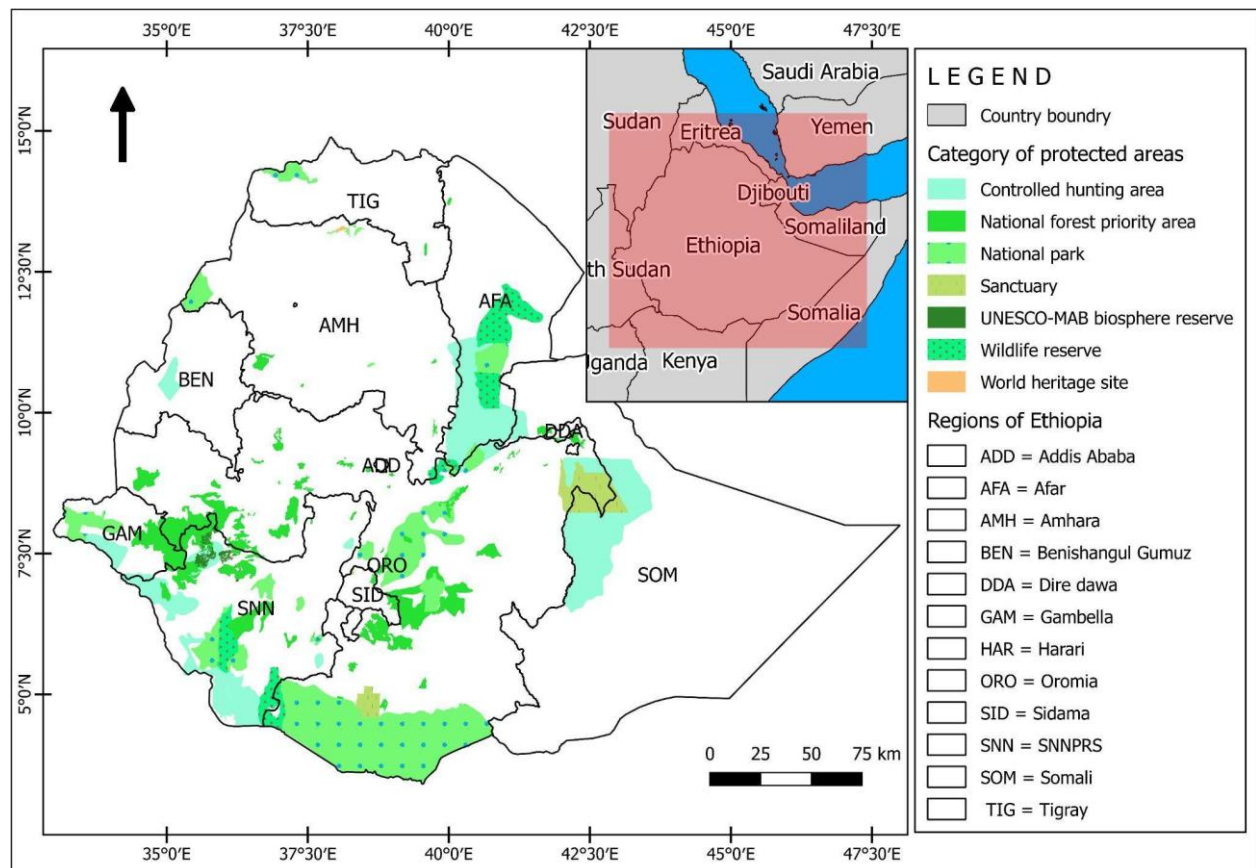


Figure 1. Location of protected areas in Ethiopia

One of the techniques used for evaluating the geometry of the PA polygons is through checking topological errors. Errors in area estimates were observed which could be linked with violation of topological rules. Most often, the total reported

area could be overestimated due to overlapping polygons of duplicated estimates. Three topological rules were set to evaluate topological errors that we suspected to exist in the PA polygons. These rules are described in Table 2.

