SYNTHESIS OF THE 6TH NATIONAL REPORTS ON BIODIVERSITY FROM AFRICA

Lessons learned from the implementation of the National Biodiversity Strategies and Action Plans and contribution to the Aichi Biodiversity Targets

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Disclaimer:

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The opinions expressed and arguments employed herein are those of the author and do not necessarily represent those of the African Development Bank, the WWF or the AGN.

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ABBREVIATIONS

ABS	Access and benefit sharing	IBAT	Integrated Biodiversity Assessment Tool
ABT	Aichi Biodiversity Target	IITA	International Institute of Tropical Agriculture
AfDB	African Development Bank	IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
AFR100	African Forest Landscape Restoration Initiative	IPLC	Indigenous Peoples and Local Communities
AGN	African Group of Negotiators	KBA	Key Biodiversity Areas
ARLI	African Resilient Landscapes Initiative	LLF	Legacy Landscapes Fund
BIOFIN	Biodiversity Finance Initiative	LND	Land Degradation Neutrality
CBD	Convention on Biological Diversity	LPG	Liquefied Petroleum Gas
CDN	Nationally Determined Contributions	METT	Management Effectiveness Tracking Tool
CHM	Clearing House Mechanism	NBSAP	National Biodiversity Strategy and Action Plan
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora	NFP	National Focal Points
CNA	Competent National Authorities	NGB	National gene banks
COMIFAC	Commission des Forêts d'Afrique Centrale	NTFP	Non-Timber Forest Products
COP	Conference of the Parties	OECM	Other effective area-based conservation measures
COVID	Coronavirus disease	PAGE	Partnership for Action on Green Economy
CREMA	Community Resource Management Area	PAME	protected area management effectiveness
DNA	Deoxyribonucleic acid	PARCC	Protected Areas Resilient to Climate Change
DR Congo	Democratic Republic of Congo	PES	Payment for Ecosystem Services
EBVs	Essential Biodiversity Variables	PRSP	Poverty Reduction Strategy Papers
EIA	Environmental Impact Assessment	REDD	Reducing emissions from deforestation and forest degradation
FAO	Food and Agriculture Organization	SDG	Sustainable Development Goal
FERI	Forest Ecosystem Restoration Initiative	SEA	Strategic Environmental Assessment
GBF	Global Biodiversity Framework	SEEA	System of Environmental-Economic Accounting
GBO-5	Global Biodiversity Outlook, 5th edition	SPC	Sustainable Production and Consumption
GDP	Gross Domestic Product	STAR	System for Transparent Allocation of Resources (STAR)
GDSA	Gaborone Declaration for Sustainability in Africa	TAC	Total Allowable Catch
GEF	Global Environment Facility	VAT	Value-Added Tax
GHG	greenhouse gas	WDPA	World Database on Protected Areas
IAS	Invasive alien species	WWF	World Wildlife Fund

INTRODUCTION

The Conference of the Parties (COP) to the Convention on Biological Diversity (CBD) will adopt, at its 15th meeting (COP-15), a framework that will guide the work on biodiversity at the global level for the period between now and 2030, towards the 2050 biodiversity vision of a world where biodiversity is valued, conserved, sustainably used and, as needed, restored. COP-15 will consider the draft post-2020 Global Biodiversity Framework (GBF) being developed by the Ad hoc Open-Ended Working Group on the post-2020 GBF (OEWG) with inputs from the CBD subsidiary bodies. The draft GBF is also supposed to have considered the lessons learned from the implementation of the Strategic Plan for Biodiversity 2011-2020 presented in the fifth edition of the Global Biodiversity Outlook (GBO-5). GBO-5 summarized the progress towards the Aichi Biodiversity Targets (ABT) and reviewed the successes and challenges in implementing the 2011-2020 Strategic Plan at the global level. As such, GBO-5 findings have major implications for the development of a successful post-2020 GBF.

For Africa, like the rest of the world, it is critical to adopt a framework with targets that will not only curb the loss of biodiversity but will enhance opportunities to improve the lives of many Africans especially depending on biodiversity for their survival, bearing in mind the biodiversity priorities identified by and for Africans. As a member of the Informal Biodiversity Support Group (IBSG) to the African Group of Negotiators (AGN), WWF in collaboration with the African Development Bank (AfDB) funded a consultancy to develop a regional synthesis report on the performance of African countries under the Strategic Plan for Biodiversity 2011-2020, including the Aichi Biodiversity Targets, and the revised and updated national biodiversity strategies and action plans (NBSAPs). The performance assessment was to be based on the 6th National Reports on biodiversity submitted by African countries in 2018 - 2020.

A report with some recommendations[1] and a policy brief[2] were produced on the assessment of the relevance of the goals, targets and implementation measures put forward in the draft GBF to the wellbeing of the African people in line with the Africa's biodiversity priorities adopted in 2018 and the Africa's development priorities as contained in Agenda 2063[3] and the AfDB's High Five[4].

The present document is the synthesis of the 6th national reports submitted by African countries with references to Agenda 2063 and the AfDB's High Five. The document starts with an overview of progress towards national targets and uses that information to highlight the contributions of Africa to the achievement of each of the Aichi Biodiversity Targets contained in the Strategic Plan for Biodiversity 2011-

[1] Title: "Comments on First-order draft of the Post-2020 Global Biodiversity Framework in light of Africa's biodiversity priorities, the 6th national reports from Africa and the conclusions of the 5th edition of the Global Biodiversity Outlook"

[2] Title: "A Policy brief - A review of the First-order draft of the Post-2020 Global Biodiversity Framework and Africa's Biodiversity Priorities"

[3] Adopted by the African Union in 2013, Agenda 2063 is Africa's blueprint and master plan for an "integrated, prosperous and peaceful Africa, driven by its own citizens, representing a dynamic force in the international *arena*" (https://au.int/Agenda2063/)

[4] Presented as a new agenda of the African Development Bank in 2015, "the High 5s are to: Light up and Power Africa; Feed Africa; Industrialize Africa; Integrate Africa; and Improve the Quality of Life for the People of Africa" (https://www.afdb.org/en/high5s). According to a UNDP study, their implementation would achieve 88% of Agenda 2063 and 86.4% of the Sustainable Development Goals (SDG).

2020. This overview will introduce the major messages and suggested recommendations gathered from the work on the synthesis. The objective of the messages is to highlight some areas to be considered for the post-2020 GBF, the next reporting to the CBD and other biodiversity-related conventions and as a contribution to the in-depth review of the achievements during the first ten years of implementation of Agenda 2063 and the development of the plan of action for the next 10 years of the Agenda 2063. The messages will also highlight some points specific to Africa that were not well described in GBO-5.

The present document will then present in some detail the progress made on actions taken towards the national targets organized under the Aichi Biodiversity Targets. Brief discussions will be presented on whether the respective Aichi Biodiversity Targets are among Africa's biodiversity priorities and how African countries translated the Aichi Biodiversity Targets into national targets followed by a synthesis of the actions taken with some reference, where possible, to the targets under the 2030 Sustainable Development Agenda including the Land Degradation Neutrality, the Paris Agreement on climate change and questions related to desertification. The sections on each Aichi Biodiversity Target will be concluded with an overall assessment of the progress made towards the national targets in the face of the identified challenges and progress at the global level. Wherever possible, some key messages and/or recommendations are presented in bold letters. It is important to note that the present document is a short version of a more comprehensive document in which more details are described regarding the measures taken at the national level. Those details will be particularly useful for people who are compiling information on the contribution of the implementation of the CBD to Agenda 2063 and the AfDB High Five.

OVERVIEW

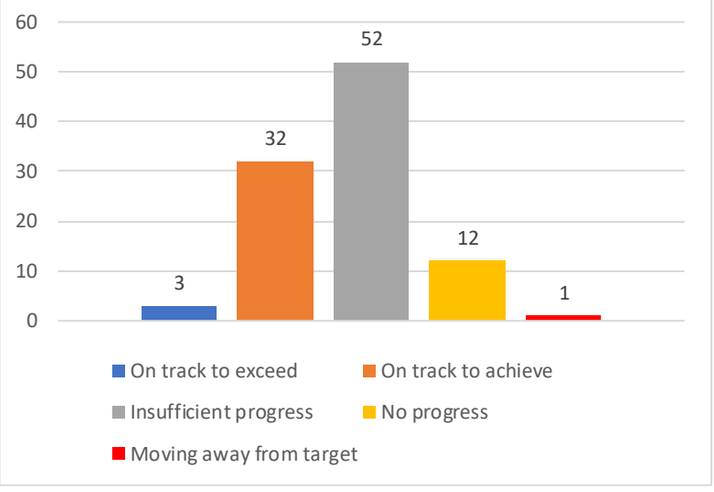
PROGRESS TOWARDS NATIONAL TARGETS

National reporting is an obligation of all the Parties to the Convention on Biological Diversity (CBD). The 6th national reports were particularly important because they were a review that would highlight the achievements under the Strategic Plan for Biodiversity 2011-2020 and, as stated in the technical reporting guidance agreed upon for the preparation of these national reports[5], "provide the main rational for the follow up work on the Strategic Plan beyond this decade and help shape the post-2020 global biodiversity agenda". The focus of the reports was to be on "understanding the scope of biodiversity actions, the effectiveness of biodiversity policies and legislation, and the impacts of both on biodiversity outcomes".

As of 12 March 2022, all the African States Parties to the CBD, except Libya, have submitted their national reports to the Secretariat of the Convention on Biological Diversity (CBD). The two last submissions were by Mauritius and Seychelles in 2021.

In their 6th national reports, countries assessed the level of progress made towards each of their national targets following the technical reporting guidance. They also described their contribution to the achievement of each Aichi Biodiversity Targets (ABTs). In Africa, there were 1028 national targets for which the status of progress was given. As indicated in Figure 1 below, African countries considered that they were on track to achieve or exceed only a third (35%) of the targets they adopted and for which they reported on progress. For the remaining targets, there was no (12%) or insufficient (52%) progress. For one percent of the targets, some countries observed they were moving away from the targets.

Figure 1: Progress towards national targets
(In percent over 1028 national targets on which progress data were presented)



African countries considered that they were on track to achieve or exceed only a third (35%) of the targets they adopted and for which they reported on progress.

There is a need to understand the reasons behind this general limited progress towards national targets.

As shown in Figure 2, South Africa had the largest number (19) of targets for which progress was on track to be exceeded. Each of the 55 South Africa's targets was very specific (referring only to one element) and had quantitative factors based on considerations of known baselines, trends and capacities. South Africa had clear indicators for assessing progress. 17 countries had most of their targets rated "on track to be achieved". Thirty countries (i.e., 57% of countries) rated progress in achieving their targets mostly as "insufficient rate". In a few countries such as Benin, Comoros and Mozambique, there was no progress on most targets. In brief, countries considered that they were not making the progress needed to reach their national targets, although there were differences among countries.

There is a critical need to understand the reasons for this general limited progress in implementing the actions identified in the NBSAPs and put forward as national targets. Countries should analyze the reasons and address them to increase the level of progress in the coming decade.

A SWOT analysis was not conducted. A possible explanation of the limited progress towards the national targets is that countries were just starting to implement their NBSAP due to their late adoption. Many NBSAP were adopted in the second half of the decade, mainly in 2016 and 2017 (see Figure 29 in the section on ABT 17). Financial constraints could not explain the delay because GEF allocated around USD 500000 to all eligible countries in addition to funds from other sources and the so-called capacity building workshops organized by the CBD Secretariat to strengthen countries' human capacities for updating their respective NBSAPs.

[5] https://www.cbd.int/doc/nr/6NR-Technical-Guidance-en.pdf

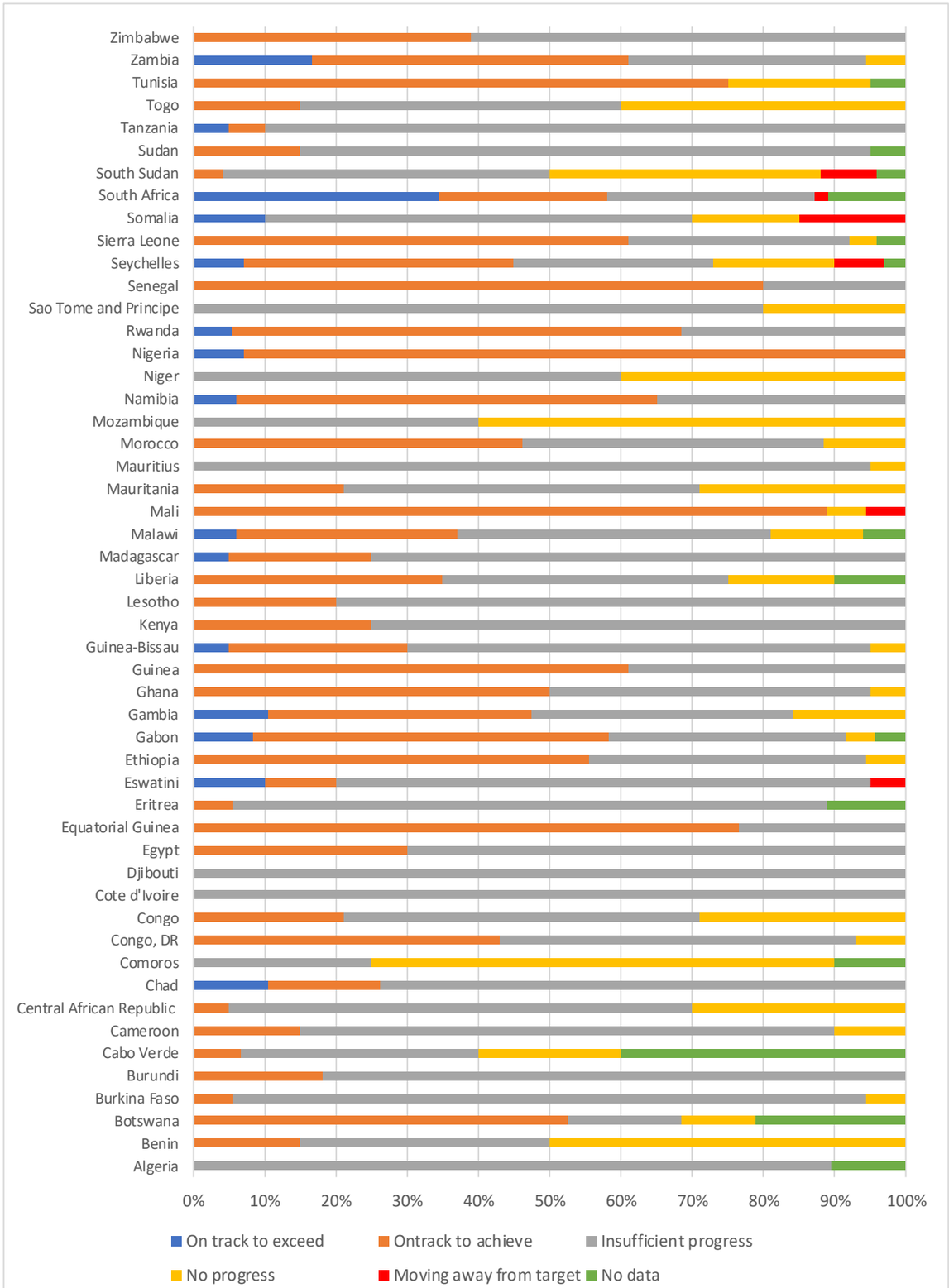


Figure 2: Level of progress under each national target in terms of percentage of targets in each category of progress (i.e., on track to be exceeded, on track to be achieved, progress but at an insufficient rate, no progress, moving away from target, unknown/no data on progress) in each country.

As a consequence of late completion of the NBSAP, countries did not have much time to mobilize funds and the required human capacity for the identified actions. Thirty-eight countries (78%) implemented their respective NBSAP only for 4 years or less before they submitted their 6th national reports (see Figure 30 in the section on ABT 17). Some countries took into account the late adoption of their NBSAP and late start of many actions to set the end-years of their plans beyond 2020, e.g., 2022, 2025 and even 2030 (Figure 31 in the section on ABT 17).

If NBSAPs have to be revised again as already foreseen by SBSTTA -24 in one of its recommendations to COP-15, it is important to have some ideas about what should be put in place or agreed now to keep the next NBSAP updating short. **If continuity in the actions already started in the past decade can be ensured, then the momentum will not be lost, and Parties will not spend too much time updating their national action plans and biodiversity targets in favor of actions on the ground**.

If eligible countries received a GEF grant for updating their NBSAPs in the post 2010 period, it is hoped that a similar support will be available upon request to align current NBSAPs with the post-2020 GBF.

CONTRIBUTION TO THE ACHIEVEMENT OF AICHI BIODIVERSITY TARGETS

After aligning all the national targets with the Aichi Biodiversity Targets (ABTs), Figure 3 was developed to give an overview of African countries' contributions to the implementation of ABTs. A comparison of Figure 3 below and GBO-5 Figure 21.2 (Assessment of progress towards national targets and the alignment of these to the Aichi Biodiversity Targets) allows an assessment of the relative contribution of Africa to ABTs and a comparison of Africa's self-assessed performance with the global progress on Aichi Biodiversity Target.

African countries performance was generally the same as the performance at the global level for 10 targets (ABTs 1, 4 - 6, 10, 11, 13, 14, 17 and 20), inferior for 6 targets (ABTs 7 – 9, 16, 18 and 19) or superior for 4 targets (ABTs 2, 3, 12 and 15). However, **these observations should be taken strictly as indicative because they are not supported by statistical analysis** (see section on ABT 11 where there are discussions indicating that 2020 expectations on protected area trends noted in the 6th national reports did not agree with the realities presented in the World Database on Protected Areas (WDPA))**.**

Furthermore, achievements of individual countries are not necessarily comparable because, as it was intended in COP 10 decision X/2,

1. Not all national targets are the same in content, ambition or quantitative elements as their equivalent ABT. For example, national target 11 in Burundi and national target A3 in Morocco are equivalent to ABT 11. In Burundi, the end year is 2015 and the terrestrial coverage targeted is 10% instead of 17%. Morocco's target 3 makes no reference to connectivity or effectiveness. The targeted coverage in Guinea Bissau is 26% of the national territory or 50% for terrestrial areas and 5% for marine and coastal areas in Algeria. Thus, if Burundi, Algeria and Morocco reported that they reached the target relating to protected areas, the reality on the ground is different.
2. Not all ABTs have equivalent national targets and a few national targets have no equivalent ABT[6].

In addition to the targets equivalent to the ABTs, Cameroon, Eritrea, and Gambia adopted ecosystem-based specific targets to ensure that specificities of ecosystems are taken into consideration. Uganda has targets on emerging issues.

ABT 1 on "awareness of biodiversity increased"

Education on biodiversity, and awareness-raising and biodiversity knowledge management is among Africa's biodiversity priorities. Ninety percent of African countries adopted national targets related to ABT 1. About half of the countries were on track to achieve or exceed their targets. All African countries carried out many activities on communication, education and public awareness. They reported that millions of people in each country had been reached through these activities and became better informed about biodiversity value and ways and means for its conservation. It is still necessary to find out whether and how much these initiatives have been effective in transforming people's behavior in favor of biodiversity conservation.

ABT 2 on "biodiversity values integrated":

'Mainstreaming biodiversity into relevant sectors' and 'Natural capital accounting' are both listed among the 11 Africa's biodiversity priorities. Seventy-five percent of NBSAPs have targets on integration of biodiversity values. Forty-seven percent of the countries that assessed progress on their ABT2-related targets were on track to achieve or exceed their targets. However, Africa continues to be the continent where relatively few biodiversity valuation studies have been carried out. Identified obstacles and challenges to the integration of biodiversity values include *inter alia* dearth of information on the financial costs of biodiversity loss and ecosystem degradation; and inadequate technical skills and capacities in areas of biodiversity valuation, environmental economics and data management. Financial resources to address these challenges should be sought. Agenda 2063 emphasizes the need for Africa to add value to its raw biodiversity and thus increase biodiversity market values rather than depending largely on importation of commodities manufactured from Africa's raw materials.

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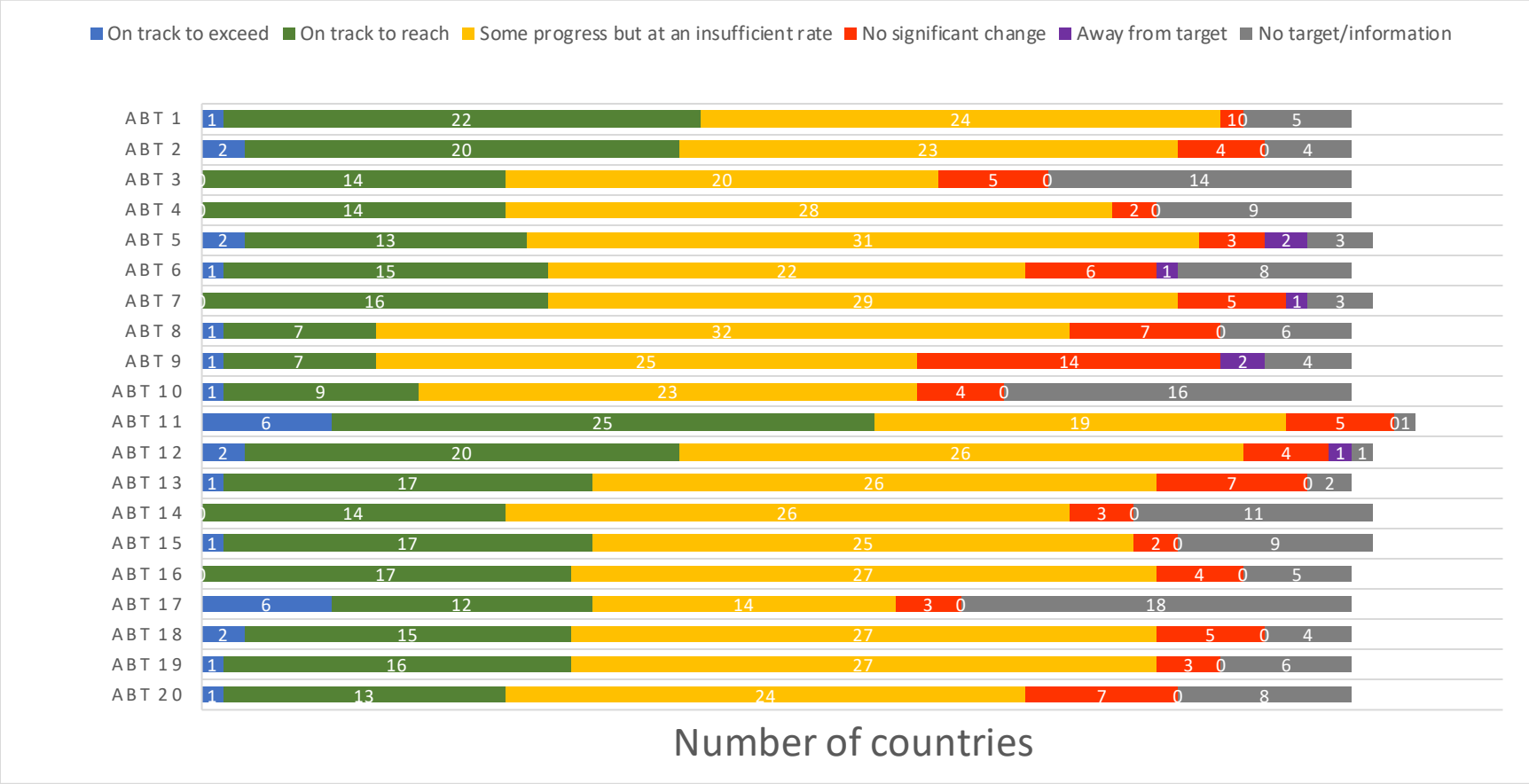
[6] Some examples:

- **Ethiopia National Biodiversity Target (NBT) -13** By 2018, benefits from biodiversity are increased through value addition to at least 12 agro-biodiversity species and products, and creating market linkages for five species of medicinal plants; taking into account the needs of women and local communities
- **South Africa Target 15**: By 2019, 398 886 ha of firebreaks and prescribed burning prepared to prevent ecologically damaging fires.
- **Cote d'Ivoire Objective 19:** By 2020, operational teams of researchers are mobilized for biological diversity
- **Senegal Specific objective A.2**: Develop research on biodiversity Target 2: By 2020, at least 5 research themes on biodiversity, including emerging themes, are supported per year
- **Burundi National objective 13:** By 2015, a monitoring system for the dynamics of national biodiversity is in place and functional to monitor the status and trends of habitats, populations and species
- **Cameroon Target 5:** By 2020 Biodiversity-related laws and regulations are strengthened and made coherent in order to avoid conflicting uses and combat illegal practices

Figure 3: Assessment of progress in the contribution of national targets to the respective Aichi Biodiversity Targets, at the regional level.



Notes: It is important to note that

(i) Total number of countries is 53.

(ii) Seychelles gave two ratings for targets 5, 12 and 14, one for terrestrial ecosystem and the other one for marine ecosystem; two for target 15, one for ecosystem resilience and the other one for carbon sink; three for target 7 for agriculture, aquaculture and forestry; and 4 for target 11 for coverage in terrestrial areas and marine areas, and for management effectiveness in terrestrial protected areas and marine protected areas. **This is a clear indication that when a target contains different elements, a separate rating should be given to each one. In fact it is advisable to have only one element in each target (specificity).** South Africa's national targets is a good illustration of how targets should be stated if they are to be specific.

ABT 3 on "incentives reformed":

Incentive measures are not listed among Africa's biodiversity priorities, but their importance is underscored in Agenda 2063. Also, although only 65 % of countries had a target on incentives, all the African countries reported on incentive measures, and the length of their reports on incentives indicates that these tools are considered very important in Africa not only for encouraging people's involvement but also because they can bring in financial resources that can be used for biodiversity. Thirty-eight percent of countries considered they were making good progress towards their national targets related to ABT 3.

African countries assessed their existing legislations and policies for any perverse impact on biodiversity and applied incentives under the following categories: property rights, market measures and charge systems (e.g., certification schemes, fees, quotas and permits, fiscal measures including taxes and subsidies, bonds and deposit systems, alternative livelihoods with high or higher income, financial measures/instruments including various trust funds. REDD+, which is a very important biodiversity initiative that links to climate change, was presented as a special case of the payment for ecosystem services. It was not understood why reports of many of the 28 countries partner in the UN-REDD Programme contain little or no information on their REDD+ programmes. Harmful subsidies have been reported in agriculture and fisheries and on fuel in some countries, for which measures taken included bans, application of the principles of "polluter pays", payment for ecosystem services, biodiversity offsets, the strengthening environmental impact studies, and promoting best practices in the production and consumption.

Incentives carry promising chances of transforming people's behaviour for biodiversity than simple biodiversity messages. It is worth assessing the impact of incentives in use and providing quantitative data on their successes for sharing widely in Africa.

ABT 4 on "sustainable production and consumption":

Sustainable production and consumption are not on the list of Africa's biodiversity priorities. This was not understood because sustainable production and consumption underpin the AfDB High Five and Agenda 2063. In addition, value-addition is a critical strategy for Africa in Agenda 2063 which recognizes that Africa's huge natural potentials are dampened by lack of processing capacity which have deprived of African countries the forward linkages and employment generation capacity that could have helped accelerate economic growth and transformation. One of Agenda 2063 targets on value-addition is that at least 50% increase in value addition in the fishery sector in real term is attained by 2023.

Fifty nine percent of the countries in Africa have specific targets on sustainable production and consumption (SPC). However, all the countries in Africa reported initiatives for the development and implementation of sustainable production and consumption plans. Only a third (33%) of African countries reported being on track to achieve or exceed their targets. National reports describe initiatives undertaken to make production practices in agriculture, forestry, fisheries, energy, tourism, mining and other industries sustainable and biodiversity friendly. They include *inter alia* sector-specific plans, policies and regulations; waste management, expansion of areas under organic and biological farming, renewable energy and more efficient energy use; blue economy arising out of fisheries, eco-friendly coastal tourism, and development of marine biotechnology products.

The consumption part was articulated around food including traditional food, non-timber forest products (NTFPs) and biofortified food crops, water and energy consumption with supporting mechanisms in the

form of awareness-raising, policies and sometimes incentives. Africa's consumption is growing in line with human population increases and changes in consumption patterns. This is putting increasing pressure on Africa's ecosystems. Countries described many biodiversity components used as food or medicine, and the sources and consumption of water and energy. National reports did not cover the consumption of processed food, but they referred to food wastes and other wastes such as plastic bags from industries affecting biodiversity and ecosystem services. FAO cited by Angola reported in 2019 that 37% (or 120-170 kg / year per capita) of food is lost annually in the sub-Saharan Africa[7] mainly because of insufficient or inappropriate conservation facilities and methods.

In general, details about keeping the impacts of natural resource use well within safe ecological limits were not given in the 6th national reports. Without that knowledge, the threshold or tipping point of the negative impact of production and consumption on biological resources cannot be determined.

ABT 5 on "habitat loss halved or degradation reduced"

Africa has dry and humid forests, mountain habitats, savannas and grasslands, deserts, peatlands, inland waters, seas/oceans and mangroves. All these natural areas are undergoing some kind of degradation and/or fragmentation, and the size of some of them is decreasing over time. The target was adopted to reduce the decline and loss so that these habitats can continue to provide their services. Of all these natural ecosystems, only marine and coastal areas are mentioned among the Africa's biodiversity priorities. Agenda 2063 refers to this target indirectly.

Eighty three percent of African countries adopted national targets related to ABT 5. Only 29% of the countries were on track to achieve or exceed their targets. Contrary to the hope from GBO-5 regarding progress in the decline in deforestation, deforestation in Africa continued to be larger (around 4 million ha/year) than in the rest of the world. No countries presented data describing quantitatively the level of reduction in the loss, fragmentation and degradation of natural habitats. Countries described or just listed the many ongoing or planned projects that could hopefully reduce the loss, fragmentation and degradation of natural habitats. Some countries identified lack of baseline information and lack of up-to-date data as an explanation.

ABT 6 on "sustainable management of aquatic resources":

The legality and sustainability in the management and harvesting of fish, invertebrates or aquatic plants, application of ecosystem-based approaches, avoidance of overfishing, development of recovery plans and other measures for all depleted species, environmentally friendly fishery are not mentioned on the list of the 11 Africa's biodiversity priorities. However, these points are essential for sustainable development and poverty reduction as the fishery sector is important to food security and the livelihoods of many people in Africa, in line with the AfDB High Five. Agenda 2063 recognizes that fishing is one of the activities for the blue economy and that investing in fishery business across all value chains is an area requiring scale up financing in first ten years of Agenda 2063.

Seventy percent of countries adopted national targets related to ABT 6. Thirty-seven percent of countries were on track to achieve or exceed their targets. Actions taken by countries usually included enacting and enforcement of legislations, policy and management measures. Ecosystem approach has been applied to fisheries generally through the FAO Ecosystem Approach to Fisheries. Some countries reported on the

[7] FAO (2019) The State of Food and Agriculture 2019. Moving forward on food loss and waste reduction. Rome: FAO cited in https://sustainabledevelopment.un.org/content/documents/286012021_VNR_Report_Angola.pdf

assessment of their inland water and marine fish/invertebrate stocks. They estimated the maximum sustainable yields and calculate total allowable catch (TAC). Regarding threatened fish species, some countries mapped them. Plans to recover them included protected areas, fishing bans for a given period of time, or reproduction in aquaculture and reintroduction in their original habitats.

Some countries expanded their Marine Spatial Planning capacities for a successful blue economy. They have thus tried to improve their monitoring, control and surveillance systems while considering the whole value chains for products from aquatic ecosystems paying particular attention to income generation for local communities involved in the conservation programmes. Supporting mechanisms have been put in place for training to share knowledge and strengthen skills, mobilizing funds, certifying product to recognize and reward sustainable fishing practices, and influence the choices people make when buying seafood.

ABT 7 on "sustainable agriculture, aquaculture and forestry":

This target is a set of 3 distinct targets that should be considered separately.

'Sustainability in agricultural, aquacultural and forestry production systems' are not among the Africa's biodiversity priorities. However, agricultural productivity and sustainability, production of fish in aquaculture, wood fuel as source of energy and non-timber forest products are at the heart of the food, health and energy security enshrined in the AfDB High Five. In Agenda 2063,

- sustainable agriculture is addressed in one of the priority areas. **Africa wants to radically transform its agriculture to enable the continent to feed itself and be a major player as a net food exporter.** Agenda 2063 has a set of specific targets including some for 2023 focused on production to feed Africa and contribute to Africa's economies.
- only few references are made to aquaculture. **Freshwater aquaculture and mariculture have a unique growth potential in Africa where the population is growing at a rate faster than any other continent and the situation of hunger and malnutrition is the most critical. Africa's contribution to world aquaculture production is currently less than 3%.** The sector has a great potential for employment, particularly women in large-scale commercial farms.
- with a 2023 target of reducing to 2013 levels emissions arising from agriculture biodiversity loss, land use, and deforestation, there are calls in some of the priority areas to build capacity for forest protection, and develop policies and regulatory frameworks that promote re-afforestation and sustainable forest management, bearing in mind that in the past decade, Africa had the highest rate of deforestation and net forest loss.

Eighty-one percent of countries had national targets related to ABT 7. Some of the national targets kept the 3 distinct targets while others dropped one or two of the targets. Thirty-ne percent of countries were on track to achieve or exceed their targets while most countries made no or insufficient progress.

Among the actions taken, the following can be mentioned:

Regarding sustainable agriculture

Sustainable agriculture is a concept that is considered necessary for the provision of sufficient food to stop hunger, bring people out of poverty and contribute to their wellbeing while the farming methods used maintain soil fertility and productivity and avoid reliance on levels of chemical inputs that are

environmentally unfriendly. Agricultural practices to be used as well as measures to be taken to make agriculture sustainable require multidisciplinary approaches integrating environmental, social and economic dimensions. They have to be considered in a holistic manner over a long period of time. In general, countries described the measures taken in an integrated manner for example in the form of conservation agriculture, organic agriculture/farming, climate smart/resilient agriculture, agroforestry, integrated pest management, sustainable soil management etc. In addition, countries described the mechanisms put in place to support sustainable agriculture including at the policy and institutional levels as well as research and capacity building.

In general, there is a need to collect data at larger scales to describe more convincingly the ecological and socioeconomic benefits from these systems, bearing in mind that enough attention needs to be devoted to producing sufficient food in Africa and fighting hunger.

Regarding sustainable aquaculture

GBO-5 did not highlight the enormous potential of aquaculture in Africa and the ongoing initiatives across the continent. The potential sustainability issues of aquaculture in Africa include habitat destruction during the construction of ponds or dams; the sources and quantities of feeds, good quality water; diseases of fish and aquatic plants and invertebrates leading to excessive loss of stocks; the methods of disease control; the degree of integration with other agricultural/farming activities including the potential of escape of culture species and transmission of diseases or parasites from the ponds; ways and means through which wastes from aquaculture are handled; and the economic sustainability of the business and its contribution of the workers and local communities.

The 6th national reports described many actions taken to make aquaculture sustainable. They include the development of master plans and strategies, the promotion of internationally agreed guidelines, the establishment of overseeing and control bodies, the enactment and revision of laws and policies, the application of environmental impact assessment (EIA), information sharing on issues for which sustainable management is necessary, development of guidelines, training programmes, assessment of aquaculture potential and possibilities, development and implementation of projects/programmes and research, improvement of access to markets; and use of incentives. Some countries reported on their successes.

Regarding sustainable forestry,

The 6th national reports identified many actions taken for sustainable forestry addressing environmental issues for example through codes of conduct and projects for reducing deforestation, overharvesting of timber and non-timber forest resources, forest degradation, fragmentation and conversion into other land uses such as agriculture or the construction of various types of infrastructure; projects for controlling fires, pollution, invasion by alien species, and pests and diseases, poaching and other threats to endemic species; and for restoring or rehabilitating lost and degraded forest ecosystems.

Supportive policy and governance options were considered for the successful implementation of action that will make forestry sustainable in Africa. Various reports called for increased synergy in the implementation of the Rio conventions. Synergy and support have also been called for regarding the implementation of other conventions dealing with forest products such as timber under CITES, or protected forests in the context of UNESCO biosphere reserves and World Heritage Sites; or mangroves within Ramsar sites; or FAO. It was not understood why none of the national reports referred to the work under the United Nations Forum on Forests. Mainstreaming of forestry into national development plans and strategies and into relevant economic sectors was considered as a way to increase the chances of mobilizing more human and financial resources for the conservation and sustainable use of forests.

The role of IPLCs was stressed as well as the use of incentives. Law enforcement and illegal trade of forest

products has also been addressed in the 6th national reports with reference to the Voluntary Partnership Agreement on Forest Law Enforcement, Governance and Trade (FLEGT). Other enabling initiatives include the ecological and socioeconomic valuation of forests. Agenda 2063 emphasized the need to improve and expand the wood-processing industry and increase the market value of forest products as well as job creation. Some countries have increased their capacity to monitor the status of forests and the services they supply. Research is also ongoing for the best timber harvesting methods as well as the collection and selection of germplasm for use in afforestation and reforestation work.

ABT 8 on "pollution reduced"

Pollution is not listed among the 11 Africa's biodiversity priorities. However, Agenda 2063 drew attention to pollution in the context of the blue economy and water security and set a number of targets including for example that (i) at least 10% of wastewater is recycled for agricultural and industrial use; and (ii) 50% of urban waste is recycled. Agenda 2063 also suggested that taxes could be imposed on pollution and tax revenues could be used for biodiversity conservation and other Agenda 2063 activities.

In Africa, 74% of countries had a target on pollution. Only 18% of the countries were on track to achieve or exceed their targets. Most African reports emphasized that pollution has become a serious problem for biodiversity. Different types of pollution have been described. They include pollution generated by urban waste from the mismanagement of household waste as well as pollution of water, air, soil and subsoil.

Actions taken to limit and reduce pollution and its negative impacts on biodiversity and human health included legislation and enforcement/compliance mechanisms; adoption of cleaner production technologies; awareness raising and building of human and technological capacities; recycling of wastes; support of alternative uses for solid waste; strengthening human and technological capacities for monitoring pollution. Despite all these efforts, pollution is still not well controlled in many countries in Africa, with detrimental impacts on ecosystems. **Assessment of pollution sources, mode and level of impacts, and their ecological and socioeconomic consequences is critical and required**.

The challenges in addressing pollution include the generic lack of sufficient financial resources, weak technical capacities and human expertise including for example for monitoring soil, water and air pollutions; for designing and applying ways and means to reduce waste production, reuse products and recycle wastes; for updating standards and integrating them in policies and environmental impact assessment (EIA) and strategic environmental assessment (SEA); for designing alternatives to plastic bags and containers; limited information on ecological and socioeconomic (including human health) impacts of pollutions for use in awareness raising and education programmes, and by policy and decision-makers; and the importation of e-wastes and other second-hand products that cannot be recycled or disposed of properly.

ABT 9 on "invasive alien species prevented and controlled":

"Invasive alien species" (IAS) is one of the 11 Africa's biodiversity priorities, but invasive alien species are not mentioned in Agenda 2063. There are indications that IAS are spreading unabated in Africa, in agroecosystems, forests, in waterways and other aquatic systems with negative impact on fish production, agricultural productivity and food security in general, grazing, water supplies and coastal tourism. Climate change, to which Africa is the most vulnerable continent, is known to exacerbate the spread and establishment of IAS and worsen their impacts.

It is important to recall that Article 8h of the CBD calls on Parties to "prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or species." Thereon, the CBD Parties

undertook work on invasive alien species, including microorganisms, whose introduction and/or spread outside their natural past or present distribution threatens biological diversity, human health with potential socioeconomic impact. The spread of COVID 19 and many other pathogenic agents could be considered as cases of IAS.

Seventy five percent of countries in Africa have a target on IAS. Only 17% of countries considered they were on track to achieve or exceed their targets.

The three elements of ABT 9 are: (i) invasive alien species and pathways are identified and prioritized, (ii) priority IAS are controlled or eradicated and (iii) measures are in place to manage pathways to prevent IAS introduction and establishment. Regarding IAS identification and prioritization, many African countries consulted existing databases to make lists of their IAS for the 6th national report. Some countries updated or are updating the information while trying to prioritize the IAS on the basis of their invasiveness, ability to establish and spread, and their ecological and socioeconomic impacts, and to map them.

The analysis of the pathways of introduction of IAS is fundamental for the management, risk assessment, monitoring and surveillance of IAS. The generic pathways of introduction of IAS are known and applicable to Africa. No systematic studies have been reported in the 6th national reports to identify and prioritize the pathways of IAS introductions in countries or new environments within countries. There is a need to mobilize human, technical and financial resources and explore cooperation with neighboring countries, in the subregion and at the regional level for the analysis and prioritization of the pathways.

Regarding IAS control, about half of the countries in Africa have developed or are in the process of developing national strategies and action plan for the prevention, control and eradication of IAS. In many countries, implementation is at an early stage due to limited financial, human and technological resources. The South Africa's Strategy[8], developed in 2014, is the only one in Africa at an advanced stage of implementation. Cases of successful control of IAS have been reported in experimental plots or at small scales for example using biological control. GBO-5 reported that good progress had been made during the past decade on identifying and prioritizing IAS with many successful eradication programmes especially for invasive mammals on islands. The **progress at the global level does not seem to represent progress in Africa accurately.** GBO-5 reported almost 200 successful eradications of invasive mammals on islands since 2010, with positive benefits for hundreds of native terrestrial species on 181 islands. In Africa, only Seychelles reported successful eradication of alien mammalian predators i.e., cats and rats (*Rattus* sp), other mammalian species and some bird species, notably the Indian myna bird (*Acridotheres tristis*). These eradications realized substantive benefits to endemic biodiversity. However, new IAS are spreading at the same time. Mauritius reported that they were working on eradication of the Chinese Guava plant. The results of these initiatives were not presented. Similarly in Mauritius, new IAS are spreading, and the country expressed its need for support from international organizations, financial support, capacity building and enhanced enforcement of policy and legislative measures. In both countries, overall assessment of progress towards the achievement of ABT9-related national targets 9 was insufficient progress.

Various challenges were highlighted in the 6th national reports. Decision-makers' poor awareness of the socioeconomic impacts of IAS, ways of IAS control, and the possibilities to transform IAS and thus add value was considered as one of the main underlying obstacles. The other challenges include inadequate technical and financial resources; land tenure unfavorable to local communities who need to be engaged in control measures; lack of detailed information including maps on IAS distribution and spreading; the multiplicity of entry points to the territories (airports, ports, roads, waterways bearing also in mind the movements of people caused by armed conflicts and increased trade) and the porous and informal nature

[8] http://www.info.gov.za/acts/2004/a10-

of many borders between countries while there is a shortage of personnel with IAS expertise; weak enforcement of regulations relating to IAS; and poor or lack of coordination of management of AIS in the respective sector ministries (agriculture, environment, water, fisheries, wildlife, forestry).

ABT 10 on "ecosystems vulnerable to climate change":

Coastal and marine biodiversity, including coral reefs, as well as climate change are among the Africa's biodiversity priorities. Recognizing that, with its low contribution to greenhouse gas emissions, Africa is the most vulnerable continent to climate change and climate variability, and has a low adaptive capability, through Agenda 2063, African Heads of States agreed to put in place measures to sustainably manage the continent's rich biodiversity, forests, land and waters and using mainly adaptive measures to address climate change risks. Agenda 2063 has "Climate Resilienceand Natural Disasters and preparedness" as one of its priority areas. However, there is no specific targets on coral reefs and ecosystems that are vulnerable to climate change and ocean acidification. The services that vulnerable ecosystems impacted by climate change and ocean acidification can provide are important for food, health and livelihood security in Africa and are thus in line with the AfDB Five Priorities.

While ABT 10's focus is restoring and maintaining vulnerable ecosystems at their functioning capacity, reference in Agenda 2063 to climate change goes beyond the maintenance of the environment. The ultimate goal of Agenda 2063 actions addressing climate change is to ensure socioeconomic development.

Only 48% of African countries adopted national targets related to ABT 10. The reasons for such a low percentage could be because in the French translation, vulnerable ecosystems were limited to ***marine and coastal*** ecosystems. The original text in English does not have this limitation for the consideration of any vulnerable ecosystem. Almost all the French-speaking landlocked countries did not have a target related to ABT 10. Some other countries did not consider ABT 10 because of lack of data on coral reefs.

ABT 10 is the target of the Strategic Plan for Biodiversity 2011-2020 that was the least adopted or integrated into specific national targets in Africa. This is in contrast with the fact that climate change is top on the socioeconomic agendas of African countries and is among the 11 Africa's biodiversity priorities, that countries endowed with coral reefs appreciate the multiple services provided by these ecosystems, and that vulnerable ecosystems impacted by climate change such as mangroves, various wetlands including lakes, miombo and agroecosystems are also important for people's daily lives but also for sustainable development and welfare.

In general, countries were carrying out the following actions to achieve their targets related to ABT 10: (i) identify and describe the vulnerable ecosystems impacted by climate change or ocean acidification. The vulnerable ecosystems highlighted in national targets related to ABT 10 are coral reefs, wetlands including the iconic lakes like Lake Chad, woodlands, savannas and mosaic forests, mangroves, mudflats/mudslides, sand banks, tips of mountains like Mount Kilimanjaro, and marine and coastal ecosystems; (ii) identify and assess the pressures, essentially anthropogenic pressures, exerted on them including climate change; (iii) formulate and implement strategies, policies and actions to reduce and/or remove the pressures, and to restore and maintain the integrity and functioning, including the provisioning of services, of those ecosystems; and (iv) strengthen the required human, financial and institutional capacities.

The impact of climate change has been documented in many assessments e.g., the IPCC reports that African countries referred to in their national reports. In general, African countries did not discuss ocean acidification. Only South Africa noted that its impact was negligible compared to the change in temperature and precipitation and sea-level rise. Although GBO-5 did not consider floods among the anthropogenic pressures exerted on vulnerable ecosystems, some countries in Africa took measures to address floods, aware that human activities, such as deforestation, urbanization and construction of other

types of infrastructure, poor land use practices in farming systems including overgrazing and improper waste disposal, can degrade the environment, cause and/or contribute to flooding. The measures include the establishment of flood early warning systems, the planting of trees and vegetation on mountain slopes, and climate smart agriculture with the use of flood tolerant crops and appropriate farming system.

The strategies, policies and actions include continuous/regular monitoring of ecosystems, integrated ecosystem management, ecosystem restoration as well as the establishment of protected areas to restore and/or maintain the functioning, integrity and resilience of coastal and marine areas, other aquatic ecosystems and terrestrial ecosystems while ensuring their effective contribution to the people. Actions taken to address the pressures on vulnerable ecosystems include the enactment and enforcement of legislations and policies; the integration of biodiversity-inclusive environmental impact assessment in all the sectors that use or impact biodiversity and its services; the expansion of protected areas and conservation area systems and the improvement of their management effectiveness; ecosystem restoration; reforestation and other projects undertaken in the context of REDD+ or the fight against drought and desertification. Only few references were made to gender issues and women needs.

The need for synergy among the Rio conventions was recalled by some countries through the complementary implementation of the NBSAP under the CBD, the National Adaptation Programmes of Action (NAPA) and Nationally Determined Contributions (NDCs) under the UNFCCC, and the National Action Programmes (NAP) under the UNCCD. In 2014, Africa established the African Climate Change Fund with the objective of addressing climate change and its associated challenges.

Less than a third (29%) of the countries were on track to achieve or exceed their targets. Financial limitations, the needs for acquiring expertise, scientific research including for the valuation of vulnerable ecosystems, and disseminating information and best practices among all stakeholders as well as the enacting and enforcement of laws have been mentioned in the 6th national reports as prerequisites for significant progress in achieving targets related to ABT 10. Capacities needs are essentially in the field of biodiversity inclusive environmental impact assessment where not only specific expertise is needed but also technical tools and infrastructures. Partnerships were useful to offset some of the capacity gaps.

ABT 11 on "protected areas":

'Protected areas' and areas under other effective area-based conservation measures (OECMs) or conservation areas are not on the list of the 11 Africa's biodiversity priorities. However, protected areas and community-conserved areas have always been the strategies that countries in the world use to achieve the long-term conservation of nature with its associated benefits, including cultural values. In Agenda 2063, Africa's goals regarding protected areas are ambitious. As stated, in order to build environmentally sustainable and climate resilient economies and communities, "by 2063, national parks and protected areas (both terrestrial and marine) will be well managed and threats to them significantly reduced. […] African countries would have reduced loss of biodiversity by at least 90 per cent; and natural habitats conserved." In so doing, all the benefits that can be derived from nature for a prosperous Africa will be optimized. In its First Ten Year Implementation Plan, Agenda 2063 endorsed ABT 11 with the 2023 targets to (i) preserve at least 17% of terrestrial and inland water and 10% of coastal and marine areas; (ii) manage well all national parks and protected areas on the basis of master and national plans; and (iii) have in place at the regional level harmonized and binding agreements and regulatory frameworks on fair, equitable and sustainable management and exploitation of transboundary natural resources (water, parks, wildlife and oceans). Agenda 2063 suggests many measures including for example enacting strict and punitive legislation for wildlife crimes, putting in place sound land tenure and property rights, and

ratifying and implementing the African Convention on the Conservation of Nature and Natural Resources.

Except Malawi, all the countries in Africa had national targets related to ABT 11. However, all the countries carried out work on protected areas. When countries were adopting their targets on protected areas, information that often lacked was the reasons behind the expansions of their protected area systems, particularly the socioeconomic benefits from protected areas in terms of revenues, job creation and the wellbeing of the populations. This information is of utmost importance not only to decision-makers but also to the communities that would be involved in the protection activities.