Table 2. Topological rules for evaluating the geometrical quality of polygons of PAs

Topological rule	Number of polygons violating the rule	Error description
Polygons must not have duplicates	2	Duplicate geometry
Polygons must not overlap	39	overlap
Polygons must not have invalid geometries	0	Invalid geometry
TOTAL	41	----

The results of topological errors checked in QGIS revealed that 41 of the 98 polygons violated two types of topological rules (i.e. overlap and duplication) of which two have duplication issues while the remaining 39 are overlap errors. The topological check results have not indicated an invalid geometry problem, which may be due to the quality checks that the UNEP-WCMC undertakes during the registry process. Therefore, the other two problems identified in the PA data will be discussed in detail in the following sections.

i. Duplicate geometry

The observed problem of duplication in the PA attributes has also been revealed in the geometry of the polygons. The polygons of the Simien national park and the Kafa biosphere reserve sites exhibited problems of duplication (Figure 2). This might arise from double reporting of the same polygon to the same agency at different times or reporting of the same polygon to different agencies, which ultimately are data providers to the WDPA. The existence of data duplication

compromises the quality of data maintained in the WDPA database and poses concerns for the potential end user.

Duplicate geometry error has an effect of overestimating the total area of PAs in the country.

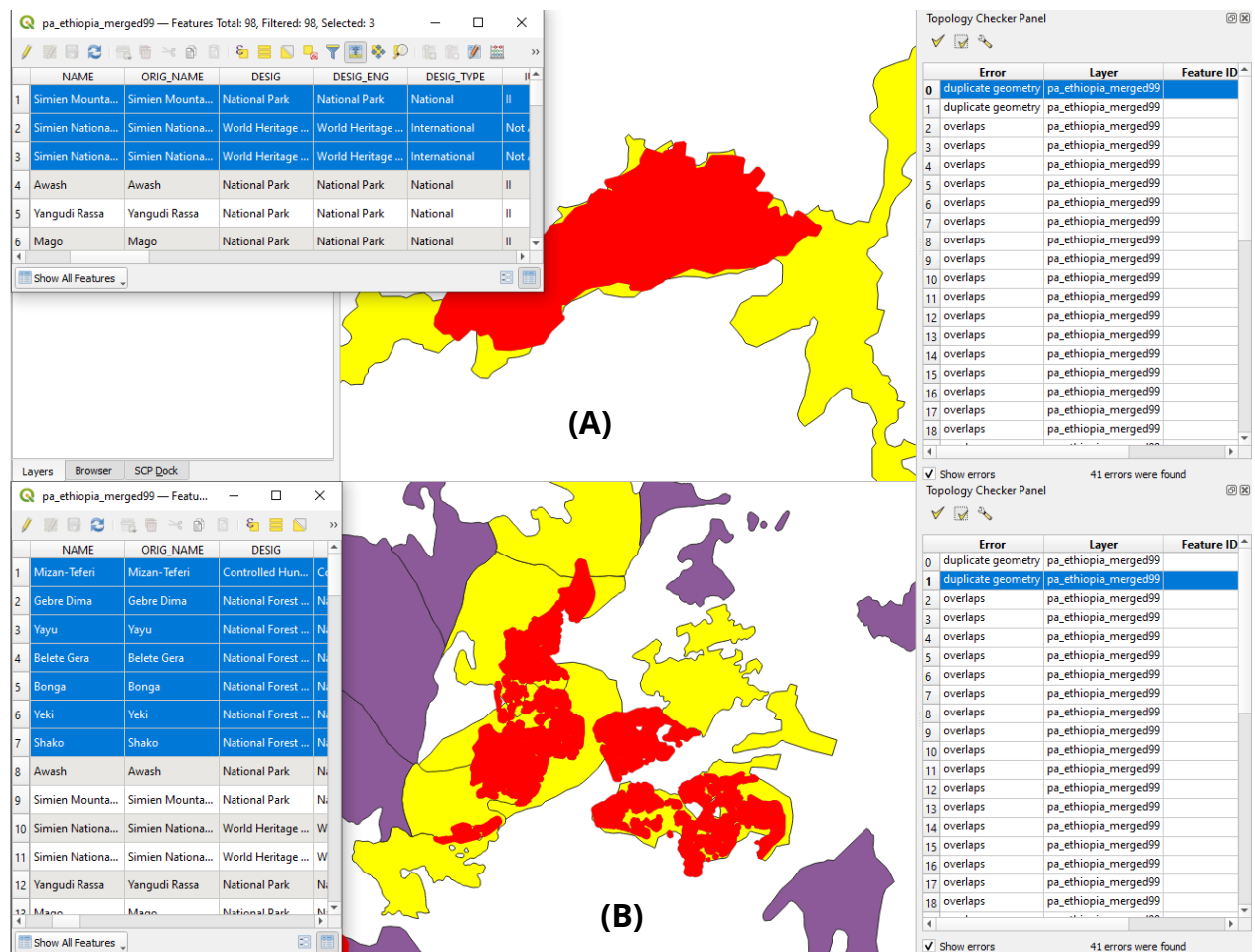


Figure 2. Common topological errors of the PA polygons maintained by the WDPA database. The red-shaded polygons in both panels (A and B) have duplication problems and overlap with the yellow-shaded ones.

The main reason the Simien mountains national park overlapped with the Simien mountains national park world heritage site, Simien mountains heritage site, was expanded to include the feeding and breeding habitats of the site in 2017 when it came out of the endangered category. At that time, the site was managed by the Amhara regional state. But later, the governance was shifted to the federal

government i.e., the Ethiopian Wildlife Conservation Authority. Simien mountains world heritage site extension nomination dossier (own italic) must be reported by EWCA to the UNESCO heritage committee. Among the four benchmarks, the regional government addressed three of them in 2017, including scenic beauty and Waliya ibex habitats, reducing/relocating the inhabitants in the park, enhancing biodiversity and endemism, and avoiding/relocating inappropriate road construction and infrastructure development. This is the cause of the overlap. If the nomination dossier is reported and accepted, then the overlapping polygon will be removed. IUCN has registered it as a national park

ii. Polygon overlaps

Many of the PA polygons are overlapping with each other. An example is the Yayu biosphere reserve, which overlaps with many of the NFPA polygons. The outputs of the discussion during the first workshop indicated that the biosphere reserve evolved from the natural forests, which harbour a wide range of endemic plant and animal species. The forest polygons and their attributes have already been reported as PAs followed by the reporting of the data representing the newly established biosphere reserve without indicating the transformation of NFPAs to the biosphere reserve. As a result, the biosphere reserve polygons overlap with the forest polygons. Another reason for the overlap of PA polygons could be the use of traditional methods of vector data creation, which for most of the PAs were table digitizing over analogue maps and aerial photographs.

This method is likely to create digitizing errors, which could ultimately result in overlapping polygons. The other likely cause of such errors could be the absence of coordinated data collection and management systems in the country. An agency responsible for one of the PAs creates the polygons without any confirmation from the other party creating similar data of the other category of PAs within or adjacent to it. This could result in duplicated effort and overlapping

data. The loss of time and resources, and quality compromise could be reduced by establishing an integrated spatial database system for maintaining the PA data at the agency and national levels.

iii. Calculated polygon areas deviate from the reported areas

As already discussed earlier, there is a great variation of the reported area of some of the PAs when compared with the computed one (See Figure 3). For most of the polygons, the reported areas were overestimated. The maximum deviation of the reported area amounts to 9,435 square kilometres. This deviation was for the Eastern Hararghe controlled hunting area. The highest underestimation of the reported area of 2,646 square kilometres was observed for the Awash-west wildlife reserve.

The reasons for the observed variations could come from different causes. For example, the reported vector data for NFPAs were digitized from aerial photographs and topographic maps using traditional methods (i.e. tracing tablet), which may be one of the reasons for the poor area estimates. In other cases, the legally-defined boundary of the PA on the ground and the polygons representing the PA may not match perfectly. There could be shifts due to the use of a wrong coordinate reference system, digitizing problem, error during field survey, absence of metadata or other sources of error. Metadata definition and keeping it with the reported and archived datasets could help to maintain the data quality.