Protected area coverage

At the time countries submitted their 6th national reports, Africa's marine and terrestrial protected area coverage was below the ABT 11. As of end of 2020, Africa protected area system covered 17.95 % of terrestrial protected areas and conservation areas (i.e., 14.11% terrestrial protected areas + 3.84% OECMs from Algeria) and 5.6% of marine protected areas. A bit more than half (54%) of the countries considered they were on track to achieve or exceed their targets. For some countries but not all, the self-assessment of progress towards their national targets on protected areas made when the 6th national reports were submitted in 2018 or 2019 was confirmed when 2020 status of protected area coverage was consulted in WDPA. For other countries, an examination of the status of protected area coverage in the World Database on Protected Areas (WDPA) in December 2020 was not in line with the perceived rate of progress given in the national reports. For example, Guinea Bissau rated progress as 'on track to exceed'; the country exceeded its target of 26% terrestrial protected areas to 26.32% at the end of 2020. Congo targeted 17% in 2020 and rated its progress 'on track to achieve'. Congo exceeded this expectation to reach 36.79% (WDPA) in December 2020. However, Ghana targeted 17% terrestrial protected areas for 2020 and rated its progress 'on track' in Feb. 2019 in its national report; Morocco reached only 4.27% (WDPA) in December 2020. Thus, **the self-assessment of progress in implementing national biodiversity targets should be taken as indicative.**

Protected area representativeness

In general, countries acknowledged in their national reports the need for and importance of improving representativeness not only of ecoregions but also unique ecosystems and key species, particularly the threatened species. A few countries presented their Protected Area Representativeness Indices[9] usually from the Biodiversity Indicators Partnership. Determination of the index requires data and some expertise e.g., in remote environmental mapping, biodiversity informatics, and macroecological modelling[10]. **For countries to allocate resources for assessing Protected Area Representativeness Index using their own means and to own the results of the assessments, it is necessary that what is to be is clearly understood and include components of biodiversity that people value**. Species representation in protected areas was not considered systematically in national reports. National reports did not break down the coverage of protected areas to specify e.g., the proportion of each type of forests, savannas, inland waters, peatlands, mountain, coral reefs etc. that is included in the protected area system. Qualitative information was given at times regarding the occurrence of types of ecosystems within protected areas. Quantitative data (maps and figures) were presented on key biodiversity areas (KBAs) and their coverage in protected areas by the IBAT Alliance. Consideration of any expansion of protected area systems to

[9] https://bipdashboard.natureserve.org/bip_metadata/protected-area-representativeness-index

[10] https://www.ipbes.net/sites/default/files/Metadata_GEO_BON_Protected_Area_Representativeness_Index.pdf

improve representativeness requires the participation of indigenous peoples and local communities. Land tenure rights were usually identified as the main obstacle to reaching consensus.

Connectedness

Countries noted the importance of establishing more corridors, paying attention to migratory species routes and integrating the work on connectedness into larger landscapes. Some corridors require restoration.

Expansion of protected area systems

African countries have not yet realized all the benefits from protected areas and conservation areas in terms of conservation and recovery of threatened species, socioeconomic gains for local communities and the wellbeing of all the stakeholders. In some countries, local communities saw themselves expelled from their ancestral lands to accommodate protected areas. Thus, there is little or no motivation or strong incentives for the establishment of new protected areas, even if they are needed to improve representativeness and connectedness.

A pilot project carried out in West Africa under UNEP with IUCN was referred to in Togo's national report regarding the need to expand protected area systems to ensure their resilience in the face of climate change. The project is worth upscaling considering the vulnerability of Africa to climate change.

Management effectiveness and ensuring effective protection

Many countries reported on their protected area management effectiveness (PAME) assessments using tools such as the Rapid Assessment and Prioritization of Protected Area Management (RAPPAM) methodology and the Management Effectiveness Tracking Tool (METT). An analysis of management reports indicates that most protected areas are not managed effectively due to lack of adequate resources in terms of both staffing and budget, poor law enforcement, and poor infrastructure. Excessive pressure on managers to accommodate unsustainable demands was also added to the list of obstacles. National reports indicated that where local communities and indigenous peoples were explicitly involved in decision-making and the co-management of protected areas, both conservation and socioeconomic outcomes were improved.

Development of management plans have been among the actions that countries undertook to improve their protected area management effectiveness (PAME). In general, only few management plans have been drafted. Often, countries focus on these PAME evaluation processes and development of protected area management plans and pay little or no attention to the extent to which management plans were achieving the biodiversity objectives for which the protected areas have been established. Many protected areas in Africa (and elsewhere) are not achieving the objectives for which they were established for various reasons such as the limited human resources to enforce laws, limited financial resources to hire enough rangers to curtail poaching and illegal trade of wildlife, insufficient equipment to monitor wildlife, the presence of armed groups inside and around protected areas especially when oil and minerals have been found there, uncontrolled bushfires etc. **These constraints need to be assessed in detail including the underlying factors.** Having management plans is not an indication of effective protected area but management plans help make protected areas effective. Some successful examples were described e.g., in the transboundary national parks in Virunga region.

ABT 12 on "reducing risks of extinction":

Threatened species are not specifically listed among the 11 Africa's biodiversity priorities. However, poaching and illegal trade which are among the priorities are some of the major threats to wildlife in

Africa. Agenda 2063 recommends that for achieving the 2023 targets under priority area on "biodiversity, conservation and sustainable natural resource management", countries should consider among other actions: (i) to develop policies / regulatory frameworks that reduce dependence of the population on threatened species and ecosystems, eliminate all forms of trade in endangered species, and (iii) enact strict and punitive legislation for wildlife crimes, including poaching and trafficking and enforce such legislation without any kind of political, economic, social and ethnic bias. Under the priority area on "climate resilience and natural disasters and preparedness", Agenda 2063 recommends the establishment of a bank/banks of genetic marine resources to restore threatened species and degraded ecosystems, particularly in Island States.

In Africa, 88% of countries adopted a target on threatened species. The 6th national reports from Africa acknowledged that populations of wild species of fauna and flora were in decline. Data supporting these observations are mainly from assessments such as the FAO Forest Resources Assessment, observations in the World Heritage Sites and in response to the requirements under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and the 2018 IBPES regional assessment report on Biodiversity and Ecosystem Services for Africa[11]. More detailed and relatively comprehensive data are provided by organizations such as IUCN through the Red List of Threatened Species[12], IBAT Alliance[13] and the WWF Living Planet Index.

Countries have taken various measures to address the decline in wildlife. The measures can be regrouped under prevention, direct action to stop the decline in species populations, recovery and supporting activities. More specifically, countries took the following actions to achieve their national targets related to ABT 12 and contribute to the implementation of ABT 12 at the global level: they inventoried and mapped the (known) threatened species essentially on the basis of the IUCN Red List; they prioritized them on the basis of their population declines; they identified the threats including human-wildlife conflicts mentioned in 25% of the national reports, mapped them and described their levels and impacts; they reviewed the measures taken and described their effectiveness; considering the constraints encountered, they addressed the obstacles, adjusted existing measures and took additional measures when possible and as needed. Every country had sets of preventive measures in the form of legislation, regulations and policies for the conservation and sustainable use of wildlife, some of which are keystone species or species of socioeconomic and cultural value. Enforcement of legislation and policies have sometimes suffered from political, economic, social and ethnic bias. Measures taken in the context of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) were relevant.

Regarding the recovery of threatened species, the 6th national reports focused on species-specific active or passive recovery programmes for keystone or culturally important species, with possibility of payment for ecosystem services; breeding programmes; habitat restorations, community-based conservation, protected areas, wildlife sanctuaries and conservation areas. The focus of many of these measures was usually on those species that have become critically endangered such as rhinoceros, elephants, pangolins. It is only in a few cases such as for wild relatives of food crops that programmes were designed to enhance management measure, those species being beneficial essentially for food security and other

[11] https://ipbes.net/assessment-reports/africa
[12] https://www.iucnredlist.org/
[13] https://www.ibat-alliance.org/

socioeconomic benefits.

Some countries put in place monitoring and evaluation mechanisms. These require investments in technical infrastructure and human capacities. Regular assessments of the impact of measures taken allow to adjust and enhance the effectiveness of the measures. All the countries conducted supporting activities to increase the chances of success, including participatory planning processes ensuring the involvement of the indigenous peoples and local communities (IPLCs); awareness-raising programmes, training and integration in education curriculums; mobilization of financial resources; incentive measures including payment for ecosystem services schemes and application of 'polluter pays' concept. Some countries (e.g., South Africa and Malawi) established trust funds to address the long-term conservation of wildlife in danger of extinction. Additional funds are being taped from bilateral and multilateral sources and from individual donors. Sustainable sources of funding are key to the successful and long-term implementation of conservation measures.

Forty-four percent of countries were on track to achieve or exceed their targets. The main challenges include limited financial, human and technical capacity for the identification, assessment of status, trends and spatial distribution of the threatened species; for regular monitoring of the wild species, their trade and effective law enforcement.

ABT 13 on "safeguarding genetic diversity":

The need to stop the ongoing genetic erosion and maintain/protect the genetic diversity of cultivated plants and farmed and domesticated animals as well as their wild relatives and other socio-economically and culturally valuable species is not among the Africa's biodiversity priorities. However, genetic diversity is critical for food, health and livelihood security in line with the AfDB High Five. In addition, under Goal 7 (Environmentally sustainable climate resilient economies and communities) of Agenda 2063, one of 2023 targets is to maintain the "genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives including other socio-economically as well as cultural valuables species". This Agenda 2063 target is an endorsement of the first part of ABT 13 by Africa.

Seventy-nine percent of countries adopted targets related to ABT 13. Countries undertook many actions to achieve these targets and contribute to ABT 13 and the related SDGs. These actions include the following:

- Inventory and document the genetic diversity of cultivated plants and their wild relatives, farmed and domesticated animals and their wild relatives, and other socio-economically and culturally valuable species;
- Identify both direct and indirect pressures on genetic diversity and assess/describe their impacts and the socioeconomic consequences of their impacts;
- Develop and implement strategies for minimizing genetic erosion and safeguarding genetic diversity by targeting the pressures; and
- Check the outcomes of the actions taken/strategies in terms of conservation of genetic diversity.

Inventories and documentation of genetic diversity usually require the use of sophisticated technologies and expertise that were not available in some countries. The pressures impacting genetic diversity are the same as the generic drivers of biodiversity loss. They were often just listed in the national reports but their strength/levels as well as the socioeconomic consequences of their impacts were rarely given as they require a lot of financial and human investments which were not always available.

Regarding the strategies for minimizing genetic erosion and safeguarding genetic diversity, national reports referred mostly to in situ and ex situ conservation programmes involving protected areas, community conserved areas, sacred areas, wildlife sanctuaries, seed and gene/DNA banks with cryopreservation facilities, botanical and zoological gardens. These programmes were usually supported by the establishment or strengthening of national institutions for planning and implementing measures relating to plant/animal genetic resources, for agriculture/livestock sector development, for research with biotechnological capabilities; for building capacity for genetic diversity characterization, inventory, and monitoring of trends; and data/information management and awareness raising about the value of genetic diversity in particular for food and health security. International cooperation contributed to building capacities and offset gaps in expertise. Thirty-five percent of countries considered they were on track to achieve or exceed their targets.

ABT 14 on "restoration and conservation of essential ecosystems":

Scientists reported that, about 24% of Africa's land (7.2 million km^2) was degraded and that over the next 50 years, much of the ecosystem degradation in the world would take place in Africa. Ecosystem restoration is the first priority on the list of the 11 Africa's biodiversity priorities[14] endorsed by the African Ministerial Summit held in the margins of the 14th meeting of the CBD COP in 2018. Africa stated its ecosystem restoration priorities in Agenda 2063: to have Africa's forest and vegetation covers restored to 1963 levels, and land degradation and desertification stopped and then reversed by 2063. Moreover, and more specifically for Small Island States, Africa decided the establishment of banks of genetic marine resources to restore threatened species and degraded ecosystems, in addition to the expansion of marine protected areas. These actions are part of Africa's programme to build environmentally sustainable and climate resilient economies and communities through biodiversity conservation and sustainable natural resources management. Health, livelihoods and well-being encapsulate the elements of one of the AfDB High Five, "Improve quality of life of the people in Africa". Ecosystem restoration, especially if it encompasses "ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being", represents a great opportunity for Africa not only to restore its natural capital/infrastructure and thus rebuild the resilience of its ecosystems and societies to various threats such as climate change and drought/desertification but also to provide jobs and generate multiple benefits for people. Ecosystem restoration will thus contribute not only to the implementation of CBD Article 8(f)[15], but also the UNCCD by reducing Africa's vulnerability to desertification as well as the UNFCCC and the 2015 Paris Agreement on climate change.

Close to 80% of African countries developed targets on ecosystem restoration. The period between the time ecosystem restoration targets were adopted and the end-years of the targets ranged between 2 and 9 years with 4 or 5 years for most countries. It is difficult to expect ecosystem restoration results within such short periods of time.

The various measures taken to achieve national targets on restoration of ecosystems providing essential services were compiled as follows: (i) Identification and description of ecosystems providing essential services and whether they are terrestrial or aquatic and whether they are mountains, forests, wetlands, rivers, lakes, marine and coastal ecosystems, drylands; (ii) description of the services they provide

[14] https://www.cbd.int/doc/c/d1fb/8f6f/e7edf569020f9fb961e95506/cop-14-afr-hls-05-en.pdf

[15] Rehabilitate and restore degraded ecosystems and promote the recovery of threatened species, inter alia, through the development and implementation of plans or other management strategies

including whether provision of water, or contribution to health, livelihoods and wellbeing, and whether important for climate change mitigation and adaptation; (iii) indication whether the services are particularly important to the needs of women, indigenous peoples and local communities, and the poor and vulnerable; (iv) whether they are lands affected by desertification, drought and floods, or whether they are affected by invasive alien species, pollution, fragmentation, overharvesting and climate change (e.g., sea level rise) and description of the levels of these pressures and their impacts on ecosystems; (v) prioritization of degraded ecosystems for restoration; (vi) assessment of ongoing and planned restoration measures; and (vii) adjustment or scaling up of the measures and application of new ones as needed; (viii) assessment of the consequences of the restoration measures taken. Additional actions reported included economic valuation, raising awareness of the importance of ecosystem services, capacity building and mobilization of funds. Few national reports included details on the description of the ecosystems under restoration, including the full array of services they provide, the relevance of these services to the needs of women, indigenous peoples and local communities, and the poor and vulnerable.

The 6th national reports did not present data on degraded areas at the national level only at site levels. Some countries had planned inventories of such areas during the past decade. However, many of them have not yet started or completed the inventories. Data on degraded ecosystems in the 6th national reports generally cover data on rate and extent of deforestation and forest degradation from the FAO Forest Resources Assessment and work on REDD+. Some of this information has been taken into consideration in the development of nationally determined contributions (NDCs) under the UNFCCC. Data on land degradation collected under the UNCCD and in the context of Land Degradation Neutrality *(*LDN*)* were also presented in a few national reports. The UN Biodiversity Lab[16], in partnership with UNDP and UN Environment, made available country maps[17] on features describing ecosystem degradation, including pollution, human pressures and footprint, trends in forest and mangrove cover, human pressures within protected areas or in marine areas. Many African countries reproduced some of those maps in their 6th national reports **with no or little integration in the discussions of restoration measures or the pledges. Data on degraded ecosystems presented in the 6th national reports were not sufficiently comprehensive to serve as baselines for future determination of the proportion of degraded ecosystem that could be targeted post 2020**. In addition, data on ecological and socioeconomic impact of ecosystem degradation were usually not provided but general qualitative statements such as "loss of forests and native vegetation has affected smallholder subsistence systems".

Some studies indicate that more than 720 million hectares in Africa have the potential to be restored. Current pledges to restore ecosystems in Africa are: (i) restoration of over 200 million ha by 2030 under the 2018 Pan-African Ecosystem Restoration Action Agenda. It is not clear whether this target took into account Agenda 2063 targets on ecosystem restoration; (ii) restoration of 100 million hectares of land by 2030 through AFR100[18] (the African Forest Landscape Restoration Initiative) which contributes to the Bonn Challenge[19], the African Resilient Landscapes Initiative[20] (ARLI). The pledges made under AFR100 and the Pan-African Ecosystem Restoration Action Agenda represent only 45.3% of the 720 million

[16] https://www.unbiodiversitylab.org/about.html

[17] These UN Biodiversity Lab maps should be interpreted with caution and verified / validated at site level. Some maps may be based on simplifications due to the absence of systematic data or insufficient data

[18] https://afr100.org/. As of 14 April 2021, 30 countries have committed to restore 126 million hectares, with $1B in development finance and $481M private sector commitment

[19] The Bonn Challenge was adopted in Germany in 2011. Its overall objective is to restore 150 million hectares by 2020. The New York Declaration on Forests stretched the goal to 350 million hectares by 2030.

[20] ARLI's objective is to promote integrated landscape management for adaptation to and mitigation of climate change

hectares with potential for restoration. Some ecosystem restoration targets were adopted within the Land Degradation Neutrality target setting projects. Synergy in implementing biodiversity conservation measures, climate change mitigation and adaptation and action plans for combatting desertification was considered beneficial to countries.

A third (32%) of the countries considered they were on track to achieve or exceed their targets. Kenya and South Africa presented data showing that the economic benefits of restoration can outweigh costs.

Many countries identified the following challenges for the successful implementation of their pledges: (i) limited financial and human resources to cover the costs from the participatory and spatial planning to monitoring the status of restoration at every step over many years; (ii) lack of comprehensive sets of data including ecological/biological (fauna and flora including birds, insects) data, evolution of soil biological and physicochemical status, and socioeconomic data, starting with baseline data.

ABT 15 on "ecosystem restoration and resilience":

'Ecosystem restoration' and 'climate change and biodiversity' are listed among the 11 Africa's biodiversity priorities. Their importance for Africa is also highlighted in Agenda 2063 where, under the first aspiration for "a prosperous Africa based on inclusive growth and sustainable development", Africa adopted, among other priority areas, one on "Biodiversity, Conservation and Sustainable Natural Resource Management" and another one on "Climate Resilience and Natural Disasters and Preparedness". Within these priority areas, Africa adopted specific targets and suggested strategies for achieving these targets of relevance to ABT 15. Moreover, with its 675 million hectares of forests accounting for 23% of Africa's land area and the Congo Basin forest which is second largest tropical rainforest on Earth but first in terms carbon sink, Africa's role in climate change mitigation is significant. Eighty one percent of African countries adopted a target relating to ABT 15.

Like at the global level, African countries described or just listed many projects and programmes articulated around ecosystem restoration. Without comprehensive assessments at the national level, countries could not determine the percentage of degraded ecosystems that was under restoration. Qualitatively, countries linked the planting of trees to the enhancement of biodiversity contribution to climate change mitigation and combating desertification. Enhancement of carbon stocks was covered mainly in the context of REDD+ programmes through which some of the 28 African countries partners in the UN-REDD Programme highlighted results of their carbon stock assessment and reduced emission in forest ecosystems with the abatement potentials in terms of carbon dioxide equivalent and carbon credits for the carbon market.

In their 6th national reports, African countries considered ecosystem resilience beyond climate resilience. They included desertification resilience and community resilience considering the role of communities in safeguarding ecosystems even if community resilience was not included in the target. Actions taken to build resilience and promote biodiversity conservation and carbon stocks are diverse and should be considered in a holistic manner, at the landscape/ecosystem scale rather than singling them out. South Africa referred to all these actions as ecosystem-based adaptation approaches and adopted target 16 indicating that successful implementation of ecosystem-based adaptation will result in resilience to climate change in communities. Other terms found in national reports are ecosystem approach and ecosystem-based approaches that are widely considered today as ecosystem- or nature-based solutions. Many of these actions encompassing forestry, agriculture and other land uses and ecosystem restoration have been integrated in countries' Nationally Determined Contributions (NDCs) towards climate change

mitigation and adaptation. The importance of in-depth studies including valuation studies were underscored to make the best-informed decisions in the face of dilemmas such as for example between the removal and maintenance of invasive plant species that can contribute to carbon stocks but can affect ecosystem resilience. Many countries reported they had established and were implementing their land degradation neutrality (LDN) targets in line with the 2030 Sustainable Development Agenda. Under the United Nations Convention to Combat Desertification (UNCCD), as of 23 March 2021, 52 African countries had made commitments to achieve LDN. The need for a synergistic implementation of the Rio conventions was recalled in some reports.

Forty-three percent of countries considered they were on track to achieve or exceed their targets. Challenges identified in some national reports regarding ABT15-related national targets included the generic lack of funds, expertise and technical capacities including for spatial planning, biodiversity valuation and ecosystem/biodiversity observation, particularly at the large/landscape scale, and sustainable maintenance or long-term protection of ecosystem resilience.

ABT 16 on "access to and sharing benefits from genetic resources":

Access and benefit-sharing (ABS) and traditional knowledge are listed among Africa's biodiversity priorities. ABS arrangements are not included in Agenda 2063. However, the African Union (AU) adopted documents containing strategies and guidelines for the coordinated implementation of the Nagoya Protocol. The AU acknowledges the potential contribution that access and benefit-sharing can make directly or as an incentive to the conservation and sustainable use of biological diversity, environmental sustainability and poverty eradication, thereby contributing to achieving Africa's sustainable development goals and Agenda 2063. Forty-eight countries (91%[21]) in Africa adopted a target on access and benefit sharing. All the countries with a target relating to the ratification of or accession to the Nagoya Protocol and its entry into force after 2015 have already ratified the Protocol except Somalia. Many countries benefitted from assistance to ratify and start implementing the Nagoya Protocol.

Regarding national legislations and ABS agreements, countries have been developing national policies on the Nagoya Protocol with Prior Informed Consent and Material Transfer Agreement (MTA) procedures as well as guidelines for bioprospecting, access and benefit sharing, and associated traditional knowledge. Countries have designated National Focal Points (NFP) and established Competent National Authorities (CNA) and Inter-Ministerial Committees on ABS to enhance cross-sectoral implementation.

Apart a few countries such as Malawi that presented data showing an increase in the number of permits for the export of genetic resources and Kenya that reported to have issued 130 access permits for research and development, the impact of the entry into force of the Nagoya Protocol and ratifications of the Protocol is not yet clear on the trend in access to genetic resources for research and commercial utilization and in benefit sharing from the utilization of the genetic resources. Thirty-six percent of countries considered they were on track to achieve or exceed their targets. Countries for which there was no or slow progress either did not adopt a target (like Cabo Verde) or had financial limitations (The Gambia) or were delayed by administrative procedures (e.g., Egypt). There is a need to inventory the benefits from ABS so far and find out whether there are areas where these benefits can be increased. Even without specific targets on access and benefit sharing and the Nagoya Protocol, countries such as Equatorial Guinea, Sao Tome and Principe, Djibouti, Niger and South Africa ratified the Nagoya Protocol and were

[21] Counted on the basis of national targets in the 6th national reports.

implementing some national actions required under the Protocol.

ABT 17 on "biodiversity strategies and action plans":

Sixty percent of African countries adopted a target related to ABT 17. The other countries included in their NBSAPs biodiversity mainstreaming in relevant economic sectors. Half (51%) of the countries were on track to achieve or exceed their ABT17-related targets including development or updating of NBSAP and commencement of implementation. The Global Environment Facility (GEF) made USD 84281263[22] available to eligible countries i.e., roughly an average of almost USD 600000 for each of the 141 eligible countries that applied for the funds. The CBD Secretariat provided technical support to the countries in the form of regional and sub-regional "capacity-building" workshops supported also by the Japan Biodiversity Fund and other donors. Most countries (>60%) in Africa adopted their revised NBSAPs in 2016 and 2017 i.e., after 2015 which is ABT 17 end-year but not necessarily the end-year of national ABT17-related targets. As a consequence of late completion of the NBSAP relative to the submission of the 6th national reports, countries did not have much time to mobilize funds and the required human capacity to implement actions identified in their respective NBSAPs. Thus, most countries (78%) implemented their respective NBSAP only for 4 years or less before they submitted their 6th national reports. Also, for the many countries for which the NBSAP end-years were beyond 2020 up to 2030 or 2035 (i.e., 20 African countries with NBSAPs ending in or after 2025), activities reported in the 6th national reports were just in their first stages. These two points may explain why there was no progress or progress towards the achievement of close to two third of national targets was insufficient.

Regarding NBSAP contents, countries followed COP recommendations. Some countries adopted ABTs as their national targets. Some others adjusted them to their situations including through the assignment of quantitative factors while a few others developed their own targets. Constrained by the need to translate ABTs into national targets, African countries did not include targets addressing some of the key causes of biodiversity loss they identified such as fire, desertification/drought, natural disasters including locust invasions and pathogens, and armed conflicts. In addition, biodiversity targets adopted in the context of Agenda 2063, in particular in the document title "Agenda 2063 – First Ten Year Implementation Plan 2014-2023", apart from the two Agenda 2063 targets which endorsed ABT 11 and part of ABT 13, were not integrated in countries' biodiversity strategies and action plans. **The disconnect between Agenda 2063 and NBSAPs needs to be corrected urgently. In Africa, the Continent's aspirations must be the primary framework for actions even under the Convention on Biological Diversity.**

As recognized by some countries, **baseline data and related indicators help assess progress with confidence from a known and documented starting point**. Baselines were usually lacking in the NBSAPs, the 6th national reports or GBO-5. Generation of baselines was decided as a priority in many countries. Action plans which translate the overall biodiversity objectives and related strategic orientations into real facts and measures on the ground were identified in NBSAP. **The number of actions listed were usually very large (>100), raising concerns about effectiveness in their implementation and the difficulties in monitoring and reporting on each of them.** Most 6th national report did not report on the progress of each action.