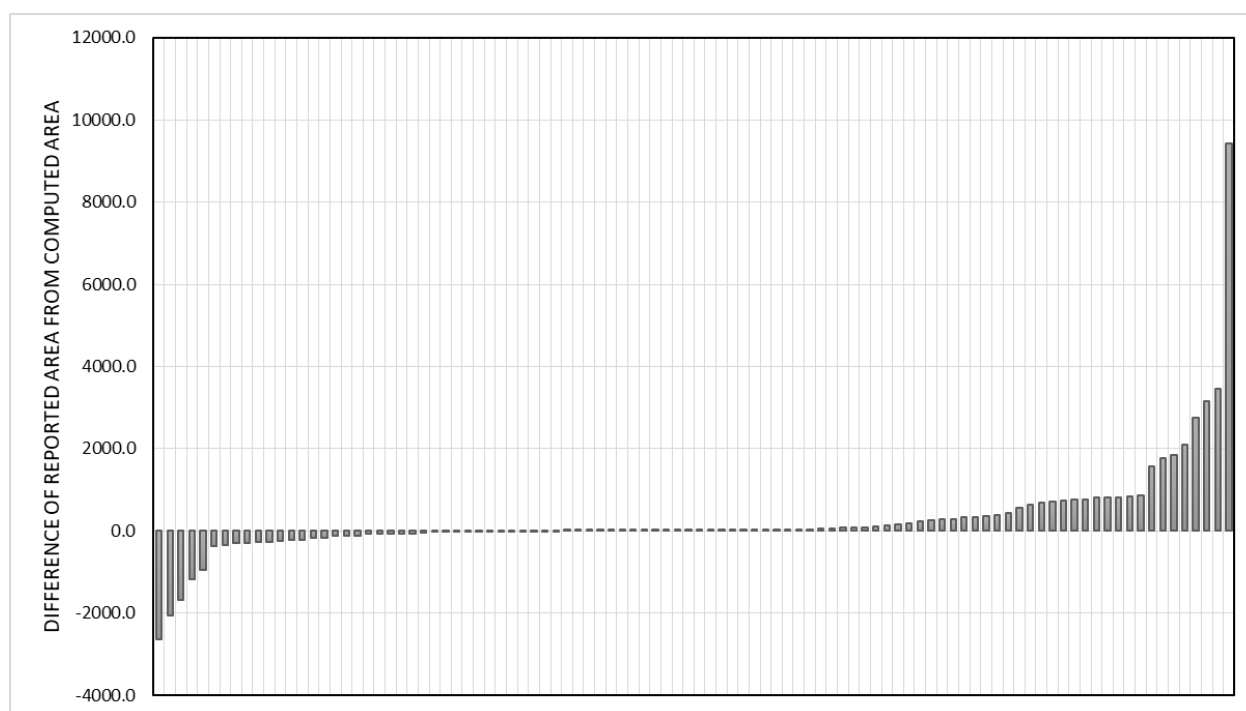


Figure 3. Differences in computed areas from the reported areas of PAs

C. Factors contributing to lack of data quality

i. Lack of a well-organized and updated national-level data management system

The lack of updating the database may be due to overlapping mandates of governance and management units as well as a lack of integrated local to national-level database systems.

Because of lack of spatial data for all PAs the survey respondents did not provide area estimates for some PAs since all or a portion of the land is changed into other land use types and considered abandoned for the specific PA category. Examples of this situation include Mizan Teferi, Boyo swamps, Dabus Valley, Tedo, Eastern Hararghe (Harar-Wabi Shebelle), Segen Valley, etc.

The other visible effect has happened in relation with NFPAs data. Logically, the NFPAs upgraded to a national park or biosphere reserve designation should be automatically grouped to the latter category, i.e. biosphere reserve area. For example, the Kafa biosphere reserve overlaps with the Mizan-Teferi controlled

hunting area, as well as the Bonga and Gebre-Dima NFPAs. These overlapping polygons, which were reported to the WDPA, resulted in doubling the reported total area of PAs. A specific unit should be established at national or agency level to monitor all these changes and update the database regularly. However, this has never happened for many years.

The assessment results indicated that the PA data bear the main problems that could be solved by developing an integrated spatial database system. Many of the data quality problems could be solved if this system is developed based on the requirements of all the agencies mandated to manage PAs. This is because it can ensure uniqueness, integrity, consistency, completeness, validity, topological accuracy and other measures of data quality. The computation of area and other attributes based on the geometric polygons maintained in the databases will be accurate. The database system can store metadata, which provides documentation of the database details as reference for different users. This will result in quality information, which could be used to support informed planning and decision-making, and ensure sustainable development.

ii. Governance system and ownership

Evidence indicates that natural resources management is highly interwoven with governance regimes in Ethiopia. Most of the PAs were demarcated during the previous governance regimes (e.g. the Derg regime), which were completely changed to a new governance system today that brought a different administrative system. As a result, some of the PAs, which had been under a different administrative unit some years ago, are now in another administrative unit. The governance of PAs has also been decentralized from the federal government to regions. Some ministries and departments dissolve merely due to a regime change or the arrival of a new governor. Therefore, integrated management and governance and institutional strengthening endeavours are

required to set up a stable PA management and enhanced data quality.