Elements described to support NBSAP implementation include plans or strategies for financial resource mobilization, for awareness raising and communication, and for the monitoring and evaluation of

[22] CBD/SBI/3/2/Add.1

progress. Some countries added sections on human and technical capacity-building, and the promotion of stakeholder participation and cooperation as well as improvement of coordination. **Lack or limited financial resources was the most frequently cited impediment to the implementation of the actions identified in the NBSAPs.** Most countries noted that monitoring and evaluation were to be done on a regular basis e.g., annually or biannually. National reports published about progress essentially on processes. The impact of measures taken on biodiversity conservation and sustainable use as well as the positive impacts on countries' socioeconomics which are the ultimate goals and usually require more time, more financial, human and technical resources, and assessment at large scales was presented only occasionally for example in the case of protected areas and the recovery of some keystone species. As a consequence, national reports have not reflected the policy-nature of NBSAPs and are not serving much as biodiversity communication tools.

ABT 18 on "traditional knowledge":

Traditional knowledge is not listed among Africa's biodiversity and Agenda 2063 mentions traditional knowledge only in the context of climate change where there is a strategic recommendation to "adopt/adapt indigenous knowledge for climate adaptation strategies". However, in Africa, with more that 60% living in rural areas, there is still a lot of dependency on traditional knowledge and a need for indigenous peoples and local communities (IPLCs) to be involved in many decisions impacting biodiversity and its associated services. The success of many biodiversity programmes relies directly on IPLCs support, buy-in and co-operation.

Seventy-six percent of countries adopted a target related to ABT 18. The national reports emphasize that the wide range of local communities and indigenous people's knowledge and know-how constitutes an invaluable asset for the conservation of Africa's unique biodiversity, the sustainable use of its components and the valuation of biological resources for consideration in access and benefit sharing arrangements. Some countries pointed out that traditional chiefdoms played a significant role in protecting this knowledge and know-how through a set of decision-making and spiritual powers entrusted in them.

Regarding the respect of the traditional knowledge, innovations and practices relating to the conservation and sustainable use of biodiversity, the first steps countries took were to document them. Initiatives to ensure the respect of traditional knowledge resulted for example in having documents on biodiversity-related traditional knowledge published; increased respect of sacred species and landscape; traditional medicine legally recognized as one of the components of the national health system; increased traditional knowledge awareness programme; gradual integration of IPLCs knowledge and know-how into science for purposes of research; enactment of legislations on traditional knowledge and the recognition of the rights of indigenous peoples and local communities on genetic resources.

As for the integration of the traditional knowledge, innovations and practices relating to the conservation and sustainable use of biodiversity, many national reports indicated that documentation and valorisation of traditional knowledge and know-how have been encouraged and channelled towards the ABS arrangements in order to ensure that traditional knowledge holders derive the deserved benefits from the use of their knowledge and know-how. In addition, various initiatives were developed to integrate products from traditional knowledge and know-how into trade and formal health system. In some countries, existing laws and policies were facilitating the integration of traditional knowledge and IPLCs practices into biodiversity conservation and sustainable use. The following constraints were mentioned:

cumbersomeness in traditional product approval procedures; insufficient funds for supportive research, and training/information in traditional products homologation procedures; and insufficient promotion of approved products.

About the participation of IPLCs in the implementation of the Convention, all the countries including countries that did not adopt a target on IPLCs or did not include the participation of IPLCs in their targets reported that they used a participatory approach involving IPLCs in the development and implementation of their NBSAPs (see section on ABT 17 and equivalent national targets). Some countries listed examples of IPLCs participation in the implementation of each of their national targets. Thirty-four percent of countries considered they were on track to achieve or exceed their targets. **A key question is how effective that participation has been; in other words, whether IPLCs participation was not just a formality but it produced the desired results.**

ABT 19 on "sharing information and knowledge":

Quality information, including traditional knowledge, is necessary to decision-makers and the public for the effective management of biodiversity. Such information is part of our current knowledge and is generated through scientific research and citizen observations. It covers the status and trend of components of biodiversity, their associated services and the pressures affecting them. Decision-makers are particularly interested in the socioeconomic value of biodiversity and the cost following biodiversity loss. 'Enabling mechanisms for the implementation of biodiversity objectives' is among Africa's biodiversity priorities. One of the elements of these mechanisms is 'education, awareness-raising and knowledge management' as means to ensure that quality information, including traditional knowledge, is available to decision-makers and the public for the effective management of biodiversity.

Ninety one percent of African countries adopted targets related to ABT 19 on the generation and dissemination of data on the values of biodiversity, its status and trends, and the consequences of its loss. Many countries reported that they increased the amount and quality of information on the value of their biodiversity through scientific research programmes and publications; documentation of traditional knowledge; identification and inventories of species, key biodiversity areas, marine ecologically and biologically significant areas as well as community and private conservation areas; identification of areas to classify as protected areas; and compilation of biodiversity information in biodiversity databases and national clearing-house mechanisms. However, as recognized in GBO-5, most actions were related to the documentation and generation of knowledge on biodiversity in terrestrial ecosystems, with relatively fewer information on marine and inland-water environments, and fewer initiatives for sharing information and applying it in decision-making. In addition, there was a dearth of scientific data on the consequences of biodiversity loss on people and limited information on biodiversity value in the national reports. Recognizing that scientific findings shared with decision-makers can catalyze the required transformative shift toward sustainable development and poverty eradication, some countries, such as South Africa and Cameroon started to establish IPBES-like science-policy interfaces. In fact, some national targets included targets for the establishment of such interfaces.

Thirty-eight percent of the countries considered they were on track to achieve or exceed their ABT19-related targets. Some conclusions in GBO-5 do not seem to be representative of the situation in Africa. For example, (i) African countries did not report on their use of artificial intelligence for improved understanding of the biosphere. They also did not use many of the BIP indicators. The few BIP indicators mentioned were just listed without being integrated in the discussions of their findings; (ii) African countries did not refer in their national reports to the emerging technologies such as environmental DNA

(eDNA) and metagenomic sampling referred to in GBO-5; and (iii) no African country indicated they used the Bioland Tool developed by the CBD Secretariat to help Parties establish or improve their national CHMs. GBO-5 also noted that while progress on ABT 19 was being supported at the global level by the development of Essential Biodiversity Variables (EBVs) through the Group on Earth Observations Biodiversity Observation Network (GEO BON) and that this support helped to define the components of biodiversity that must be monitored and measured, Biodiversity Observation Networks were being established in the Asia-Pacific region, the Arctic, Europe and throughout the Americas, but not in Africa.

ABT 20 on "mobilizing resources from all sources":

'Limited financial resources' is mentioned in the NBSAPs and the 6th national reports as one of the major obstacles to the implementation of the objectives of the CBD in Africa. Current estimates by scientists indicate that Africa has the largest financial gap in the world for the conservation of biodiversity and that only less than 10% of its conservation needs are being satisfied. Thus, mobilization of sufficient financial resources is on the list of Africa's biodiversity priorities. **Agenda 2063 contains 2023 targets towards a financially self-reliant Africa and financially empowered women and Youth**. In addition, among areas requiring urgent financial resources in the first 10 years of implementation, Agenda 2063 identified biodiversity objectives in the field of agriculture, nutrition, health, value addition manufacturing, blue economy, ecotourism, and sustainable communities, production systems and consumption patterns. There is currently a momentum among donors to increase funds for biodiversity worldwide and for assisting developing countries to protect biodiversity. The funds are usually allocated to areas of interest to the donors.

Most African countries (94% including those that targeted only the development of strategies or establishment of financing/financial mechanisms and international partnerships) had a target on resource mobilization in their post-2010 NBSAP. In their 6th national reports, African countries confirmed the gaps between their financial needs for biodiversity work and the resources available domestically and from international sources. Some countries, particularly those[23] that were participating in the BIOFIN initiative, referred to their NBSAP cost. Some others indicated they were planning to cost their biodiversity needs while searching for funds to cover the identified needs.

African countries were considering various tools to raise financial resources and close the biodiversity financial gaps. The solutions included taxes, environmental levies on a number of products such as plastic bags and electronics, ecolabeling, green finance, environmental lottery, biodiversity offsetting, bonds, revenues from international trade and tourism, funds from bioprospecting, Trust Funds, and payment for ecosystem services including REDD+ (see section on Contribution to ABT 3 above). **A study is needed to describe the measures that have been used and/or are planned, describe their efficiency and effectiveness, and disseminate the results for a wide use of the tools. Trust Funds were found particularly appropriate to ensure some independency in biodiversity decisions rather than relying on projects proposed by funding partners. REDD+ is a win for the planet and should be a win for countries carrying out REDD+ projects.** GBO 5 noted that most biodiversity funding was from domestic sources. This affirmation does not represent the situation in Africa. In DR Congo, for example, 85% of the cost of

[23] The 10 countries were Rwanda, Botswana, Zambia, South Africa, Uganda, Seychelles, Mozambique, Malawi, Tanzania and Madagascar. GIZ has been implementing BIOFIN methodology in Namibia since 2014. All these countries are from Southern Africa and East Africa; all English speaking except Madagascar. Egypt and Gabon are now listed (see https://www.biofin.org/biofin-around-world accessed on 15 March 2022)

managing protected areas was reported covered by international partners. Africa has a long way to go to fulfill its 2063 aspiration of becoming financially self-reliant. In their 6th national reports, many African countries did not specify the level of financial resources from domestic and international sources.

Thirty percent of the countries considered they were on track to achieve or exceed their targets related to ABT 20. While countries participating in the BIOFIN initiative seemed to be better organized in assessing their financial needs and developing their financial solutions, that advantage was not necessarily translated into progress in implementing their target on mobilization of financial resources.

KEY MESSAGES AND RECOMMENDATIONS

Note: The key messages presented below are general statements for Africa, but they can also be applicable elsewhere. Not each one of them applies to all the countries. There are differences among countries. The messages address the general situation in Africa based on the review of the 53 sixth national reports on biodiversity from Africa. Additional messages are in bold letters in the other sections of the document.

ADDRESSING THE DISCONNECTS FOR EFFECTIVENESS AND EFFICIENCY

The disconnects

1. A review of the 6th national reports under the Convention on Biological Diversity, the 2017-2020 voluntary national reviews (VNRs) of the implementation of the 2030 Agenda on sustainable development submitted to the High Level Political Forum[24], and the 2022 Second Continental Report on the Implementation of Agenda 2063[25] reveals that [in general] **there is a disconnect between (i) the implementation of the Strategic Plan for Biodiversity 2011-2020 with its 20 Aichi Biodiversity Targets (ABTs) consisting of 60 distinct targets[26], translated into National Biodiversity Strategies and Action Plans, (ii) the 2030 Sustainable Development Goals with their 169 targets, and (iii) Agenda 2063 consisting of 7 aspirations with 20 goals and 171 targets for 2013-2023**.

2. Information presented in the 6th national reports could have enriched the VNR not only on SDG targets derived from ABTs (such as SDG targets 14.5 which reinforced ABT 11 marine protected areas or SDG target 15.5 that endorsed ABT 12 on threatened species), but also on targets under other SDGs in particular (i) SDG 2 (Zero hunger) and SDG 3 (Good health) or (ii) SDG 7 (Affordable and clean energy). Implementation of the biodiversity targets on sustainable agriculture (ABT 7), cultivated plants, farmed animals and other socio-economically valuable species (ABT 13) and essential ecosystems (ABT 14) contributes to the zero hunger and good health SDGs. Achievements under the biodiversity targets on sustainable forestry (ABT 7), incentives (ABT 3) and sustainable production and consumption (ABT 4) contribute to SDG 7 on affordable and clean energy. Similarly, some VNRs contain data that could have enriched the 6th national reports[27]. In a few cases, some information in the 6th national reports was not exactly the same as in the corresponding VNR.

3. The Second Continental Report on the Implementation of Agenda 2063[28] was published in February 2022. Despite the fact that 2020 was considered the year of awareness of the value of biodiversity and 2021 the year of action for biodiversity (ref. the September 2020 UN Biodiversity

[24] https://sustainabledevelopment.un.org/vnrs/

[25] African Union Commission and African Union Development Agency - NEPAD. 2022. AUC & AUDA-NEPAD Second Continental Report on the Implementation of Agenda 2063. AUC & AUDA-NEPAD, Midrand, South Africa. https://www.nepad.org/sites/default/files/resourcefiles/2nd%20Continental%20Progress%20Report%20on%20Agenda%202063_FINAL_21.2.2022_comp.pdf

[26] GBO-5 identifies them as specific elements of the Aichi Biodiversity Targets

[27] E.g., loss of crop following drought in Angola

[28] African Union Commission and African Union Development Agency - NEPAD. 2022. AUC & AUDA-NEPAD Second Continental Report on the Implementation of Agenda 2063. AUC & AUDA-NEPAD, Midrand, South Africa. https://www.nepad.org/sites/default/files/resourcefiles/2nd%20Continental%20Progress%20Report%20on%20Agenda%202063_FINAL_21.2.2022_comp.pdf

Summit), and despite the evident importance of biodiversity in Goals 5 (Modern agriculture and Blue Economy for increased Production & Productivity) and 6 (Environmentally sustainable and climate resilient economies and communities) of Agenda 2063, including the specific targets on biodiversity under these two goals, the word "biodiversity" or "biological diversity" is mentioned only three times when reference was made to Seychelles as "one of the world's biodiversity hotspots" (twice) and to Seychelles achievement of the "Convention on Biological Diversity target 11"[29]. In preparing their contributions to this second report on implementation of Agenda 2063, countries could have used and/or could have been guided to use materials from their 6th national reports published between 2018 and 2020. Seychelles seems to have done that and Seychelles has been cited several times in the Agenda 2063 report.

4. **Africa's unique and abundant biodiversity is central to our lives and an asset for the achievement of the Sustainable Development Goals and Agenda 2063.** There exist lists of equivalencies between SDG targets and ABTs. The IPBES regional assessment of biodiversity and ecosystem services for Africa aligned Agenda 2063 Goals 3, 5, 6, 7.1 to 7.6 with ABTs and SDG targets. These alignments and equivalencies should be reflected on the ground during implementation of work on biodiversity and reflected in the reports on biodiversity, Agenda 2063 and SDG. **If NBSAPs were adopted as true policy documents, implementation and reporting on biodiversity issues should also use a whole-of-Government approach.**

5. Constrained by the need to translate ABTs into national targets, African countries did not include targets addressing some of the key causes of biodiversity loss they identified for example in Agenda 2063 or through the work sustaining national sustainable goals such as fire, desertification/drought, natural disasters including flood, locust invasions and pathogens, and armed conflicts. In addition, biodiversity targets adopted in the context of Agenda 2063, in particular in the document titled "Agenda 2063 – First Ten Year Implementation Plan 2014-2023", were not integrated in countries' biodiversity strategies and action plans. In fact, only DR Congo, Ghana, Kenya and Sudan referred to Agenda 2063 in their 6th national reports.

6. **The disconnect between Agenda 2063, NBSAPs and implementation of the CBD and other biodiversity-related conventions needs to be corrected urgently if Agenda 2063 is really Africa's blueprint and master plan for transforming Africa into the global powerhouse of the future. In Africa, the Continent's aspirations must be the primary framework for actions even under the Convention on Biological Diversity. The work on the post-2020 global biodiversity framework and the preparation of the implementation plans for the second ten years of Agenda 2063 provide opportunities to strengthen synergies between the implementation of the CBD and Agenda 2063.**

Way forward

7. **An important measure to take is to make sure that all the Africans, particularly the youth who shall be there in 2063 to witness the results of today's efforts, absorb/own the provisions and objectives of Agenda 2063. Integration of Agenda 2063 in education curricula is the best way, if not the only way, to fully achieve the level of awareness that will ensure that Agenda 2063 is the primary framework in Africa.** Currently and honestly, very few Africans, even among policy and decision-makers, know (enough) about Agenda 2063. Ongoing implementation of Agenda 2063 should be continued. However, this effort will yield little if most people are not conscious (not just aware) about the importance of Agenda 2063.

[29] Other key biodiversity words were also not mentioned sufficiently e.g., protected areas only in the case of Seychelles (1x); forest (1x); aquaculture, just in case of Burkina Faso but not even in the case of Egypt, one of the top aquaculture producers in the world; desertification 0x etc. This raises some concerns about the place of biodiversity in Agenda 2063.

8. Better coordination among people working on implementation of CBD, Agenda 2063 and SDG, and enhancing synergy among these initiatives will allow a more efficient use of the limited human and financial resources and lead surely towards Africa's aspirations and the achievement of the CBD and SDGs.

AFRICA'S BIODIVERSITY POSITION IN THE WORLD IS ALARMING

The findings

9. The biodiversity situation of Africa is alarming, but Africa seems to continue with business as usual. Compared to other continents, Africa lags behind in several respects. The following are examples relating to selected Aichi Biodiversity Targets:

- Africa's deforestation and net loss of forest cover are the highest (ref. GBO-5) and projected to continue to increase. The latest report on forest resources from FAO[30] notes a deceleration of deforestation in the world, except in Africa[31] (ref. ABT 5 and 7).
- Ecosystem degradation is highest in Africa and will continue to take place in the coming 50 years more than elsewhere, according to scientists (ref. ABT 14 and 15). More than 700 million ha of land are already considered degraded[32]. Restoration pledges made so far cover only a small percentage of the land considered degraded (only 45%), and what has been restored or is under restoration in the context of those pledges is even smaller. The main reason for not realizing the pledges is the usual lack of funds, with the expectation that funds would come from elsewhere, essentially international initiatives such as the Bonn Challenge or the Forest Ecosystem Restoration Initiative (FERI) and from philanthropists. Limited investments in ecosystem restoration may indicate that many African countries are not convinced about the socioeconomic gains, in addition to the ecological gains, in restoring degraded ecosystems. Also, financial support from international organizations and initiatives may not cover the cost of work to be carried out on the ground. The Forest Ecosystem Restoration Initiative (2014-2020) for example focused on capacity building through the organization of the so-called capacity building workshops. One such workshop was organized in 2015 in Ghana for West Africa.
- Fish stocks in Africa are in decline (ref. ABT 6) mainly due to the impact of foreign fishing companies. The CBD Conference of the Parties and its ABT 6 call for sustainable fisheries but do not refer to the need for producing enough fish to feed the populations in Africa. Such messages and targets tend to distract from the primary needs of feeding people and are thus reducing the relevance of the CBD to Africa's socioeconomic development. Africa's contribution to the world aquaculture production is less than 3% (lowest contribution globally) while the potential is great

[30] https://ressources-magazine.com/news/deforestation-africa-is-doing-badly-according-to-fao/#:~:text=Between%202010%20and%202020%2C%20the,authors%20of%20the%20study%20note

[31] Over recent decades, Africa has been the continent experiencing the highest rate of deforestation, 0.49% per year. This represents some 3.4 million hectares lost annually (FAO, 2010). Small-scale agriculture and fuelwood collections are the main drivers of deforestation and forest degradation.

[32] (https://wedocs.unep.org/handle/20.500.11822/29395) "According to WRI's Forest and Landscape Restoration (FLR) Tool on Forest Landscape Restoration Opportunities Assessment, Africa has the greatest area of FLR opportunity. More than 720 million hectares in Africa have the potential to be restored, an area that is roughly equivalent to the entire opportunity area for North and South America combined". This was also relayed in a 2021 publication of FAO and AUDA-NEPAD (https://doi.org/10.4060/cb6111en: Review of forest and landscape restoration in Africa, by Mansourian and Berrahmouni, 2021). This narrative can be misleading. There is no pride to have high opportunity restoration area. A better way to refer to the 720 million hectares is that this area is degraded and should be restored.

(demand is high and increasing), soils are suitable, and water is available for aquaculture in many areas (ref. ABT 7).

- Regarding agriculture (ref. ABT 7), in general, the problems have been the same for the past 40 years: poor and fragile soils (lack of nutrients such as NPK and organic matter), low yielding seeds, pest and diseases, inappropriate farming systems (slash and burn), limited use of irrigation, and rather too strong reliance on international organizations[33].
- Regarding production, many crops that were popular traditionally are now underutilized and neglected despite that they are more nutritious and sometimes have medicinal value and are usually better adapted (ref. ABT 4). Consumption habits are being westernized with a lot of highly processed food, thus increasing food importation. In addition, Africa consumes a lot of secondhand goods and serves as a garbage for some western countries.
- Food production is insufficient, and foreign exchange is being wasted by importing what can be produced locally (ref. ABT 4). In 2016, the President of the AfDB said what many African Heads of State know: "Africa should be a breadbasket for the world […]: the continent holds 65% of all the arable land left to feed the world by 2050. But the paradox is the continent is unable to feed itself. […] It is time for Africa to feed itself. The $35 billion that Africa spends on food imports is a huge burden, worsening current account and fiscal deficits, and creating macroeconomic instability. If the current trend continues, Africa will spend $110 billion on food imports by 2025."
- Africa is the last continent when it comes to adding value to raw biological and mineral materials (ref. ABT 4). African countries lose when they import commodities manufactured from their raw materials. Examples cited in the 6th national reports on biodiversity include cocoa, coffee, cashew, shea butter and medicinal plants. Agenda 2063 is clear about the urgent need for Africa to process before trading internationally.
- Electricity supply is in short supply in Africa but there are limited efforts to make fuelwood/charcoal production and consumption sustainable through the replanting of trees (ref. ABT 7 on sustainable forestry). In countries like the US and Canada, wood is used as building material. Through replanting, the system looks sustainable. Most people in Africa depend on wood for home energy (charcoal and fuelwood). Intention to adopt solar power and other types of affordable energy widely will take many years to become reality. In the meantime, if reforestation can be systematic, Africa can supply wood in a sustainable way while more efficient stoves are promoted and more efficient ways for charcoal production are adopted. Africa still depends largely on fuelwood for home energy. Ways and means to replant trees for use in energy production are urgently needed.
- Relatively few [as compared to the world] assessments of the value of biodiversity and its associated services have been conducted in Africa. As a result, it has often been difficult to make the best decisions on biodiversity (ref. ABT 2). **It is not possible to protect effectively things that are not valued or things whose value is not known. In addition, one cannot bargain well regarding its raw materials without knowing their value.** As noted in the 2018 IPBES Regional Assessment of Biodiversity and Ecosystem Services for Africa, there are differences among countries and subregions. Also, very few countries in Africa have integrated biodiversity in their

[33] Such as the International institute of Tropical Agriculture (IITA), the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), the Center for International Forestry Research (CIFOR) and World Agroforestry Center (ICRAF), the Africa Rice Center, the International Livestock Research Institute (ILRI), and the International Maize and Wheat Improvement Center (CIMMYT)

national accounting. There are some efforts/initiatives through for example the Gaborone Declaration for sustainability in Africa[34] and the System of Environmental-Economic Accounting (SEEA) framework[35].

- Africa has the lowest use of certifications (ref. ABT 3). Thus, the continent is missing market opportunities. For example, only 2 percent of Africa's farmland is considered organic i.e., seven times less than the global average. Most subsistence farmers are unable to get organic certificates and are thus denied opportunities on the global market[36]. Africa should use incentive measures to encourage population involvement in biodiversity work, essentially incentives based on payment for ecosystem services (PES) and polluters pay concept. However, many countries often count on foreign organizations' funds to apply the PES and many countries lack the means to enforce the "polluter pays" concept.
- Pollution is everywhere across the continent and Africa generally lacks expertise and equipment to measure it (ref. ABT 8). There have been many initiatives to ban plastic bags in some countries, but enforcement is a challenge in many of them.
- Although invasive alien species (IAS) are not generally considered as a major problem, Africa is not doing much to prevent entry and spread of IAS due to lack of law enforcement as well as lack of human, technological and financial capacities (ref. ABT 9). The spread of plant pathogens assimilated to IAS should raise concern and be addressed under the CBD.
- Africa is also recognized as the most disease prone continent with the largest burden of diseases[37] and the least organized healthcare delivery in the world (partly ref. ABT 9).
- Africa is the most vulnerable continent to climate change (example of Lake Chad) (ABT 15); but climate change impact on biodiversity still needs to be quantified. Africa can contribute to climate change mitigation through its biodiversity. However, Africa lacks the capacity to measure the amounts of carbon belowground and above ground, including in oceans, and is thus not using efficiently the information to bargain with countries responsible for much of the greenhouse gas emissions.
- Many countries having coral reefs seem not to care about them (ref. ABT 10). They did not report on them. These ecosystems are threatened by climate change and human activities.
- Until now, close to half of the African countries have not yet been able to achieve their ABT 11 related national targets. Some of them are among the 29 African countries that have joined the High Ambition Coalition pledging to reach 30% protection of the planet in 2030, even when they

[34] the Gaborone Declaration for Sustainability in Africa (GDSA), where countries committed to implementing all conventions and declarations that promote sustainable development. The overall objective of the Declaration is "To ensure that the contributions of natural capital to sustainable economic growth, maintenance and improvement of social capital and human well-being are quantified and integrated into development and business practice." (http://www.gaboronedeclaration.com/) 14 countries have joined so far.

[35] In 2020, the world was close to the target set by the UN Committee of Experts on Environmental-Economic Accounting (UNCEEA) with 89 countries out of the 100 targeted having ongoing, well-resourced programmes in the SEEA framework. Of these 89 countries, only 17 (19%) were from Africa. In fact, not all 17 reported they were implementing the SEEA framework.