According to the working guidelines and conventions in Ethiopia, wildlife conservation areas (EWCA), particularly national parks and sanctuaries, are governed by the federal government (i.e. national ministry or agency). The list of natural parks and sanctuaries under EWCA includes Simien Mountains National Park, Bale Mountains National Park, Nechisar National Park, Omo National Park, Abijata Shalla Lakes National Park, Awash National Park, Senkele Swayne's Hartebeest Sanctuary, Babile Elephant Sanctuary, Gambella National Park, Alatish National Park, Kafta Sheraro National Park and Germal National Park.

Other wildlife conservation areas than those specified above are governed by regional governments and local communities (i.e. sub-national agencies). Following the federal government system in Ethiopia, the responsibility for the legal establishment, administration and management of NFPAs was transferred to the respective regional bureaus.

Moreover, Ethiopia lacks integrated land use policy and regulation. Rather the country employed two policies related with land governance. As a result, the land tenure system is a key issue, particularly for the management of NFPAs. Ensuring defined ownership and tenure rights has implications for governance and management effectiveness. For example, the Menz-guassa community conservation area has been reported for having effective management due to the formulation of by-laws that give use rights and ownership to the local community. The community is now actively engaged in the PA management process. Such good practices should be documented and brought to the attention of policy formulators and decision-makers.

IV. Stakeholder engagement

In this section, please describe the different stakeholders you have identified, and how they have been engaged throughout the project.

Ethiopian Wildlife Conservation Authority, Ethiopian Forest Development and their respective regional offices as well as a university have been identified and engaged throughout the project. For their engagement they were informed by Ethiopian Biodiversity Institute through participation invitation letter, email and telephone for workshop training, face to face discussion, and backstop assistant to clean the PAs data error, updating the PAs data, and conducting the RAPPAM assessment.

V. ESMS

In this section, please confirm that you have completed your ESMS at all stages of the project cycle (i.e., self-assessment, project proposal/grant agreement, monitoring and final reporting). If applicable, please state which standards were triggered if any, and how you dealt with these (i.e., access restrictions, indigenous peoples, cultural heritage and biodiversity conservation). If applicable, please also list any mitigation measures identified through priority actions arising from the assessment.

This is a national assessment with the involvement of PA experts and managers. As a result, this STGA hasn't triggered anything, rather implementation of recommendations from this assessment may trigger some ESMS points.

VI. Capacity development

If applicable, in this section, please describe the capacity development activities undertaken during the project lifetime, and provide some details about the profile of the participants trained.

The undertaken capacity development activities were explained in section III of this document.

VII. Communication and visibility

In this section, please list all the communication and visibility activities undertaken during the project lifetime. Please provide a link to all these activities and indicate the publication/posting date (as possible). Please also provide a perspective of the impact achieved through the implementation of the communications and visibility activities.

Publishing the project activities and deliverables on the institute geoportal and facebook page have been used as communication and visibility tools.

Link:https://www.facebook.com/permalink.php?story_fbid=pfbid02kWvCfbnKvVjLf9KSxmpj9TerHUK2zZd2jUSs8DRbMuQLkwr7YAns4RDqkuCR7Hjzl&id=1635406753365904.

Impact: the geoportal has served as a working and networking platform to get data from data providers and share the data to potential end users. Facebook has been used to address the project activities to the wider public and collect feedback from them.

VIII. Sustainability

In this section, please describe the long-term benefits and effects of the project.

The long term benefit and effects of the project can be viewed with tracking of the planning, monitoring and evaluation of the post 2020 biodiversity framework contribution.

Ethiopia adopted the post-2020 biodiversity global framework. The project products: the updated Ethiopia's PAs and monitoring system (the EBI geoportal) support tracking of GBF target 1 (Ensure that all areas are under participatory integrated biodiversity inclusive spatial planning ...) and target 3 (Ensure and enable that by 2030 at least 30 percent of terrestrial, inland water... are effectively conserved and managed through ecologically representative, well-connected and equitably governed systems of protected areas and other effective area-based conservation measures).

Monthly base which is based on the UNEP-WCMC/ WDPA updating PAs dataset which will be complies with the Protected Planet Data Standards will be uploaded to the national portal and shared with RIS (<https://biopama-rris.rcmrd.org/country/et>). The Regional Observatory helps to achieve improved decision-making at local and national levels by collating and managing high quality and verified biodiversity datasets and information.

Moreover, it supports the open-data practice as a global resource by making these data and information available freely and by promoting and encouraging their use.