[36] Research Institute of Organic Agriculture (FiBL) cited at https://www.ecowatch.com/africa-organic-farming-2645140987.html#:~:text=Just%202%20percent%20of%20Africa's,subsistence%20farming%20are%20widely%20practiced.

[37] https://www.vanguardngr.com/2017/10/africa-disease-prone-continent-world-bank/

were not able to reach their national targets set below ABT 11.

- GBO-5 noted that Biodiversity Observation Networks were being established in the Asia-Pacific region, the Arctic, Europe and throughout the Americas, but not in Africa. GBO-5 recognized that, while availability of data and information on biodiversity was growing in the world, most diverse ecosystems, especially in the tropics, including a large part of Africa, were still greatly under-represented.
- Current estimates by scientists indicate that Africa has the largest financial gap for the conservation of biodiversity in the world and that only less than 10% of its conservation needs are being satisfied. GEF financial resources allocations to African countries is in general relatively lower than allocations to countries in other regions in particular Latin America. Africa still depends largely on foreign assistance for its biodiversity work. As such, many African countries are engaged in projects that may not be on top of their priorities but are the priorities of foreign organizations and their bilateral partners. In addition, such projects are usually not sustainable because they stop when the financial resources from their partners are no longer there.

Lost in the sand of false hopes, declarations and pledges

10. Despite its "bad situation" regarding biodiversity at the global level, Africa seems to continue with business as usual. The continent seems to be satisfied with pledges, declarations, development of strategies and plans.

11. For example, in the context of the Bonn Challenge[38], high-level meetings have been organized in Africa since 2016 to build momentum for collaboration and political will to restore landscapes. These meetings resulted in the adoption of the "visionary" Kigali Declaration on Forest Landscape Restoration in Africa in 2016, the South African Development Community's (SADC) Lilongwe Call for Action on Forest Landscape Restoration in Africa, and the African youths' Niamey Call for Action in 2017, the Central African Forests Commission (COMIFAC) agreement in 2018, and the Environment and Economic Community of West African States' (ECOWAS) Dakar Declaration on the Restoration of Forest Landscapes in West Africa in 2019. Countries made pledges under the AFR100, which have now exceeded the targeted 100 million hectares. While these pledges and declarations are considered as an expression of the political will, actions did not follow on the ground. In 2015, the African Union New Partnership for Africa's Development (NEPAD) launched the African Resilient Landscapes Initiative (ARLI) to be implemented through ecosystem restoration, biodiversity conservation, climate smart agriculture, and rangeland management with financial support from the World Bank and technical support from the World Resources Institute. In 2018, Africa adopted the Pan-African Action Agenda on Ecosystem Restoration for Increased Resilience to restore by 2030 at least 200 million ha of critically degraded ecosystems with direct benefits to livelihoods. This Action Agenda also aims to reinforce action towards achieving the commitments made under the other regional and global processes and initiatives, such as the ARLI, the AFR100, the Great Green Wall for the Sahara and the Sahel Initiative, the Central African Forest Initiative, the Forest Ecosystem Restoration Initiative (FERI), the African Union's flagship programme on climate change, biodiversity and land degradation, the Integrated Lake Basin Management Initiative (LBMI), and the Mangrove Capital Africa programme.

38 https://www.bonnchallenge.org/resources?search_api_fulltext=&field_resource_type=2&field_content_topics=4

12. Such pledges, declarations, plans and strategies[39] have their merits, but they do not seem to galvanize and accelerate actions on the ground in a coordinated manner. The fact that many countries did not report on them in their 6th national reports can be interpreted as if those initiatives are after all not that important. Joining those initiatives was probably motivated by funds made available by those initiatives. The websites of these initiatives rarely report on the achievements. In the case of the Bonn Challenge, a tool was developed in 2016 to report on progress, success factors and benefits. The tool was applied only to Rwanda among the participating African countries[40]. The Bonn Challenge barometer indicates that Rwanda committed to restore 2 million hectares of land by 2020. In 2019, Rwanda had already in place many supportive policies, plans, strategies, and institutional arrangements, but only 35.4% of the commitment under restoration. The reported benefits are the creation of 22325 jobs and a sequestration of 102154014 tonnes of CO_2. The Forest Ecosystem Restoration Initiative (FERI) developed by the Republic of Korea, in cooperation with the CBD Executive Secretary made US$6 million available for 6 years to support ecosystem restoration activities. The initiative organized a series of regional capacity building workshops to identify best practices and exchange experiences. One such capacity building workshop was organized in Ghana for West Africa in 2015. Ghana did not mention this workshop in its 6th national report.

13. The numerous projects, plans and strategies reported in the 6th national reports from Africa should not give an impression of good progress on biodiversity in the continent. What is to be done to put the continent on the path to the development we want is still huge and require more actions and achievements on the ground. African countries should not keep their heads in a sand of false hopes, and declarations and pledges that give a false sense of achievement. Conscious about the real situation including the ongoing armed conflicts, wildfires, floods, landslides, droughts, and diseases such as malaria, or Ebola virus and HIV diseases, African countries should not just follow other countries for the sake of being accepted in the groups of like-minded.

Internalisation of the AfDB "High Fives" is a way forward

14. The Strategic Plan for Biodiversity 2011-2020 has 20 Aichi Biodiversity Targets (ABTs), in reality 60 distinct targets[41]; the 2030 Sustainable Development Goals consists of 169 targets; and Agenda 2063 has 171 targets for 2013-2023. Other international and regional agreements contain additional targets. Each of the targets represents commitments agreed by African countries. Such a large number of commitments poses a challenge to decision-makers and implementation at all levels.

15. In 2015, the African Development Bank Group adopted the High Fives (Light up and Power Africa, Feed Africa, Industrialize Africa, Integrate Africa, and Improve Quality of Life for the People of Africa) with the overarching goal of promoting inclusive development and green growth in Africa. A UNDP study[42] found a level of congruence of 88% between Agenda 2063 and the AfDB High Fives and of 86.4% between the 2030 Sustainable Development Goals and the AfDB High Fives. These levels of congruence justify that

[39] Including the Draft African Commodity Strategy and its Action Plan ready in 2021 and the "Sustainable Forest Management Framework for Africa" to assist AU member states and Regional Economic Communities (RECs) to sustainably manage and develop their forest sectors for socio-economic development and environmental protection (https://pfbc-cbfp.org/news-partner/SFM-Convergence-Plan.html?file=files/docs/news/6-2020/SFM_Framework_EN_lowres_02.pdf)

[40] Thirty-one African countries listed on https://www.bonnchallenge.org/pledges?field_related_regions_target_id=8 (accessed on 6 April 2022)

[41] GBO-5 identifies them as specific elements of the Aichi Biodiversity Targets

[42] UNDP 2017. Strengthening Strategic Alignment for Africa's Development - Lessons from the UN 2030 Agenda for Sustainable Development the African Union Agenda 2063 and the African Development Bank High Fives. UNDP Africa Policy Brief, Volume 1, No. 1, January 2017

the AfDB High Fives be used as the overall framework for the efficient coordination and enhanced synergy in the implementation the SDGs and Agenda 2063. Both Agenda 2063 and SDGs contain biodiversity targets and consider biodiversity as our natural capital underpinning socioeconomic development, poverty reduction and human wellbeing.

16. The High Fives resonate with the aspirations of the African people. In Table SPM 2 of the IPBES Regional Assessment of Biodiversity and Ecosystem Services for Africa, Agenda 2063 goals 1, 3, 4 to 7 were aligned with ABTs and SDG targets. African countries should make and implement their biodiversity plans within the framework of the AfDB High Fives. For example, the mention of aquaculture or agriculture should focus the mind primarily on feeding people rather than on ways to make these activities sustainable and to maintain the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives.

THE 6TH NATIONAL REPORTS – MISSED OPPORTUNITIES FOR IDENTIFYING AND COMMUNICATING BIODIVERSITY MESSAGES

17. The 6th national reports are very rich in information, particularly regarding biodiversity plans and mechanisms put in place as well as processes used to start implementing actions towards the achievement of the biodiversity targets identified in NBSAPs. However, **the national reports do not respond much to needs of governments and all the stakeholders so that they can take and effectively implement the best-informed decisions on biodiversity. The national reports do not reflect the policy-nature of NBSAPs, not only in their contents but also in their structure.**

Contents

18. Many NBSAPs contain detailed action plans representing measures that the many participants in the NBSAP development identified and agreed upon as necessary to reach the countries' biodiversity goals. Most national reports did not report on each of these actions but focused on the ABT-related targets. In doing so, many participants in the NBSAP development do not find information on many specific actions they proposed or agreed upon and will thus not have interest in the 6th national report.

19. Reports on processes are useful to the Ministries in charge of the NBSAPs, usually the Ministries in charge of environment. In terms of content, there is doubt that the information provided, with very little on outcomes and socioeconomic aspects, is useful to the other Ministries such as the Ministries in charge of planification, finances, trade, industries, health and even tourism. **While the Aichi Biodiversity Targets tend to stop at biodiversity conservation and sustainability of biodiversity uses[43], Agenda 2063 put emphasis also on the socioeconomic dimensions with links to poverty reduction and the wellbeing of populations in Africa**. For example, while ABT 10 is to ensure that ecosystems that are impacted by climate change or ocean acidification are restored and maintained at their functioning capacity, references to climate change in Agenda 2063 include ways and means to address climate change and go beyond the maintenance of the environment. Agenda 2063 focuses on the importance of these actions in ensuring socioeconomic development, noting that ecosystems impacted by climate change, if they are well protected, can continue to provide services important for food, health and livelihood security in Africa, in line with the AfDB Five Priorities. In fact, in the vision statements of their NBSAPs, many African countries included the following: contribution to socioeconomic development or to prosperity and/or poverty reduction/alleviation. These contributions are critical goals of countries, particularly in Africa.

[43] For example, ABT 7 is "By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity." The need for agriculture and aquaculture to provide enough food and fight hunger and contribute to good health is not highlighted.

They communicate better what people need to know about the importance of biodiversity and the reasons why we need to conserve/protect it, restore it, and use it sustainably.

20. As pointed out in some national reports, **the critical data needed to transform our relationship with nature and support the transformative changes necessary to achieve the 2050 vision include clear statements of the status and trends of components of biodiversity at the end of the period of the Strategic Plan i.e., provision of baseline data in 2018 or 2019 or 2020 and possibly on the trends of biodiversity components i.e., plants, animals and microorganisms as well as at the level of ecosystems or habitats, species/communities and at the genetic level; socioeconomic values of these components as well as the socioeconomic cost of their loss, including the socioeconomic consequences of species extinctions, and the socioeconomic benefits of their uses including value-additions through processing.** Also, the 6th national reports did not present data showing that countries having more than 30% of their territory classified as protected stopped the decline or loss of biodiversity more than the others. In addition, having large areas protected did not seem to bring additional benefits to the populations. In general, national reports did not convey messages that PA systems and their expansion would contribute to the wellbeing of Africa's people and the protection of the declining biodiversity.

21. These data critically needed by decision and policy-makers are usually listed as gaps in the national reports. In fact, the message on the sixth mass species extinction, which seems to be currently the essential biodiversity message at the global level may not have the wanted impact as long as it is not linked to (African) people's daily needs.

22. When such useful information is available, it is scattered throughout the national reports even if the section of the national reports on the revised country profiles compiled that information to some degree. **Extracting that information from the national reports and packaging it in ways that can be easily used by more stakeholders could be a way to add value to the national reports** which, from preliminary observations, only few people read or consulted[44].

23. As shown in the review of the 6th national reports from Africa, some of the GBO-5 key messages do not represent the situation in Africa[45]. Thus, decisions based on the findings of GBO-5 should be considered carefully in the case of Africa.

Structure

24. The online versions of the national reports are interesting and useful almost strictly to those who needed to compile the information for use, for example, in the GBO-5. In terms of presentation, the offline versions were more appealing. They used the more familiar structure with executive summaries and colorful formatting. They usually included pictures illustrating biodiversity, which is always useful for communicating messages.

Way forward

25. Africa needs to increase its capacity to generate data/information on socio economic value of biodiversity and ecosystems services. Once the value of biodiversity is understood and internalized, decision-makers will be able to decide on the means that will ensure that reliable data are collected and shared with decision-makers in a timely manner. Many data presented in the 6th national reports were not collected during 2014 - 2018, the period covered by the 6th national report. Efforts should be made

[44] In fact, none of the people I contacted in the course of the synthesis of the 6th national reports read their respective countries' national reports.

[45] E.g., GBO 5 noted that most biodiversity funding was from domestic sources (ABT 20). Also see under ABT 19 and ABT 9 on IAS

to collect information regularly and provide up-to-date data/information in national reports. Many African countries acknowledged lack or limited expertise and technical tools as a constraint to the collection of data. Relying on data generated by organizations such as IUCN Red List, IBAT and UN Biodiversity Lab may suffer the ownership limitation and be used just as a formality and not fully integrated in the planning or discussions of the outcomes. The establishment of IPBES like structures in some countries as well as subregional partnerships will reduce the gaps in expertise while training and capacity strengthening continue.

26. The 6th national reports contain many successful stories that need to be highlighted and promoted, for example IAS eradication in Seychelles or using biological control in Congo. Subregional exchange of experience regarding aquaculture by Egypt with African and Arab countries or the South African Wildlife College that supports education in wildlife management in the SADC subregion. Such stories should be highlighted in boxes in documents such as the reports on the implementation of Agenda 2063. As the AU will be or is reviewing implementation of Agenda 2063 during its first 10 years in preparation for the new plan for the next 10 years, it is necessary that not only the success stories on biodiversity be highlighted but also the constraints followed by an in-depth discussion on how to address them. Some of these constraints were already identified in the preparatory work that led to the adoption of Agenda 2063. Local successes will convey the best messages that will galvanize future efforts, they need to be replicated and scaled up to the national and regional levels.

SPECIFIC BIODIVERSITY AREAS REQUIRING AFRICA'S ATTENTION

Production and consumption

Value addition

27. Agenda 2063 is clear about the emphasis African countries should put on adding value to their raw materials including raw biological resources. "Africa's huge natural potentials are dampened by […] lack of processing capacity resulting in almost all commodities exported in raw forms […]. Less than 6 percent of African cotton and only 25% of cocoa is processed in the continent; leaving 90% or more of the value addition to occur outside of Africa with little of the price of the final/manufactured products going to African farmers, agro-industry and agribusiness enterprises. The lack of processing capacity has deprived of African countries the forward linkages and employment generation capacity that could have helped accelerate economic growth and transformation. This is compounded by adverse impacts of the highly volatile and unpredictable prices that shifts the focus of producing countries from investment in expanding the productive capacity to managing short term concerns".

28. Building on past decisions and programmes, including for example the Arusha Declaration on African Commodities, the Comprehensive Africa Agriculture Development Program (CAADP) and the Strategy for the Accelerated Industrial Development of Africa (AIDA), the African Union decided to develop "an Africa wide commodities strategy that will ensure a more coherent and collaborative process of African states developing, managing and benefiting from their natural resources and collectively positioning the continent to live up to its potential as an economic powerhouse".

29. The African Commodities Strategy, which is a flagship project of Agenda 2063, has three objectives, one of which is to enable African countries to add value, extract higher rents from their commodities, integrate into the global value chains, and promote vertical and horizontal diversification anchored in value addition and local content development, as part of a set of holistic policies to promote the development of a vibrant, socially and environmentally sustainable commodities sector". One of Agenda 2063 targets under Goal 4 devoted to transformed economies and job creation is that by 2023, "at least 20% of total of the extractive industry is through value addition by locally owned firms".

30. The 6th national reports indicated only limited initiatives to add value to raw biological resources in Africa. In the post-2010 NBSAPs, Ethiopia is the only country that adopted a specific target on value addition[46]. Ethiopia noted insufficient progress towards this target in its 6th national report. Few other countries have reported on some processed food, medicines and beauty products from plants and animals for national and international markets. They did not report extensively on such processing to add value.

31. As noted in the 2030 Agenda for Sustainable Development, value addition will contribute to the doubling of incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers (SDG 2.3), and the achievement of higher levels of economic productivity (SDG 8.2). For these purposes, countries will have to ensure a conducive policy environment for, inter alia, industrial diversification and value addition to commodities (SDG 9b).

32. The President of the African Development Bank stated clearly in 2017 that "***Africa must quit being at the bottom of the global value chains and move to rapidly industrialise, with value addition to everything that it produces***".

Biomass energy

33. More than 60% of the people in Africa depend on biomass, essentially firewood and charcoal, as their primary energy source for cooking, heating and small-scale industries and transport. There are environmental and health concerns associated with the use of firewood and charcoal. Various initiatives supported by funding agencies are under way to substitute fuelwood and charcoal with clean and green sources of energy such as solar, hydro and wind power as well as geothermal energy. However, fuelwood and charcoal will not be replaced soon with other sources of energy, bearing in mind their affordability.

34. There are regions of the world where wood has been in use in the construction sector for decades. In Africa, there is a need to explore ways to produce and use fuelwood and charcoal sustainably including through improved carbonization, the use of improved stoves, reforestation, agroforestry, tree planting as well as the use of sawmill waste, crop/agricultural residues, and invasive plant species. Successful examples of sustainable fuelwood and charcoal production and use exist within the Continent[47]. They should be documented, disseminated, and integrated in training programmes supported by political will, technical cooperation and financial resources to scale up these practices.

35. Sustainable biomass energy production will ensure affordable energy to many people in Africa while other means of renewable energy are being developed to be added to the energy mix of populations in Africa. This will be a contribution to all the targets under SDG 7 ("Ensure access to affordable, reliable, sustainable and modern energy for all") and in line with AfDB priority on "Light up and Power Africa". As stated in Agenda 2063, these efforts will be supported by the application of the 2013 Africa Bio Energy Policy Framework and Guidelines[48], and the development and implementation of "policies for sustainable energy development / usage capacities, research and development and financing." Strategically, Agenda 2063 expects countries to "develop/implement energy generation policies that will contribute to the productivity of rural / poor households' efforts in improving their nutritional and wealth status" (Agenda 2063 Goal 1, Priority area 2) and by 2023 "increase the efficiency in energy usage by households by at least 30%", "reduce proportion of fossil fuel in total energy production by at least 20%" (Goal 7 priority area 3) and by 2020, achieve "increase in generation of electricity by 42,000 MW through

[46] National Biodiversity Target (NBT) -13 By 2018, benefits from biodiversity are increased through value addition to at least 12 agro-biodiversity species and products, and creating market linkages for five species of medicinal plants; taking into account the needs of women and local communities

[47] E.g., in DRC Mampu project that needs to be upscaled

[48] https://au.int/sites/default/files/documents/32183-doc-africa_bioenergy_policy-e.pdf

hydro and renewable energy initiatives".

Aquaculture

36. Aquaculture is considered as one of the fastest food production sectors in the world today. Some African countries have been receiving funding from international agencies. It contributes to food security, nutrition, livelihoods and national economies. The AfDB noted that aquaculture not only "helps to feed Africa, but it can also contribute to Africa's industrialization, enhance local added value and improve the living conditions of African people by providing livelihoods and the long-term skills to provide resilience". Initiatives such as the FAO Special Program for Aquaculture Development in Africa (SPADA) or the Food and Local, Agricultural and Nutritional Diversity (FoodLAND) project involving 28 African and European partners and funded through the European Commission's Horizon 2020 programme, and the New Partnership for Africa's Development (NEPAD) Action Plan for the Development of African Fisheries and Aquaculture have been undertaken to assist African countries with aquaculture production. Aquaculture is a strategic sector that can complement capture fishery and ensure sustainability in fisheries.

37. However, Africa's aquaculture lags behind that of major global players. Its contribution to world aquaculture production is less than 3% while its potential is significant. Africa is the only region of the world where per capita fish consumption level has declined over the past decades while populations are growing. Aquaculture can fill the gap between fish production/capture and the populations' needs for fish. Reported challenges to aquaculture include poor infrastructure, unavailability of good-quality fingerlings and feeds, lack of or weak research to support aquaculture needs, diseases, volatile prices of inputs, internationally funded projects not in line with local needs and ecology, short-term funding from international sources and often spent to recruit international consultants who may not be better than local experts, and competition with other activities like agriculture for basic inputs such as land, water, and nutrients. A few countries are expanding their aquaculture production. Others should learn from their experience.

38. Aquaculture contributes directly to three of the 5 AfDB priorities i.e. "Feed Africa", "Industrialize Africa", and "Improve Quality of Life for the People of Africa" as well as all the goals under Aspiration 1 of Agenda 2063 for a prosperous Africa including improved wellbeing, health and nutrition, transformed economies, biodiversity conservation, as well as sustainable production and consumption of biological and genetic resources. In addition, aquaculture contributes directly to many SDGs including SDGs 1, 2, 3, 12 to 15 i.e., reducing poverty, eliminating hunger and improving health, increasing environmental sustainability of oceans, water, climate, and land through responsible production/consumption and improving livelihoods.

Opportunity for expanding agricultural production and increased productivity

39. The recent events in the world, in particular the COVID 19 pandemic and the war in Ukraine, highlighted the interconnectedness of food systems in the world and the fragility of the world food security (e.g., shortage of wheat and fertilizers) with long-lasting impacts in Africa where the food systems are already weakened by climate change. Many reports note that Africa has 60% of the world's uncultivated arable land and that the continent is well poised to become a major food supplier and the global breadbasket. However, big foreign corporations are grabbing up this land[49] and the 2022 Third Biennial Review Report[50] on the implementation of the 2014 Malabo Declaration which provides the

[49] https://www.nationalgeographic.com/foodfeatures/land-grab/

[50] https://au.int/ar/node/41573.

direction for Africa's agriculture transformation for the period 2015 – 2025[51] showed that the continent was not on-track to meet the CAADP/Malabo commitments. Only Rwanda was generally on-track to meet the goals and targets of Malabo by 2025. Regarding financing, the report showed that only four countries (Egypt, Eswatini, Seychelles and Zambia) invested at least 10% of their national expenditure on agriculture despite the importance of increased public and private investments in transforming African agriculture. Only one country (Kenya) was reported on track to meeting the Ending Hunger goal by 2025. Africa remains a net importer of food and is the only continent where the absolute number of undernourished people has increased over the past 30 years[52].

Neglected and underutilized crops

40. Many 6th national reports listed native crops that were historically popular among local communities but are currently underutilized and neglected. Researchers have shown renewed interest in their nutraceutical and pharmaceutical potential. Usually better adapted to the soil and climatic conditions of the regions where they are grown, neglected and underutilized plant species should be subject to research with a view to integrating them into sustainable and resilient agricultural and food production systems. Research should cover all aspects of the value chains, from crop identification and production in sustainable farming systems through national and international marketing to utilization with the benefits that populations can derive from these crops. Research should build on traditional knowledge, know-how and practices in accordance with national legislations for benefit sharing with indigenous and local communities. The suitability of neglected and underutilized crop species in climate-smart or climate resilient agriculture should be considered as part of countries' efforts towards food and health security and populations wellbeing.

41. The African Union endorsed the African Orphan Crops Consortium (AOCC)[53] which is carrying out research to facilitate the integration of orphan crops into African food systems. Other supporting mechanisms include the project 'Strengthening capacities and informing policies for developing value chains of neglected and underutilized crops in Africa'[54] which was supported primarily by the ACP-EU Science & Technology Programme from 2014–2016. The project's vision was that enhanced value chains of neglected and underutilized crop species in Africa would contribute to improved food and nutritional security, income of smallholder farmers and entrepreneurs and mitigation of, and adaptation to climatic, agronomic and economic risks.

42. **Africa's aspiration is to radically transform African agriculture to enable the continent to feed itself and be a major player as a net food exporter.** This aspiration is reflected in Goals 3 (Healthy and well-nourished citizens) and 5 (Modern agriculture and blue economy for increased production & productivity) of Agenda 2063. **Africa should reduce its dependency on food importation to feed its populations and must produce more of what African people consume and consume more of what it produces.**

43. Populations should be encouraged to produce and consume neglected and underutilized plant species while investment should be mobilized for research and development to describe and communicate the value of these plant species along their value chains and promote their marketing at the local, national and international levels. Research findings should present data that will convincingly attract the participation of the private sector. Governments should put in place the necessary regulations

[51] Within the Framework of the Comprehensive African Agricultural Development Programme (CAADP) under Agenda 2063 to help African countries eliminate hunger and reduce poverty

[52] https://www.weforum.org/agenda/2016/01/how-africa-can-feed-the-world/

[53] https://africanorphancrops.org/

[54] https://www.fao.org/plant-treaty/tools/toolbox-for-sustainable-use/details/en/c/1369773/

and incentives supporting the neglected and underutilized species value chains. Examples of the successful expansion in the production, marketing and uses of teff[55] or taff[56] (*Eragrostis tef*) should inspire and encourage.

Nature based tourism

44. The uniqueness of Africa's biodiversity is a major asset for tourism. It ensures and enhances the attractiveness of areas to visit. The IPBES regional assessment of biodiversity and ecosystem services report for Africa stated that Africa hosts eight of the 36 global biodiversity "hotspots", which are the Earth's most biologically rich areas but with large numbers of endemic or threatened species. The IPBES assessment recommended an urgent expansion of protected spaces in areas of rich biodiversity and endemism. Some 6th national reports described how tourism generated revenues used to fund protected area management and contribute to the wellbeing of local communities within and around protected areas. In 2019, UNEP[57] noted that **tourism in protected areas can create jobs in rural areas, diversify and grow Africa's economies and improve environmental resilience in the face of growing pressures**, but **currently many governments were scaling back on protection because of limited budgets needed for other pressing public needs.** Most Africa's protected areas are underfunded by up to ten times the required level. Thus, only few of Africa's protected areas are meeting their potential as engines for tourism growth.

45. Considering the uniqueness of Africa's biodiversity, the World Tourism Organization recognized that the role and value of nature-based tourism in Africa could increase more than the global average if Africa, particularly West Africa, could improve the marketing of its national parks and beaches, develop national tourism plans for protected areas and integrate them into the national economic plans so that protected wild sites can get the needed resources for their protection. **Governments should look at protected areas not only as environmental assets but also as sources of revenues and economic assets.** Experiences from top nature tourism destinations particularly in Eastern and Southern Africa[58] should inspire. **Understanding the value of natural assets and assessing the potential revenues they can generate will help mobilize broad support and investment for their protection and conservation.**

Important pressures of relevance to Africa and not covered in the Aichi Biodiversity Targets

The following are biodiversity areas where Africa should pay more attention [for its own sake] and call for international collaboration:

Armed conflicts

46. There were armed conflicts and/or active rebel groups in at least one third of countries in Africa between 2014 and 2019. These conflicts are diverting attention and resources away from the priorities that countries set out in their NBSAPs and strategies for sustainable development and poverty eradication. In addition, several rebels are hiding in national parks where they exploit illegally and unsustainably the countries' natural resources. Their actions also push populations to migrate and degrade natural habitats

[55] Ethiopia's 6th national report describes teff value chains including farmers traditional knowledge on teff farming, processing and production, and teff value chains including value addition activities. The gluten-free characteristic of teff flour is very attractive to many food producers globally.

[56] Eritrea's 6th national report refers only to the fact the country is a center of origin of *Eragrostis tef.*

[57] https://www.unep.org/news-and-stories/story/africa-yet-unleash-full-potential-its-nature-based-tourism

[58] https://blogs.worldbank.org/nasikiliza/africa-can-benefit-from-nature-based-tourism-in-a-sustainable-manner : For example, in Namibia, 19 percent of all employment is directly or indirectly linked to tourism. In Tanzania, tourism is the largest foreign exchange earner, competing with gold. Kenya, Rwanda, South Africa and Zimbabwe are considered as the top nature based tourism countries.

for temporary settlements.

47. In the SWOT analysis for Agenda 2063, African countries recognized that "enduring peace and security and sustainable development can be realized through systematically and strategically halting all armed conflicts and addressing their causes and consequences". Thus, the Heads of States pledged "not to bequeath the burden of conflicts to the next generation of Africans, to end all wars in Africa by 2020" and "make peace a reality for all African people and rid the continent of wars, end inter- and intra-community conflicts […].

48. Progress in many areas of biodiversity work, such as effective management of protected areas including world heritage sites, recovery of threatened species as well as sustainable fisheries, forestry and agriculture, is impossible if these inter- and intra-community conflicts are not controlled effectively. International collaboration and the use of state-of-the-art technologies are required to overcome these challenges.

Fires, floods, drought and desertification

49. Many countries listed fire from human activities, mainly for agricultural purposes through the slash-and-burn farming system, as one of the drivers of land degradation and biodiversity loss. Some studies reported on the contribution of these fires to green house gas emissions. Between 2014 and 2022, many parts of Africa were affected by floods, including for example Morocco in 2014; Ethiopia, Niger in 2016; Nigeria (Benue State) in 2017; East Africa in 2018; Congo River floods in 2019-2020, and South Africa (Johannesburg) in 2016 and 2022. Drought and desertification are critical in Africa. For that reason, when the text of the United Nations Convention to Combat Desertification was adopted, the following was included in the title of the Convention text: "in those countries experiencing serious drought and/or desertification, particularly in Africa".

50. Some countries have developed mechanisms to address the negative impact of slash-and-burn and other types of fires that result in land degradation, and floods for example through the establishment of Flood Early Warning Systems and replanting of mangroves, and to prevent and combat desertification as well as to mitigate the effects of drought. Synergies among the implementation of the Rio conventions have been recommended.

51. Addressing these drivers of biodiversity loss will increase Africa's resistance and resilience to these pressures and decrease its vulnerability to climate change. Overall, the measures to be taken will contribute directly and indirectly to food security, populations wellbeing, poverty reduction and Agenda 2063 Aspiration 1 on a prosperous Africa.

Diseases

Zoonosis and pandemics

52. The World Bank[59] stated that **Africa is the most disease prone continent with the largest burden of diseases in the world**. The recurrent outbreaks of Ebola virus disease in the past years particularly after the 2014-2016 outbreak in West Africa and the COVID-19 pandemic have further exposed the vulnerability and weakness of health systems in Africa. In addition, scientists[60] have been drawing attention to the fact that, **while most pandemics originated in Asia in the past, Africa with its population growth, rapid urbanization, population migration and increased consumption of wild animals caused by armed conflicts, and rising global integration including through international trade may become an important source of "zoonotic pathogens" and future pandemics**. Between 2016 and 2018, African countries have

[59] https://www.vanguardngr.com/2017/10/africa-disease-prone-continent-world-bank/

[60] For example, https://www.ifpri.org/blog/africas-growing-risk-diseases-spread-animals-people

experienced over 260 infectious-disease epidemics, disasters and other public-health emergencies, with 79% of countries in the region recording at least one epidemic during that period and annual productivity loss of over US$800 billion across the continent[61]. The five top causes of disease epidemics were cholera, measles, viral hemorrhagic diseases, malaria and meningitis. It is important to be conscious that pathogens and vectors of these diseases are components of biodiversity.

53. Deforestation and slash-and burn practices for subsistence farming have also been reported to drive and amplify disease transmission through a range of events that displace animal populations from their habitats to migrate elsewhere in search of food. These animals such as rodents and resident fruit bats carry with them and spread various lethal pathogens.

Animal and plant pests and diseases

54. Reports[62] indicate that 12 of the world's 15 most important animal diseases such as the Rift Valley fever and the foot-and-mouth disease occur in Africa. Recent years have witnessed the largest Desert Locust upsurge in decades which ravaged thousands of hectares of cropland and pasture particularly in Eastern Africa (namely in Ethiopia, Somalia and Kenya)[63]. Population migrations and international trade have dramatically increased the spread of plant pests and diseases that are causing huge losses of crops and pastures, threatening the livelihoods of vulnerable farmers and the food and nutrition security of millions. According to FAO, locusts, armyworm, fruit flies, banana diseases, cassava diseases (particularly cassava mosaic and brown streak virus diseases) and wheat rusts are among the most destructive transboundary plant pests and diseases[64] together with maize stem borer and viruses causing maize lethal necrosis disease (MLND). Scientists consider that losses caused yearly by plant pests and diseases across Sub-Saharan Africa are over US$ 200 billion[65]**.** Many of these pests and pathogens can be classified as invasive alien species[66]**.** They were not mentioned or reported as such in the 6th national reports on biodiversity from Africa.

55. Scientists reported[67] that urbanization, armed conflicts and deforestation have increased the risk of zoonotic infections in Africa. The One Health approach focused on the environment, animal health and human health was put forward as the way forward. As early as 2008, African ministers of health and environment signed the Libreville Declaration expressing commitment to One Health. They subsequently endorsed a 10-year Strategic Action Plan to scale up health and environment interventions in Africa from 2019 to 2029 at the third Inter-Ministerial Conference on Health and Environment in Gabon in 2018. A 2020 review identified a total of 315 One Health initiatives in sub-Saharan Africa[68]. Noting that over 90% of the funding derived from outside of the continent, the review recommended that, **although African countries had been quick to endorse the One Health approach, they needed to demonstrate ownership of One Health processes through increased national funding of One Health**. Only Rwanda referred to One Health in its 6th national report under national target 6 ("Establishment of Rwanda Institute of Conservation Agriculture". This Institute focuses on developing skills in conservation agriculture and One

[61] https://www.nature.com/articles/s41591-021-01375-w

[62] For example, https://www.scidev.net/sub-saharan-africa/news/animal-and-plant-diseases-a-growing-threat-in-afri-ssa/

[63] https://www.fao.org/publications/card/en/c/CB6256EN/

[64] https://www.fao.org/emergencies/emergency-types/plant-pests-and-diseases/en/

[65] https://guardian.ng/features/agro-care/nigeria-other-african-countries-lose-200b-to-plant-pests-diseases-yearly/

[66] https://neobiota.pensoft.net/article/72577/element/4/456//

[67] https://www.nature.com/articles/s41591-021-01375-w.pdf

[68] Fasina, F.O. and Fasanmi, O.G. 2020. The One Health landscape in sub-Saharan African countries. Nairobi, Kenya: ILRI.

Health principles). In addition, **there seems to be no plan to adopt a One Health target in the post 2020 Global Biodiversity Framework despite the lessons learned from COVID-19 pandemic**.

Mobilization of financial resources

56. Lack of or insufficient financial resources has been cited in all the 6th national reports as a major obstacle to the implementation of NBSAPs for activities such as assessment of the value of components of biodiversity; assessment of the status, trends and spatial distribution of threatened species and the factors impacting these species; regular monitoring of the wild species as well as their harvesting, trade and uses; and effective law enforcement. A fundamental question is why biodiversity measures and actions that are critical for poverty eradication, population wellbeing and sustainable development are not sufficiently funded even when it is known that the returns on investment are usually significant. **Addressing financial challenges requires that factors underlying them be identified and assessed. If the underlying factors are not addressed, funds from partners, from bilateral and multilateral agreements will serve only for short periods of time.**

57. A financial mechanism has been established in the Convention under articles 20 and 21. African countries need to attract more funds from this mechanism because currently African countries are allocated less funds than countries in other regions. One way to attract more funding is through the development of eligible projects and implement funded projects more effectively and efficiently. All African countries should assess the cost of implementing their NBSAPs, prioritize their actions in accordance with the availability of financial resources, and develop and implement strategies for financial resources mobilization. African countries are considering and using various tools to raise funds, for example taxation, fees and fiscal measures. In recent years, African countries have been calling for a Biodiversity Fund.

58. Trust funds that some countries reported on[69] as well as revenues from REDD are, among others, two mechanisms that Africa can focus on for the sustainable financing of its biodiversity work. As reported in national reports, **establishment of trust funds ensures some financial sustainability and independence in biodiversity decisions rather than relying on projects proposed and funded by partners.** African countries are still to see benefits from REDD+. Currently, processes to derive benefits from REDD+ are quite prohibitive and are becoming a disincentive. REDD+ was first discussed in 2005 under UNFCCC. It is only in July 2021 that Gabon became the first African country to receive US$ 17M as part of Norway pledge of US$ 150M. **REDD+ is a win for the planet and should also be a win for countries carrying out REDD+ projects**.

[69] Examples of such funds include: 'Fond Okapi' for the conservation of biodiversity 'FOCON' in DR Congo; Fundação BioGuiné in Guinea Bissau; BIOFUND in Mozambique; the Deforestation Trust Fund or the Plantations Development Fund in the cocoa landscape in Ghana; the Rwanda Green Fund (FONERWA), the Bwindi Mgahinga Conservation Trust (BMCT) in Uganda, and the Agricultural Development Fund (Fonds de development Agricole FDA) in Morocco.

PROGRESS ON NATIONAL TARGETS AND CONTRIBUTION TO THE ACHIEVEMENT OF THE GLOBAL TARGETS

NATIONAL TARGETS RELATED TO ABT 1: AWARENESS OF BIODIVERSITY INCREASED

Aichi Biodiversity Target 1:
By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably

Priority status for biodiversity in Africa

In Africa, the connection with nature is fading with rural exodus/migration and urbanization. Inadequate information on the values of biodiversity, and inability to connect the sustainable use of the resource to livelihoods has become an increasing challenge leading to ecosystem degradation and biodiversity loss.

National targets related to ABT 1

Ninety percent of African countries adopted in their NBSAPs a national target relating to ABT 1 against 87% at the global level. The importance of the target was confirmed in 2018 with the adoption of Africa's biodiversity priorities (Annex 1) that include education, awareness-raising and knowledge management under the enabling mechanisms for implementation of biodiversity-related conventions, strategies and action plans.

Actions taken and overall progress

At the time of the submission of the national reports, about half of the countries in Africa (similar trend at the global level) felt they were on track to achieve or, the case of Eswatini, exceed the target (Figure 4). Countries undertook several activities to implement their awareness-raising plans. The main initiative was the development and implementation of communication, education and public awareness (CEPA) strategies on conservation and sustainable use of biodiversity, including for example the development of key messages; identification of champions to drive awareness of biodiversity within economic sectors, and introduction and/or expansion of biodiversity issues in school curricula and tertiary institutions. Some flagship programmes were described e.g., the Tacugama Community Outreach Programme (TCOP) in Sierra Leone or the radio program titled "TUMENYE PARIKI Y'AKAGERA" (Knowing Akagera National Park) in Rwanda. Some countries, such as Cameroon, reported they were developing national IPBES-like science policy interfaces, as a mechanism to share reliable and up-to-date information, and strengthen dialogue and communication. Millions of people in each country have reportedly been reached through these awareness activities and became better informed about biodiversity value and ways and means for its conservation.

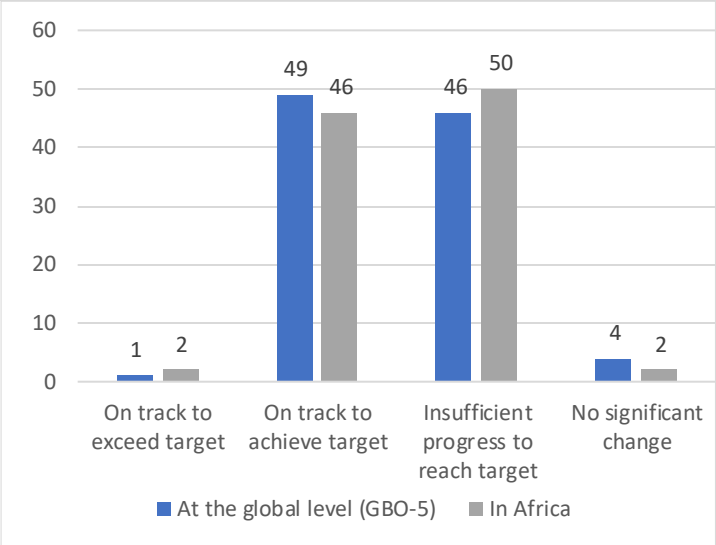
It is still necessary to find out whether and how much these initiatives changed people's behaviour in favor of biodiversity conservation, in other words, the effectiveness of the many awareness-raising programmes reported in the national reports.

Overall progress

Forty-eight percent of countries in Africa were on track to achieve (46%) or exceed (2%) the targets in the range of the global average. Half of the countries made insufficient or no progress.

Figure 4: Level of progress towards national targets on increasing awareness of biodiversity at the regional and global levels (in percent of number of countries that provided an assessment of progress toward their respective national targets related to ABT 1)

48% of African countries considered being on track to achieve (46%) or exceed (2%) their targets related to ABT 1



Challenges

Where obstacles and technical needs were reported, they were articulated around budgetary constraints; understaffing and limited skills on some technical issues touching biodiversity; coordination among the various institutions and organizations implementing awareness raising programmes, collecting and analyzing data about biodiversity awareness activities and their impacts; and functional clearing house mechanisms through which information about awareness activities could be collected, analyzed and shared. Some countries in the Sahel region noted the difficulty to carry out awareness -raising programmes in areas where there were ongoing conflicts and where coincidently biodiversity was being used unsustainably.

NATIONAL TARGETS RELATED TO ABT 2

Aichi Biodiversity Target 2:
By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems

Priority status for biodiversity in Africa

The true value of biodiversity's contributions to human well-being is still much underappreciated in decision-making processes in Africa. Monetary valuation is a useful tool for integrating the environment

into economic, political and social strategies and plans. 'Mainstreaming biodiversity into relevant sectors' and 'Natural capital accounting' are both listed among the 11 Africa's biodiversity priorities (Annex 1). Valuation of biodiversity and taking biodiversity values into account in planning and decision-making processes are implied in most of the other Africa's biodiversity priorities.

National targets related to ABT 2

At the global level, 84% countries have a target related to ABT 2. In Africa, 75% of NBSAPs have targets on integration of biodiversity values, of which 17 national targets (32%) are exactly the same as ABT 2 while 7 (13 %) are formulated differently but contain all the elements of ABT 2. Sixteen national targets relating to ABT 2 (30% of the total) have less elements, two thirds of which did not include integration of biodiversity value in national accounting. The 13 countries that did not have specific targets related to ABT 2 carried out activities in line with elements of ABT 2 and thus contributed to its implementation.

Actions taken

Biodiversity valuation

The 6th national reports described examples of biodiversity provisioning, regulating and spiritual services, in other words material and non-material nature's contributions to people. Given that more than 60% of the populations are dependent on the natural resource base for their livelihoods in terms of income, food, fuel, medicine, energy, clothing and shelter, Africa illustrates well how biodiversity underpins human survival and well-being. Non-material and regulating nature's contributions to people included sacred forests and areas for recreation and tourism; mangroves and their capacity to protect and stabilize shorelines in addition to serving as habitats to many species including migratory species; forests for their capacity to sequester atmospheric carbon. Some plants, while having economic importance, are also used in restoration programmes. Alfa *(Stippa tenacissima)* reported in Algeria, Egypt, Morocco and Tunisia have a potential to fight desertification. Metallophytes reported in DR Congo are tested in land reclamation.

Examples of quantitative values of biodiversity are limited. A rather comprehensive list of all the quantitative values of biodiversity found in the 6th national reports from Africa has been compiled. Reported monetary value of biodiversity components covered fisheries including aquaculture; livestock; a few agricultural products; forests including mangroves, non-timber forest resources and carbon sequestered; protected areas; tourism; and water towers. Many cultivated and wild plants are exported internationally and are thus important sources of revenue and foreign exchange. Some countries, such as Somalia and Cameroon, included data on the cost of land degradation and loss of biodiversity. Ethiopia presented data on monetary gains through value-addition which is strongly recommended in Agenda 2063 so that Africa can derive maximum benefits from its biodiversity.

Integration into national and local planning, development, legislation, policies and poverty reduction strategies

In general, Poverty Reduction Strategy Papers (PRSP) did not integrate biodiversity as recommended in the Strategic Plan for Biodiversity 2011-2020. The adoption of the updated NBSAPs including national targets on the integration of biodiversity values in national strategies usually took place after the adoption and revisions of the PRSPs in the years 2000. However, many legislations, regulations and policies adopted after 2010 integrated biodiversity considerations, particularly in the health, mining, agriculture, fisheries and forestry sectors. The intervention options described in the Nationally Determined Contributions (CDN) to climate change adaptation and mitigation under the Paris Agreement and the modalities adopted in the process of land degradation neutrality (NDT) and the implementation of the Sustainable Development Goals (SDGs) have also taken into account the importance of biodiversity. Many other laws, decrees or ministerial orders in the energy, mining, petroleum, transport, construction and

communications sectors do not contain specific considerations of biodiversity and associated ecosystem services but have in common the requirement to conduct environmental and social impact assessments where some considerations of biodiversity components are included. **It would be useful if the "Voluntary Guidelines for Biodiversity-inclusive Impact Assessment[70]" published under the Convention on Biological Diversity could be used as basis for integrating biodiversity in Environmental Impact Assessment (EIA) and Strategic environmental assessment (SEA)**. South Africa is among the countries that have made significant progress in determining the values of biodiversity and integrating it into policies, development strategies at the national and subnational levels. Under its Target 17, South Africa achieved a lot of gains through its biodiversity mainstreaming initiatives with the integration of biodiversity into the national development agenda. The experiences of South Africa can inspire and the tools they developed can be used widely (Box 1).

Box 1: Highlights of South Africa's experience in integrating biodiversity value in planning, decision-making and legislations

Indicative list of documents that integrate biodiversity and its value (since 2010)

- The **New Growth Path** (NGP), 2010 which presents a national vision for growing the economy through the creation of five million jobs in 10 years partly focused on the development of renewable energy.
- **National Strategy and Action Plan for Sustainable Development** (NSSD1), 2012.
- **Making the Case for Biodiversity Strategy** (2013 to 2015), developed by SANBI to generate awareness and understanding in government and industry of the business and economic opportunities embedded in biodiversity management
- **The Environmental Sector Local Government Support Strategy (LGS)** developed in 2014 to provide a coordinated and structured approach to strengthening environmental governance, environmental sustainability and climate-resilience at local government level
- The draft **Nationally-Determined Contribution** (NDC) to climate change adaptation and mitigation includes biodiversity conservation and restoration as part of South Africa's adaptation and mitigation strategies.

Overall, the biodiversity integration process was driven by a realization that political decision-makers need to act on the knowledge that rehabilitating and managing ecosystems and biodiversity were deeply beneficial for local communities and the society, and that well-functioning ecosystems provide to society while their degradation affect public and industry coffers

Practical tools to support planning and decision-making.

Many of these tools have been developed and applied in an integrated and demand-led mainstreaming context in order to meet sector specific needs.

- **Maps of biodiversity priority areas**
- **Guidelines** that accompany and add value to maps of biodiversity priority areas, including guidelines for land/sea use options in biodiversity priority areas as well as guidelines that inform decision-making in production sectors
- **A spatial framework for evaluating applications and future investments** through the Land User Incentive;

[70] https://www.cbd.int/impact/guidelines.shtml

- **An investment plan for securing ecological infrastructure** (to enhance water security in the uMngeni River catchment);
- **A data publishing tool for monitoring the impacts of energy infrastructure** on birds and bats (Bird and Bat Tool)
- The **Biodiversity Economy Lab of Operation Phakisa** in 2016 gave the biodiversity economy of South Africa a great impetus by making several recommendations to address the key challenges experienced in the wildlife, eco-tourism and bioprospecting sectors
- **Integrated Environmental Management** (IEM) through which South Africa incorporated biodiversity considerations into local and national development planning process. It includes the use of several environmental assessment and management tools that are appropriate for the various levels of decision-making, including Strategic Environmental assessments (SEAs)

Incorporation into national accounting and reporting systems

Despite that 'Natural capital accounting' together with 'Mainstreaming biodiversity into relevant sectors' are among the 11 Africa's biodiversity priorities, only 46% of the African countries adopted a target for integrating biodiversity values in national accounting. The policies in which African countries are considering and integrating biodiversity values are essentially for protected areas, ways and means to combat desertification and ecosystem restoration, and with reference to climate change and green economy. Various global and regional initiatives such as the UN System of Environmental-Economic Accounting (SEEA) or the Gaborone Declaration for Sustainability in Africa (GDSA) launched in 2012 provide agreed methodology and support for developing natural capital accounts. Only few African countries reportedly took advantage of these initiatives. For example, in 2020, only 17 African countries were using the SEEA system. **It is not clear why only 7 of them mentioned the system in their respective reports. This situation may raise doubt that the importance of the SEEA system was realized in all the countries involved**. Countries, such as South Africa, were carrying activities leading to the integration of the value of biodiversity components into national budgeting without having targets on integration of biodiversity value in national accounting.

Challenges and opportunities

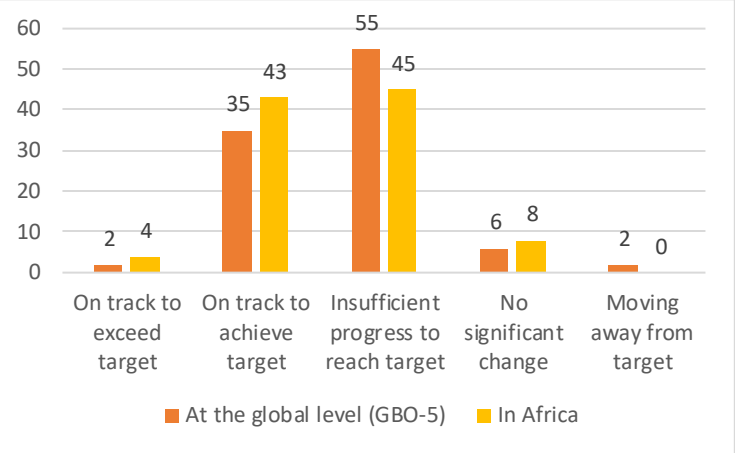
Africa is the continent where relatively few biodiversity valuation studies have been carried out. Identified obstacles and challenges to the integration of biodiversity values include *inter alia* discrepancies and gaps resulting from the ways data for integration in national accounting were collected; dearth of information on the financial costs of biodiversity loss and ecosystem degradation; lack of or limited coordination and data sharing across various government agencies and departments; limited environmental reporting by companies; inadequate technical skills and capacities in areas of environmental economics and data management. In this respect, some countries, such as Rwanda, relied on externally sourced professional and technical support. **Financial resources to address these challenges should be sought. Sustainable means of funding work on biodiversity valuation are needed, such as in the form of trust funds.** Participation of the private sector should be encouraged, along the support of global and regional initiatives, bearing in mind that the sector can also benefits from biodiversity valuation and natural capital accounting.