Therefore, the project deliverables will support tracking of the country conservation targets and sharing its data.

IX. Lessons learnt

In this section, please provide a brief overview of the lessons learnt around the project implementation and on the grant process, including what worked and what did not work as expected.

The project created a great opportunity for PA data provider institutions such as EBI, EFD and EWCA to work more collaboratively on the country's biodiversity and PA issues. The STGA has been implemented through applying the RAPPAM assessment methodology.

This methodology is an effective approach to hold an interactive workshop and a series of meetings in which PAs managers, policy makers, and other stakeholders participated fully for evaluating the status of data of the PAs, analysing the results, and identifying subsequent priorities.

During the implementation of activities, 'from the horse's mouth and participatory approach' has been exercised as an effective approach to conduct RAPPAM assessment. But lack of an adequate integrated database system at institutional or country level hinders the effectiveness of the methodology to some extent.

X. Additional information

If applicable, in this section, please add any additional information or comments relevant to the project that you judge necessary and that hasn't been reported in the previous sections.

In the future, further study is required on the data quality of Other Effective Conservation Means (OECMs) of the country.

XI. Annexes

Annex 1: Results against logical framework

BIOPAMA AC indicators	Target value	Value reached	Source of verification
IM11.1. Number of PCAs benefiting of training efforts	99	98	Pictures of discussions, minutes of the training workshops; participants list (disaggregated by gender and age = M/F and Adult/Youth), technical report
IM11.2. Number of staff trained	35	36	Pictures of discussions, minutes of the training workshops; participants list (disaggregated by gender and age = M/F and Adult/Youth), technical report
IM11.3. Number of communities trained	0	1	Pictures of discussions, minutes of the training workshops; participants list (disaggregated by gender and age = M/F and Adult/Youth)
IM1.1. Number of PCAs with improved WDPA info and info sharing with RO and RIS	99	98	RAPPAM report
IM1.2. Area covered in Km ² .	178,725	178,725	RAPPAM report
IM4.1. Number of PCAs with improved monitoring system	99	98	RAPPAM report
IM4.2. Area concerned in Km ²	178,725	178,725	RAPPAM report
Project indicators	Target value	Value reached	Source of verification
Number of people involved in the training workshops	35	36	Pictures of discussions, minutes of the training workshops; participants list (disaggregated by gender and age = M/F and Adult/Youth)
Number of PCAs with improved WDPA information	99	98	Minutes of the workshops, project technical report; participants list (disaggregated by gender and age = M/F and Adult/Youth)
Number of PCAs assessments completed	99	98	RAPPAM report and list of priority actions
Deliverables			
RAPPAM assessment report			
Updated PAs			
Improved national PACs monitoring system (EBI geoportal)			
Training Manual			

Annex 2: Copy of deliverables (reports/minutes of meetings).

Please organise the information as per the results and activities as indicated in the project's logframe.

- First round a stakeholders' workshop minute
- In trim technical report
- Final report

Annex 3: Photos of activities with credits and legend/links.

Please organise the information as per the results and activities as indicated in the project's logframe.

All pictures' credits © [Dereje Demessie, Ethiopian Biodiversity Institute, derejebab@gmail.com, info@ebi.gov.et]



Figure 1. The Workshop banner



Figure 2. Mr. Tariku Geda introducing the program



Figure 3. Dr. Melesse Maryo welcoming speech



Figure 4. H.E. Kebede Yimam opening speech



Figure 4. Mr. Kumera Wakjira Key note speech



Figure 5. Dr. Felke Woldeyes (right) and Mr. Kumera Wakjira (left) moderating the general discussion



Figure 6. Discussion with community representatives



Figure 7. The workshop participants group photo



Figure 8. The workshop participants group work



Figure 9. Backstop technical assistance for regional experts of SNNP Regional state (upper panel) and Oromia Regional state (lower panel)

Annex 4: Copy of supporting communication, visibility and branding activities documents (e.g. copy of press articles/ print screen of social media activities).

Please add document-resolution photos, etc. Do not insert original high-quality pictures but keep them in your records for potential other uses.

Please organise the information as per the results and activities as indicated in the project's logframe.

https://www.facebook.com/permalink.php?story_fbid=pfbid02kWvCfbnKvVjLf9KSxmpj9TerHUK2zZd2jUSs8DRbMuQLkwr7YAns4RDqkuCR7Hjzl&id=1635406753365904.

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