Overall progress

Based on countries' self-evaluation (Figure 5), Africa considered itself slightly in advance as compared to the global performance with 47% of countries that rated their progress on track to exceed (4%) or achieve

(43%) their ABT 2-related targets while 37% of countries at the global level considered they were exceeding (2%) or achieving (35%) their ABT 2 related targets.

Figure 5: Level of progress towards national targets relating to the integration of biodiversity values into strategies, planning, national accounting and reporting at the regional and global levels (*in percent of number of countries that provided an assessment of progress toward their respective national targets relating to ABT 2*).



NATIONAL TARGETS RELATED TO ABT 3

Aichi Biodiversity Target 3:
By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio economic conditions

Priority status for biodiversity in Africa

Biodiversity conservation measures are often perceived to be of little economic gain. Positive incentives are used to make sure that conservation is perceived as an attractive and vital course of action for our well-being, national economies and inclusive sustainable development. However, incentives, usually subsidies, that lead to negative impacts on biodiversity have to be reformed or banned.

Consideration of incentive measures is not listed among Africa's biodiversity priorities, but their importance is underscored in Agenda 2063 (Annex 6) where one of the recommended strategies to implement targets for "Climate Resilience and Natural Disasters and preparedness" is to design/implement programmes to provide for incentives relating to matters of climate change including incentives for reduced emissions from deforestation and degradation.

National targets related to ABT 3

At the global level, only 59% of NBSAPs contain targets related to ABT 3. In Africa, 65 % of countries had a target on incentives. Almost half of these countries had the same targets as ABT 3; 3 countries referred only to harmful incentives, 4 countries referred only to positive incentives, and the remaining 12 addressed both positive and harmful incentives. All the other countries that did not have targets on incentives reported on the development and application of incentive measures. This and the length of reports on incentive measures in the 6th national reports indicate that incentive measures are considered

very important in Africa to encourage people's involvement in the conservation and sustainable use of biodiversity. Incentives can also bring in financial resources that can be used for biodiversity.

Actions taken

Among the actions taken, African countries assessed their existing legislations and policies for any perverse impact on biodiversity and applied incentives under the following categories:

- Property rights, such as the very successful community-based management programmes that generate a lot of financial resources for local communities and has facilitated the creation of thousands of jobs in countries such as Namibia, Botswana, Ghana, South Africa and Burundi.
- Market measures and charge systems under which African countries reported on certification schemes, fees, quotas and permits. Certification schemes included for example Forestry Stewardship Council, Rainforest Alliance Certification, Marine Stewardship Council, certifications for green hotels and eco-labelling, MauriGAP Certification for good agricultural practices in Mauritius. One of the challenges repeatedly raised was the high costs of carrying out the needed geo-referenced inventories at large scales, the slow return cost for investment towards certification, the lack of the capacity to undertake certification audits and to maintain operations to the certification standard. Of all African countries, South Africa has made most progress in biodiversity certification.

  Revenues from the entrance and visit fees complement budget required for conservation activities and strengthening human, infrastructural and technological capacities. Part of the revenues is being successfully shared with local communities living in and around the visited places to improve their livelihoods and well-being for example in Rwanda (Volcanoes National Park), Sao Tome and Principe (ProTetuga project), or Malawi (Thabalaba forest). Other types of fees reported are conservation fee packaged as payment for ecosystem services (PES), access to genetic resources; licencing the use of traditional knowledge; water use; environmental impact assessment and environmental audits, and biodiversity compensation payment.

  Quotas and permits have been determined for some commodities after a study of their status, trend and distribution including the compilation of baseline information and the assessment of their socioeconomic value and trade-offs. Quotas were usually included in some laws and countries put in place bodies in charge of setting and enforcing quotas. National reports mentioned fishing, hunting and logging quotas or quotas for flora and fauna offtake as part of the framework for access and benefit sharing (ABS) in Botswana. DR Congo synergized work on quotas with the CITES non-detriment findings (NDFs). Equally relevant were the Prior Informed Consent permits issued by indigenous peoples and local communities in Ghana. Some countries highlighted gaps in scientific data on plant and animal life cycles the need to establish long-term monitoring systems. Some countries that used quotas and permits acknowledged the concern that when quotas and permits are issued without being backed by science or when they are misused and ignored, they become real perverse incentives that can lead to overexploitation of the biological resources or their loss due to destructive methods of use.
- Fiscal measures: the two main fiscal measures considered in the 6th national reports are taxes and subsidies. Biodiversity-relevant taxes included taxes on fertilizers, pesticides, timber and other forest products, and on pollution. Information on how the level of the taxes was determined was not presented and it was not clear whether the calculation of the tax to impose took into consideration the cost of the damage to biodiversity. Only a few countries presented information on the size of environmental taxes they collected relative to all the taxes raised in the respective

countries, and the contribution of environmental taxes to GDP, and what the collected environmental taxes were used for. Some countries reported on tax exemptions to encourage products that are beneficial to the wellbeing of the population and that can yield revenues for the communities, such as the value-added tax (VAT) exemption on supplies and accommodation in tourist lodges and the tax exemption on liquefied petroleum gas (LPG) and energy efficient cookstoves to reduce the use of environmentally unfriendly traditional cooking methods.

Many examples of subsidies were reported in the 6th national reports, particularly on fertilizers and other chemical inputs in agriculture and on fuel. Harmful subsidies have been reported in agriculture and fisheries and on fuel in some countries. In agriculture, excessive use of subsidized fertilizers was partly explained by the fact that many farmers do not conduct soil tests before fertilizer application. Eritrea stated there were no harmful subsidies in the country. A few countries like Burundi described measures they took to identify and gradually eliminate all incentives harmful to biodiversity throughout the national territory. One approach is to ban negative incentives by strengthening environmental impact studies and promoting best practices in the production and consumption of natural resources. Application of the principles of "polluter pays", payment for ecosystem services and biodiversity offset are being used in some countries like Egypt and Cameroon to encourage elimination of harmful incentives. Partly as a consequence of the reduction in subsidies on fertilizers and other chemical inputs, there has been generally an increase in organic farming. An example of harmful subsidies on fuel was given by Egypt in relation to fisheries. Numbers and values of subsidies were usually not given in the national reports. This information is useful for strategic decision-making and national accounting.

- Bonds and deposit systems: Only Kenya, Uganda and South Africa reported on environmental bonds among innovative financing mechanisms.
- Alternative livelihoods with high or higher income: Several projects in the 6th national reports, particularly those that were carried out to identify alternative sources of income for local communities to avoid or limit deforestation and degradation of protected areas or to encourage ecosystem restoration, included provisions of grants and training to start up small business such as honey production, fish farming, dairy and beef cattle production, goats, pigs, poultry, pastures and tree planting agroforestry for charcoal production and to incentivize Community Based Natural Resources Management (CBNRM) initiatives.

Special case of REDD+

REDD+ can be considered as a special case of the payment for ecosystem services scheme. In Africa, 28 countries are partners in the UN-REDD Programme launched in 2008. The payment through REDD+ is not only an obligation for the contribution to the global efforts to mitigate forest greenhouse gas (GHG) emissions but also a powerful incentive for the conservation and sustainable use of biodiversity and associated services. The payment will make a significant contribution to the funds needed for the conservation of forests and national biodiversity, the reduction of poverty and the increase of the well-being of the populations, in particular the livelihoods and wellbeing of those directly and indirectly dependent on forests. The 6th national reports present information on status and trends of forests. However, **for reasons that are not clear, reports of many of the 28 partner countries contain little or no information on their REDD programme with data on assessed forest reference level on the basis of which the quantity for payment will be determined. REDD+ is a very important biodiversity initiative that links not only to climate change but also to revenues/financial resources badly needed for biodiversity work. It is not money given for charity, it is money the world, particularly the large GHG emitting countries, owes.** Generally, countries noted they have a REDD plan and/or strategy or they are

carrying out some projects under their REDD programme with some links to climate change. Only Cameroon, DR Congo, Togo and to some extent Guinea Bissau and Kenya provided some details on the forest carbon with links to possible payments.

Incentives carry more chances of transforming people's behaviour for biodiversity than simple biodiversity messages. It is worth assessing the success of the incentives in use and compile good/best practices for sharing widely in Africa for the benefits of biodiversity conservation and the communities living within or around landscapes and seascapes of particular interest.

- Financial measures/instruments: Countries put in place various financial instruments to support activities and infrastructure that will encourage biodiversity conservation and sustainable use at all levels of the society. They include the various types of payment for ecosystem services with a specific emphasis on payment through REDD+. Trust funds are also being considered in many countries to have sustainable sources of funds such as the Bwindi Mgahinga Conservation Trust (BMCT) in Uganda, the 'Fond Okapi' for the conservation of biodiversity 'FOCON' in DR Congo, Fundação BioGuiné in Guinea Bissau, BIOFUND in Mozambique, the Deforestation Trust Fund or the Plantations Development Fund in the cocoa landscape in Ghana, the Rwanda Green Fund (FONERWA) and the Agricultural Development Fund (Fonds de development Agricole FDA) in Morocco. The Seychelles Conservation and Climate Adaptation Trust (SeyCCAT) mobilizes funding for conservation, development of blue economy and climate change adaptation using grant-funding mechanism. The main source of funding in the SEYCCAT is the Debt Swap. Also, as part of this new financing system and to support the transition to a blue economy, Seychelles issued the first ever Sovereign Blue Bond in 2018, which is a USD 15million bond and the proceeds are to be used for three main objectives: (i) expansion of marine protected areas; (ii) finalization of key fisheries management plans and building the institutional capacity to implement those plans; and development of greater value addition from the aquaculture, industrial, semi-industrial and artisanal fishing and processing sectors. More information on financial instruments is given under Aichi Biodiversity Target 20 on "Mobilizing resources from all sources".

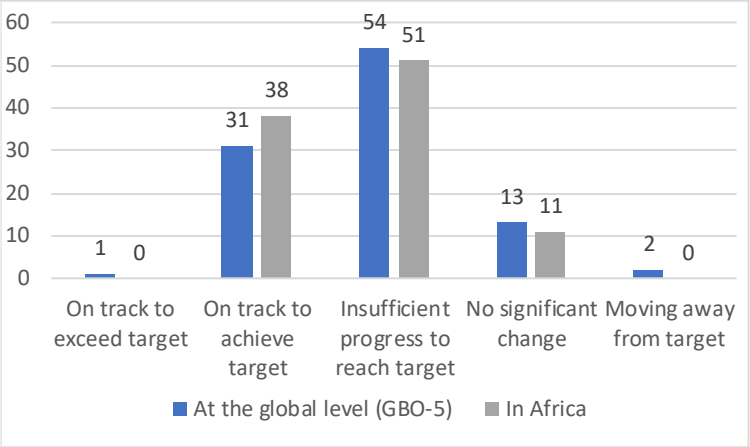
Incentive schemes are being applied across Africa to ensure that people are encouraged to protect and use sustainable biodiversity and its associated services. When successes following the use of incentives were reported on, only qualitative appreciations were usually made. Often, **countries did not study the impact of incentives used and did not provide quantitative data on the successes. However, from the assessment of the progress made in biodiversity conservation, one can conclude that achievements were mitigated. Therefore, the reasons for limited impact of incentives and slow progress in biodiversity conservation need to be carefully researched and ways and means to address them identified.**

Some national reports identified factors that made successful the use of incentives. They include research to assess impact of incentives and monetary/financial gains; review and adoption of relevant legislations and policies; guides for the implementation of incentive measures; training programmes, and support from regional and subregional bodies such the COMIFAC.

Overall progress

When preparing their national reports, relatively more African countries had a perception they were on track to reach their targets on incentive measures (38%) relative to the number of countries at the global level (32%) (Figure 6).

Figure 6: Level of progress towards national targets relating to the elimination or reform of harmful incentives and development and application of positive incentives at the regional and global levels (in percent of number of countries that provided an assessment of progress toward their respective national targets relating to ABT 3)



NATIONAL TARGETS RELATED TO ABT 4

Aichi Biodiversity Target 4:
By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits

Priority status for biodiversity in Africa

Sustainable production and consumption are not on the list of Africa's biodiversity priorities. However, production underpins the AfDB High Five and Agenda 2063. To implement the 5 priorities enshrined in the AfDB High Five, Africa will have to produce more food, more energy, more medicines and various products for livelihoods and wellbeing. Enhanced production will be possible through more industrialisation and development of transportation infrastructure. More specifically and as stated in Agenda 2063, Africa plans to realize by 2063 its full potential in energy production, especially renewable energy to foster its economic growth and eradicate energy poverty. In addition, "by 2063, climate resilient low carbon production systems will be in place, thus significantly minimizing vulnerability to climate risk and related natural disasters. […]. All agricultural and industrial activities will be climate smart and sustainability certified." 'Modern agriculture for increased productivity and production' is one of the goals of Agenda 2063 with the following targets linked to consumption: (i) by 2025, intra-African trade in food and agriculture will have increased three-fold to account for at least 50 % of the continent's total formal food trade. This growth would be made possible through broader and deeper continental market integration and facilitated by the establishment of adequate market and trade infrastructure – including roads, railways and transport services; Information and Communications Technology (ICT); irrigation, and storage and agro-processing facilities; commodity exchanges, market information and other structured trade facilitation services; and (ii) African fisheries companies will exploit these resources sustainably for the benefit of Africans and market-led aquaculture (fish farming) will close the supply.

Agenda 2063 also recognizes the importance for Africa to strengthen its capacity in biotechnology and other new science frontiers (Annex 3). It is planned that, by 2040, 10 % of degrees awarded by universities / polytechniques will be in the bio/health sciences and biotechnology. Agenda 2063 stresses two areas: (i) marine and aquatic biotechnology to produce new products within the priority area '*Marine resources Energy'* and marine biotechnology and seabed natural resources to contribute to GDP at least 4 times the 2013 levels in real terms; and (ii) agricultural biotechnology which is expected to improve agriculture productivity and farm management practices, and produce more drought, water logging, and disease resistant varieties that will help minimize the high costs of agrochemicals, pesticides and water. The 6th national reports recognize Africa's limited use of modern biotechnology in agriculture. They made no reference to marine and aquatic biotechnology. Biosafety[71] is one of the Africa's biodiversity priorities[72].

Value-addition is a critical strategy for Africa in Agenda 2063 which recognizes that **Africa's huge natural potentials are dampened by the contending limitations in exploitative capacity, lack of processing capacity resulting in almost all commodities exported in raw forms**. **The lack of processing capacity has deprived of African countries the forward linkages and employment generation capacity that could have helped accelerate economic growth and transformation**. One of the fast-track projects for the first 10-year implementation plan of Agenda 2063 is the formulation of a commodities strategy and enabling African countries add value, extract higher rents from their commodities, integrate into the Global Value chains, and promote vertical and horizontal diversification anchored in value addition and local content development. Thus, one of the targets under Priority Area 2 of Goal 4 (Transformed Economies and Job Creation) in Agenda 2063 is that by 2023, at least 20% of total output of the extractive industry is through value addition by locally owned firms.

The main reference to consumption in Agenda 2063 is about having in place by 2063 practices and technologies that will ensure efficient use of water resources and the recycling of 10% of domestic wastewater to supplement water for agricultural and industrial use (Annex 5). The question of what and how we consume in Africa is critical particularly in relation to water, energy/fuelwood/charcoal; importations particularly of processed commodities from biodiversity; underconsumption of native food or underutilized/neglected food crops; diet and food security; traditional/natural versus modern/western medicines; etc.

National targets related to ABT 4

Fifty nine percent of the countries in Africa and 77% at the global level have specific targets on sustainable production and consumption (SPC). Among the 31 African countries having SPC targets, 11 have the same targets as ABT 4 and 20 do not contain all the elements of ABT 4. Twenty-seven of the countries that adopted SPC targets kept both issues in the same target as in ABT 4. South Africa had two separate targets on production and consumption. Four countries adopted targets only on sustainable production and not on consumption. Although ABT 4 does not contain clear quantifiable elements, countries such as The Gambia and Madagascar adopted SPC targets with quantitative factors. It is important to note that even if some countries did not have specific targets relating to ABT4, they undertook initiatives for the development and implementation of sustainable production and consumption plans.

[71] In the context of the CBD, biosafety is about the safe transfer, handling and use of living modified organisms that may have adverse effects on the conservation and sustainable use of biological diversity, taking also into account risks to human health and specifically focusing on transboundary movements.

[72] Not clear why it was included in the list of biodiversity priorities. n

Actions taken

National reports describe initiatives undertaken to make production practices in agriculture, forestry, fisheries, energy, tourism, mining and industry in general sustainable and biodiversity friendly. Countries have adopted and started implementing sector-specific plans, policies and regulations for sustainable production and consumption including strategies and plans for sustainable harvesting and use, and for waste management, supported by incentive measures that include green product labelling and certifications. Few examples of these actions include the development and implementation of sustainable production and consumption action plan in Algeria and Egypt, the green economy strategies and implementation plans in Kenya and Uganda, or the strategic plans for the development of sustainable livestock, fisheries and aquaculture in Côte d'Ivoire. Little was said in the 6th national reports regarding production supply chains. The inclusion of provisions for environmental impact assessment in the laws relating to nature conservation, in forest codes and mining codes supports sustainable and biodiversity-friendly productions.

Many countries including for example Egypt, Morocco, Tunisia, Zimbabwe, Namibia, Madagascar, Sao Tome and Principe, Senegal and Togo) expanded areas under organic and biological farming to avoid water pollution, soil fertility loss and loss of biodiversity components, particularly pollinators and fish in aquatic ecosystems. Countries also reported on their plans and initiatives to put in place systems for renewable energy and using energy more efficiently. These initiatives are contributing to ensuring the sustainability of energy production needed in the SPC strategies and to the mitigation objectives under the climate change convention. Some countries drew attention to the high initial costs for launching these projects. Some countries referred to their work on promoting positive incentive to improve support for sustainable consumption and production while phasing out and eliminating negative incentives (also see section on ABT 3). For example, South Africa provided details about how the retrofitting of industries has been successfully incentivised through government subsidies. Various awareness raising activities have accompanied these activities.

Regarding value addition, many countries referred to its importance and described some of their projects and initiatives aimed at adding value to raw biodiversity. These initiatives include value addition agro-business, value additions to natural resources through processing/industrialization/manufacturing, the blue economy arising out of fisheries, eco-friendly coastal tourism, and development of marine biotechnology products. Not only the importance was felt for the conservation and sustainable use of biodiversity but also for national economies, the population wellbeing in particular local communities. Success stories were described for example for Teff (*Eragrostis tef*), coffee, Durum wheat, Enset (*Ensete ventricosum*), meat and milk in Ethiopia, for the production of iron-biofortified beans, and vitamin A-biofortified maize and cassava to fight some form of malnutrition in DR Congo, and for olive oil and by-products in Morocco. Value addition is written in Kenya's Constitution and integrated in various subregional strategies. Some countries highlighted their production of cash crops and other products traded internationally, including for example sugar, coffee, tea, cocoa, honey, spices etc.

Biotechnology, one of the technologies addressed in the CBD, can impact the production of food and many other commodities, and influence their consumption. Although biotechnology has the potential to improve productivity, especially in the agricultural sector, and thus improve rural livelihoods, food security, and contribute to poverty reduction, the use of biotechnology is not yet widespread in Africa. As reported by Uganda, only Burkina Faso, Sudan and South Africa have genetically modified commercialized crops, while Nigeria, Malawi and Kenya received recently environmental release approvals. The Strategic Plan for Biodiversity 2011-2020 did not have a specific target addressing the benefits or adverse impact of this technology. However, four African countries (Malawi, Rwanda, Sierra Leone and Uganda) adopted targets on biotechnology in their post 2010 NBSAP. Biosafety which is one of the Africa's biodiversity

priorities[73], is in the context of the CBD, about the safe transfer, handling and use of living modified organisms that may have adverse effects on the conservation and sustainable use of biological diversity, taking also into account risks to human health and specifically focusing on transboundary movements.

Availability of water and electricity, incentive measures (see section on ABT 3), supporting policies and legislations, cooperation among sectors and with local communities, and availability of data on status and trends of biological resources and biodiversity in general have been noted among the general factors favourable to SCP. Additional supporting elements are the establishment of national cleaner production technology centers, the Partnership for Action on Green Economy (PAGE)[74], scientific research relating to the valorization of biodiversity and its services which is on the rise and linked to the Access and Benefit Sharing (ABS) legislations, Public Private Partnerships, and the African Continental Free Trade Area (AfCFTA) Agreement which offers new opportunities for developing value chains that have regional scope and support large-scale productions.

The consumption part of the SPC targets was articulated around food (avoid wastes and take advantage of neglected foods; efficiency in use), water (basically, avoid excessive use and pollution of water, efficiency in use), and energy (avoid excessive use of energy and the use of sources that promote deforestation and greenhouse gas emission, and promote renewable energy and efficiency) consumption with supporting mechanisms in the form of awareness-raising, policies and sometimes incentives. Africa's consumption is growing, in line with human population increases, and this is putting increasing pressure on its ecosystems. It is believed that Africa will soon show a bio-capacity deficit with consumption footprints greater than Africa's capacity to handle waste and ecosystem capacity to provide goods and services. National statistics in Seychelles for example indicate that the per capita consumption of water and electricity is much higher in the tourism sector than the domestic population. Likewise, the physical footprint of the tourism industry continues to expand with direct impacts upon natural habitats and national dynamics of production and consumption. Consumption patterns are also changing with urbanisation promoting more use of processed foods.

In their 6th national reports, countries listed many biodiversity components they use as food or medicine; they described the sources of water and energy they use and how they consume the available water and biomass-based energy. They also considered the impact on biodiversity of consumption in other sectors.

Regarding biodiversity used as food, national reports provided, in addition to the commercial food crops and sources of meat, information on the importance of traditional food, in particular the so-called neglected and underutilized crops, in human diet and for animal feed. Traditional food crops and animal breeds are usually better adapted to local climatic and edaphic conditions; they are usually nutritionally richer and better accepted by local populations. They may even have some medicinal properties. Countries described their ongoing actions to conserve them both in situ and ex situ and thus reduce their endangered status. In Zimbabwe, DR Congo and Rwanda for example, national banks have been established to conserve the neglected food crops while individuals maintain their seeds in granaries and exchange them among the community. Often, countries partner with international organizations such as the International Institute of Tropical Agriculture (IITA), the International Maize and Wheat Improvement Centre (CIMMYT) and the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) that are better equipped for long-term germplasm conservation. Promotion of the cultivation and

[73] Not clear why it was included in the list of biodiversity priorities. There is a need for those who participated in the meetings to explain

[74] As of 24 September 2021, 6 out the 20 partners in PAGE are from Africa (Senegal, Burkina Faso, Ghana, Mauritius, South Africa, Morocco) and 13 more African countries (Algeria, Cape Verde, Comoros, Cote d'Ivoire, Egypt, Madagascar, Niger, Seychelles, Tunisia, Ethiopia, Kenya, Mozambique, Uganda) requested PAGE support. Apart from South Africa, none of these countries mentioned PAGE in the 6th national reports

consumption of neglected and underutilized crops included the encouragement of research on their special attributes, including their nutritional and economic value as well as their agronomic characteristics (including adaptation to climate change), in collaboration with local communities. Awareness raising programmes contributed to facilitating the adoption and support of the neglected and underutilized biodiversity, and also to opening up markets at the local and international levels.

National reports also described non-timber forest products (NTFP) such as bushmeat, caterpillars or Gnetum (*Gnetum africanum*) that are widely consumed in Africa. These NTFP are important sources of protein and can be a delicacy with high market value. In recent years, a word of caution has been sounded about the risk of zoonosis from some bushmeat consumption.

Millions of people in West, Central and Eastern Africa depend on low-iron, zinc and vitamin A diets, which results in poor health and stunted growth particularly among children. Maize varieties and hybrids with high levels of vitamin A have been bred to improve the maize-based diets of millions of children, pregnant women and nursing mothers through the international project "Biofortification of tropical maize to fight against micronutrient malnutrition". Other biofortification projects were also reported: (i) cassava biofortified in vitamin A and bean biofortified in iron in DR Congo where 'about 60% of Congolese children under 5 years have vitamin A deficiency and / or iron deficiency resulting in an annual loss of $ 100 million in GDP, with the target to have these improved varieties cultivated by more than 1.2 million Congolese families in 2018; (ii) Banana21 project that commenced in 2005 to alleviate micronutrient deficiencies in Uganda and surrounding countries through edible bananas with significantly increased levels of pro-vitamin A and iron. Liberia has plans to use foods fortified with micronutrients.

National reports did not cover the consumption of processed food, but they referred to food wastes. Food loss is important in Africa mainly because conservation facilities and methods are limited or not very effective e.g., drying, salting or smoking while techniques requiring electricity are in limited use. FAO cited by Angola[75] reported in 2019 that 37% (or 120-170 kg / year per capita) of food is lost annually in the sub-Saharan African region. Food losses and food waste occur along the entire agricultural value chain.

More than 20 African countries including Rwanda, Niger, Kenya, Cabo Verde, Burundi and Burkina Faso have passed laws prohibiting the import, manufacture, marketing and use of plastic bags and/or containers for food. Appropriate enforcement remains a challenge. In Kenya, before this ban came into effect in 2017, the country was producing around 4000 tons of plastic monthly with 100 million bags being offered by supermarkets alone. Plastic wastes have devastating impacts on the local wildlife. In addition, the accumulation of plastic bags in areas of severe littering and dumping created several micro-habitats for the breeding of mosquitoes, therefore increasing the spread of malaria. Some initiatives have been turning plastic waste into retail opportunities such as school bags.

In general, details about keeping the impacts of natural resource use well within safe ecological limits were not given in the 6th national reports. In Africa, half of the countries that adopted a SPC target did not keep the reference to safe ecological limits. The concept is scientifically sound but not easy to assess on the ground until the limits have been significantly crossed. In its 6th national report, Zimbabwe called for an improvement in the knowledge about ecological limits of use to be able to design adequate management practices that will reduce dangerous pressure on biodiversity. **Assessment of the safe ecological limits when biological resources and ecosystem services are being used or under other types of pressure is critical. Without that knowledge, the threshold or tipping point of the negative impact of production and consumption on biological resources cannot be determined, and the sustainability of**

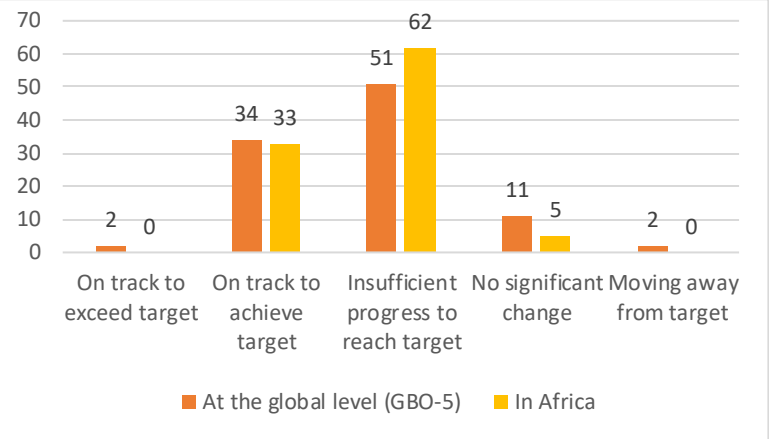
[75] FAO (2019) The State of Food and Agriculture 2019. Moving forward on food loss and waste reduction. Rome: FAO cited in https://sustainabledevelopment.un.org/content/documents/286012021_VNR_Report_Angola.pdf

production and consumption will only be guessed without scientific data. It is therefore urgent and critical for scientific research to provide information on safe ecological limits.

Overall progress

Thirty three percent of countries in Africa reported that they were on track to achieve their ABT 4-related targets (Figure 7). This progress is similar at the global level where 36% of countries reported they were on track to achieve (34%) and exceed (2%) their ABT 4 -related targets. Overall, most countries (around 65%) in Africa or at the global level made insufficient or no progress and 2% at the global level were moving away from the target.

Figure 7: Level of progress towards national targets relating to sustainable production and consumption at the regional and global levels (in percent of number of countries that provided an assessment of progress toward their respective national targets relating to ABT 4)



Challenges

The challenges to SPC reported by many countries include lack of funding; limited involvement of non-environmental ministries and representatives of economic sectors that use or impact biodiversity, limited human capacities to upscale sustainable production and consumption activities, and lack of baseline information to determine safe ecological limits. Examples of conflicts of interest were reported e.g., in cases where considerable revenues were being generated from unsustainable private sector activities. Some countries indicated that they used environmental impact assessment (EIA) and strategic environmental assessment (SEA) to ensure that all economic sectors in the countries were using biodiversity-friendly practices throughout their chains of production. However, none of these countries reported whether they used the CBD voluntary guidelines on biodiversity-inclusive environmental impact assessment and strategic environmental assessment[76] adopted by the Conference of the Parties at its 8th meeting in 2006. There is a need to raise awareness of these guidelines. Incentive measures including ecolabelling (e.g., the Seychelles Sustainable Tourism Label (SSTL), a sustainability certification for medium and large tourism establishments introduced in 2012) will encourage the adoption of sustainable ways and means of production and consumption.

[76] https://www.cbd.int/decision/cop/?id=11042

NATIONAL TARGETS RELATED TO ABT 5

Aichi Biodiversity Target 5:
By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced

Priority status for biodiversity in Africa

Africa has dry and humid forests, mountain habitats, savannas and grasslands, deserts, peatlands, inland waters, seas/oceans and mangroves[77]. All these natural areas are undergoing degradation and/or fragmentation, and the size of some of them is decreasing over time. The target was adopted to reduce the decline and loss so that these habitats can continue to provide their services.

Of all these natural ecosystems, only marine and coastal areas are mentioned among the Africa's biodiversity priorities (Annex 1). In addition, under Priority Area 1 (Biodiversity, conservation and sustainable natural resource management) of its Goal 7, Agenda 2063 endorsed the need to establish protected areas with no reference to the reduction of habitat degradation and fragmentation (Annex 4). Agenda 2063 refers to reduced deforestation only in the context of reduced greenhouse gas emission. Deserts are referred to in general terms of addressing desertification, land degradation, soil erosion, and drought among the environmental threats without any specific target. Savannas or grasslands, mangroves and peatlands, mountain areas are not mentioned in Agenda 2063.

National targets related to ABT 5

Eighty three percent of African countries adopted national targets related to ABT 5. A few of these contained the same elements as ABT 5 i.e., (i) halving the rate of the loss of natural habitats, (ii) reducing this loss to zero where possible, and (iii) reducing significantly the degradation and fragmentation of natural habitats. Most countries did not specify the natural ecosystems they considered, making the targets not very specific. When the natural habitats were specified, they included forests, mangroves, savannas/grasslands, wetlands, water resources catchments, mountains, marine areas, and coastal areas. The targeted levels of reduction of loss of natural habitats varied from one country to another. Most countries adopted a 50% reduction similar to ABT 5. Some quantitative factors were higher or lower. **The baseline for the determination of the reduction percentage was usually not specified**. Some targets lacked quantitative elements. Fifteen countries dropped the term 'natural' from their targets making their scope very wide. End years of targets ranged between 2015 and 2030. Some countries such as Ethiopia and South Sudan improved the statement of their targets by specifying the natural habitats and providing the reference years. Cameroon and Eritrea developed targets specific for selected biomes, in addition to ABT-related targets. Such targets set for specific elements of the biomes e.g., grazers or bushfires communicate better. **Differences in scope and specificities of national targets make compilation of data at the Continental or subregional level and comparisons among countries difficult, if not illusory.**

Actions taken

GBO-5 concluded that deforestation was declining between 2010 and 2020. To corroborate this conclusion, GBO-5 presented the 2018-2019 trends of forest cover published by Global Forest Watch[78] for

[77] Based on the IPBES units of analysis accessible at https://ipbes.net/glossary/units-analysis

[78] Global Forest Watch (2020). https://blog.globalforestwatch.org/data-and-research/ global-tree-cover-loss-data-2019)

Cote d'Ivoire and Ghana. The global conclusion was not representative of Africa and the reported trends in Ghana and Cote d'Ivoire were transient because in 2020, deforestation levels increased, and the 2019 data were not representative of the trends between 2010 and 2020[79]. The deforestation messages for Africa read in the GBO-5 Figure 5.1 are that (i) between 2010 and 2020, deforestation was around 4 million ha/year, larger than in the rest of the world, (ii) reforestation was in the range of 1 million ha/year between 2000 and 2010 and decline to an average in the range of 0.5 million ha/year between 2010 and 2020, and (iii) Africa's net deforestation was around 3.7 million ha/year between 2000 and 2010, and slightly higher around 3.85 million ha/year between 2010 and 2020.

All the measures taken were compiled into the following steps (NB: No country applied all the steps): (i) identification of natural habitats to be considered, with some explanations; (ii) description of the status of each selected habitat and possibly its trend in terms of coverage, fragmentation and degradation; (iii) identify and quantification of the level of each pressure and, if possible, prioritization of the pressures; (iv) survey of the measures already taken and their effectiveness, and identification of new ones as needed; (v) application of the measures and/or their strengthening as needed; (vi) monitoring and reporting on the processes and impact of measures in terms of reduction in loss, fragmentation and degradation of the selected natural habitats. A final step that was not included but that will be useful for policy and decision makers is the assessment of the socioeconomic consequences of successes and failures.

The ways and means used to reduce the loss, degradation and fragmentation of natural habitats reported in the 6th national reports included actions and initiatives such as the expansion of protected area networks with development of management plans, the development and enforcement of legislations relating to the conservation of biodiversity; integrated land use planning; institutionalization of the payment for ecosystem services (PES), including by raising awareness of forest fringe communities and empowering them to apply for PES; establishment of the community resource management area (CREMA); tree plantation programmes including by the involvement of communities in biodiversity conservation; establishment of marine protected areas, protection of important wetlands with approved management plans; effective management of biosphere reserves and other biodiversity hotspots, and establishment of biological corridors to link national parks and enhance their effectiveness. These actions are usually being carried out as part of the implementation of many other targets (see Box 2 in the case of Eritrea).

No countries presented data describing quantitatively the level of reduction in the loss, fragmentation and degradation of natural habitats. Countries described or just listed the many ongoing or planned projects that could hopefully reduce the loss, fragmentation and degradation of natural habitats. Some countries identified lack of baseline information and very recent data as an explanation. In addition, it is not sure whether information and maps from providers like UN Biodiversity Lab[80] were used efficiently. **UN Biodiversity Lab maps were usually not commented and fully integrated in the discussions of countries' achievements. This raises doubt that they were understood and owned by the countries as intended**. Only in the case of forests, some countries presented information on the trend obtained from the FAO Forests Resources Assessments.

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[79] In fact, Global Forests Watch was quoted stating that "in Ghana and Côte d'Ivoire that the loss of forest areas has accelerated the most in recent years, with the rate of destruction of primary forests increasing by 60% and 26% respectively in these two West African countries, as a direct consequence of «illegal mining» and «the expansion of cocoa farming»"(https://ressources-magazine.com/news/deforestation-africa-is-doing-badly-according-to-fao/#:~:text=Between%202010%20and%202020%2C%20the,authors%20of%20the%20study%20note.)

[80] https://unbiodiversitylab.org/

Box 2: Eritrea's ecosystem specific targets[81] illustrating the types of actions countries took to achieve their respective targets equivalent to ABT 5 on "Halving and significantly reducing the rate of loss of natural habitats, and reducing their degradation and fragmentation"

Examples of actions/national targets to reduce deforestation: control wood harvesting

- Eritrea National Target 1. Developed integrated action frameworks on the control of excessive firewood collection and construction wood that impact biodiversity resources, in a manner that enhances sustainable use of natural resources.
- Eritrea National Target-2. By 2020 the use of alternative energy should be increased and pressure on forests significantly reduced.

Examples of actions/national targets to reduce loss of savanna/grasslands: control of grazers

- Eritrea National Target 3: By 2020, at least 25% of grazer populations have developed the capacity to reduce overgrazing/over browsing

Examples of actions/national targets to reduce degradation: ecosystem restoration/rehabilitation

- Eritrea National Target 5: By 2020 at least 25% of catchment sites and degraded lands of high biodiversity hotspots are rehabilitated within the terrestrial ecosystem.
- Eritrea National Target 7. By 2020 mangrove forest and associated coastal forest degradation and loss would have been significantly reduced.

Examples of actions/national targets to reduce degradation of marine and coastal areas: control pollution

- Target 8. By 2020, all sources of coastal, marine and island pollution should be effectively controlled to reduce pollution and mitigate its impact on the ecosystem
- Target 9. By 2020, Coastal erosion should be greatly reduced and eroded coastal beaches rehabilitated.

Example of actions/national targets to address degradation of coral reefs: Regular monitoring

- Target 10. By 2020, all coral reefs in the Eritrean Red Sea are identified to a species level and status of natural and human induced degradations regularly monitored.

Examples of actions to reduce degradation of marine and coastal areas: control and monitor invasive alien species

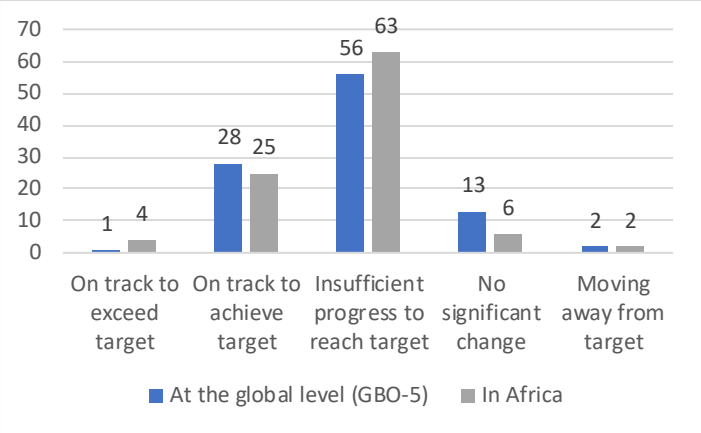
- Target 11. By 2020, Invasive Alien Species in the Coastal, Marine and Islands (CMI) are controlled and monitored

Overall progress

From countries' self-evaluation of progress (Figure 8), Africa's performance is relatively the same as the global average with 29% of countries being on track to exceed or achieve their ABT 5 related national targets.

[81] From Eritrea's 6th national report: "Eritrea has adopted national biodiversity targets in line with the strategic plan for biodiversity 2011-2020 and the Aichi Targets. A total of eighteen targets grouped into three ecosystems were set in the revised NBSAP which was adopted in 2015. Targets 1 to 6 are related to the terrestrial ecosystem, target 7 to 12 to marine ecosystem, and targets 11 to 18 to agricultural ecosystem."

Figure 8: Level of progress towards national targets relating halving habitat loss and reducing habitat degradation at the regional and global levels (in percent of number of countries that provided an assessment of progress toward their respective national targets relating to ABT 5)



NATIONAL TARGETS RELATED TO ABT 6

Aichi Biodiversity Target 6:
By 2020 all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem-based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits

Priority status for biodiversity in Africa

The legality and sustainability in the management and harvesting of fish, invertebrates or aquatic plants, application of ecosystem-based approaches, avoidance of overfishing, development of recovery plans and other measures for all depleted species, environmentally friendly fishery (having no adverse impact on threatened species and vulnerable ecosystems and taking place within safe ecological limits) are not mentioned on the list of the 11 Africa's biodiversity priorities (Annex 1). However, these points are important for sustainable development and poverty reduction. The fishery sector is important to food security, and it is essential to the livelihoods of many people in Africa, including through industrial processing, in line with the AfDB High Five.

Agenda 2063 recognizes that fishing is one of the activities for the blue economy and that investing in fishery business across all value chains is an area requiring scale up financing in first ten years of Agenda 2063 (Annex 3). Thus, within Aspiration 1 (A Prosperous Africa, based on Inclusive Growth and Sustainable Development), Goal 6 (Blue/ ocean economy for accelerated economic growth), Priority Area (1) (Marine resources and energy), one of the targets is that "at least 50% increase in value addition in the fishery sector in real term is attained by 2023" (Annex 3). Agenda 2063 recommends, among others, the following indicative strategy for achieving this and other relevant targets: to "put in place policies and programmes to avoid the over exploitation and plundering of fishing beds including advocacy and compensation measures against illegal fishing revenue losses" (Annex 3). Africa adopted other strategies and plans that support the intent of ABT 6 and Agenda 2063. One such strategy is the "Africa's Integrated Maritime Strategy 2050" which includes a common fisheries policy for the conservation, management and exploitation of fish stocks in accordance with the ecosystems and precautionary approach for the whole Combined Exclusive Maritime Zone of Africa.

National targets related to ABT 6

ABT 6 comprises the following components: (i) all stocks of fish and invertebrate and aquatic plants are managed (including harvesting) sustainably, legally and applying ecosystem-based approaches. One of the indicators of success is avoidance of overfishing; (ii) recovery plans and measures are in place for all depleted species; (iii) the impacts of fisheries are within safe ecological limits; and (iv) fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems. All these components make this target very complex and difficult to translate into national targets.

In Africa, 70% of countries adopted national targets related to ABT 6 against 63% at the global level. 26% of African countries had the same target as ABT 6 or slightly different; 44 % had target of lower ambition and 30% did not have targets equivalent to ABT 6. Almost all the countries that had targets of lower ambition included at least sustainable management, sustainable harvesting or sustainable fishing. End years of the targets ranged between 2016 (Burundi) and 2027 (Egypt).

Actions taken

Actions taken by countries and reported in their national reports are diverse and should be looked at in a national or subregional context because they relate not only to fisheries but can be relevant to other economic activities. They usually include enacting and enforcement of legislations, policy and management measures. Ecosystem approach has been applied to fisheries generally through the FAO Ecosystem Approach to Fisheries. As stated in some national reports, the ecosystem approach is the best way to implement sustainable development for the fisheries sector. Some countries assess their inland water and marine fish/invertebrate stocks; they estimate the maximum sustainable yields, and calculate total allowable catch (TAC) using stock specific monitoring data supported by information systems and databases including reports on illegal or unregulated activities and the status of threatened species. Levels of quotas are thus determined. Regarding threatened fish species, some countries map them. Plans to recover them include protected areas, fishing bans for a given period of time, or reproduction in aquaculture and reintroduction in their original habitats (e.g., in Lake Victoria).

Some countries expanded their Marine Spatial Planning capacities for a successful blue economy. They have thus tried to improve their monitoring, control and surveillance systems while considering the whole value chains for products from aquatic ecosystems paying particular attention to income generation for local communities involved in the conservation programmes. Various laws exist in many countries that regulate the use of aquatic biodiversity and the equipment used (e.g., the type of gears, mesh, trawl nets) as well as the seasons and quotas for fishing. New regulations have been adopted to fill gaps in particular to prevent overfishing in inland waters. Moratorium and bans have been issued to halt excessive harvest of threatened components. Information on the ecological and socioeconomic impact of the measures taken need to be collected and compiled.

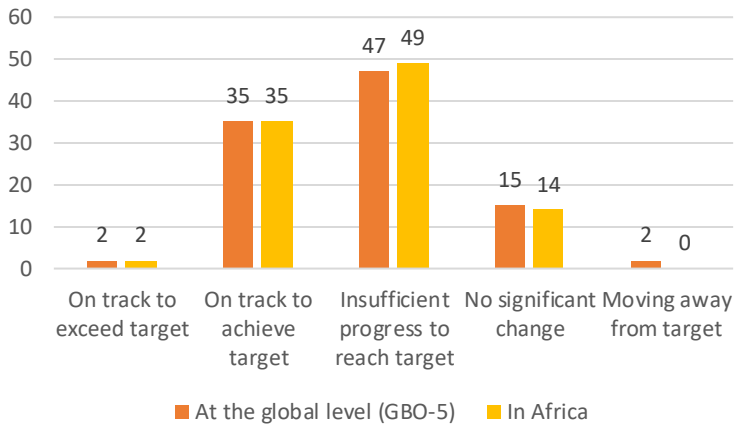
Work has been carried at the national level or through some pilot projects supported by funding agencies or at the subregional level, for example as part of network or subregional agreement such as the Abidjan Convention and other Regional Seas programmes. Areas requiring protection have been identified as ecologically and biologically significant areas or for designation as marine protected areas. Networks have been strengthened such as the Regional Partnership for the Conservation of the Coastal and Marine Zone (Partenariat Régional pour la Conservation de la zone côtière et Marine - PRCM) and the marine protected area network for West Africa (Réseau régional d'Aires Marines Protégées en Afrique de l'Ouest - RAMPAO) to synergize activities and reduce gaps in expertise in the field of integrated coastal and marine zone management. Supporting mechanisms have been put in place for training to share knowledge and strengthen skills (e.g., for law enforcement), mobilizing funds, certifying product (e.g., certified by the international eco-label the Marine Stewardship Council (MSC)) to recognize and reward sustainable

fishing practices, estimating maximum sustainable yields, and influencing the choices people make when buying seafood.

Overall progress

Of the African countries that assessed progress towards their national targets related to ABT 6, 2 % reported being on track to exceed the target by 2020; 35% were on track to achieve the national targets; 49% recorded a slow progress and 14% made no progress (Figure 9). At the global level (GBO-5), of the Parties which have assessed progress towards their national targets, more than a third reported that they were on track to be reached (35%) or exceeded (2%); 47% made insufficient progress; 15% reported no progress and 2% reported they were moving away from the target. Progress of Africa in implementing ABT6 was equivalent to the global performance. Overall, the majority of the countries (63%) at both the national and global levels considered that they made no or insufficient progress, and 2% at the global level were moving away from their targets.

Figure 9: Level of progress towards national targets relating to sustainable management of aquatic living resources at the regional and global levels (in percent of number of countries that provided an assessment of progress toward their respective national targets relating to ABT 6)



NATIONAL TARGETS RELATED TO ABT 7

Aichi Biodiversity Target 7:
By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity

Priority status for biodiversity in Africa

Sustainable agriculture, aquaculture, forestry and Africa's biodiversity priorities

'Sustainability in agricultural, aquacultural and forestry production systems' are not among the Africa's biodiversity priorities (Annex 1). However, agricultural productivity and sustainability, production of fish in aquaculture, wood fuel as source of energy and non-timber forest products are at the heart of the food, health and energy security enshrined in the AfDB High Five. In Agenda 2063, sustainable agriculture is addressed in Priority Area 1 on Health and Nutrition under Goal 3 (Healthy and well-

***Africa wants to radically transform its agriculture to enable the continent to** feed itself **and be a major player as a net food exporter** (under Aspiration 1 in Agenda 2063)*

nourished citizens) of Agenda 2063, and in Priority Area 1 on Agricultural Production and Productivity under Goal 5 (Modern agriculture and Blue Economy for increased Production and Productivity) (Annex 2). Africa wants to radically transform its agriculture to enable the continent to feed itself and be a major player as a net food exporter. The primary focus of agriculture in Agenda 2063 is about sustainable production to feed Africa and contribute to Africa's economies. Examples of 2023 targets related to sustainable agriculture are: (i) allocate a minimum of 10% annual public expenditure to agriculture and grow the sector by at least 6% per annum; (ii) double agricultural total factor productivity; (iii) increase youth and women participation in integrated agricultural value chains by at least 30%; (iv) reduce post-harvest losses by 50%; and (v) increase the proportion of farm, pastoral and fisher households resilient to climate and weather related risks to 30%.

Africa's contribution to world aquaculture production is less than 3%, with most of the production (99%) from inland freshwaters. Freshwater aquaculture and mariculture have a unique growth potential in Africa where the population, which is growing at a rate faster than any other continent, is expected to exceed 2 billion by 2050 from 1.1 billion today. The sector employs about 6.2 million people in Africa, essentially women in large-scale commercial farms. Agenda 2063 made only few references to aquaculture. In Priority Area 1 on Marine resources and Energy under Goal 6 (Blue/ ocean economy for accelerated economic growth) (Annex 3), one of 2023 targets is to "build at least one giant aquaculture showpiece" and one of the recommended strategies for achieving this and the other targets under this priority area is for African Island States to provide policies/incentives and positive regulatory environment for the creation of new businesses with platforms based on aquaculture development, among others.

Africa's forests (22% of the continent) are faced with many challenges that limit their capacity to deliver their multiple services. In the past decade, Africa had the highest rate of deforestation and net forest loss. Under Goal 7 (Environmentally sustainable climate resilient economies and communities) Priority Area 1 on Biodiversity, conservation and sustainable natural resource management (Annex 4), and Priority Area 3 on climate Resilience and Natural Disasters and preparedness (Annex 6), Agenda 2063 recommends to build capacity for forest protection, and develop policies and regulatory frameworks that promote re-afforestation and sustainable forest management, among other strategies, with a 2023 target of reducing to 2013 levels emissions arising from agriculture biodiversity loss, land use, and deforestation. Recently, the continent adopted the "Sustainable Forest Management Framework for Africa"[82] to assist AU member states and Regional Economic Communities (RECs) to sustainably manage and develop their forest sectors for socio-economic development and environmental protection.

National targets and SDG targets related to ABT 7

Eighty-one percent of countries had national targets equivalent to ABT 7. In Africa, only 64% adopted such targets. Among them, 15 countries had exactly the same target as ABT 7. The other 19 targets did not contain all the elements of ABT 7 or were different. For example, Eritrea did not include aquaculture while Sierra Leone had only agriculture; Djibouti's target 1.4 was about developing an economical and productive oasis-type agriculture (target 1.4). End-years varied between 2017 (Togo) and 2030 (Comoros and Somalia). The remaining 19 countries (36%) that did not have a target on sustainable agriculture, aquaculture and forestry reported on their work in the sectors of agriculture, aquaculture and forestry

[82] https://pfbc-cbfp.org/news-partner/SFM-Convergence-Plan.html?file=files/docs/news/6-2020/SFM_Framework_EN_lowres_02.pdf

and about their initiatives to make the sectors sustainable. Many other national targets as well as SDG targets 2.4[83], 14.7[84] and 15.2[85] are relevant to the national targets related to ABT 7.

Actions taken to achieve national targets related to ABT 7 and contribution to ABT 7

Sustainable agriculture

Sustainable agriculture is a concept that is considered necessary for the provision of sufficient food to stop hunger, bring people out of poverty and contribute to their wellbeing while the farming methods used maintain soil fertility and productivity and avoid reliance on levels of chemical inputs that are environmentally unfriendly. Agricultural practices to be used as well as measures to be taken to make agriculture sustainable require multidisciplinary approaches integrating environmental, social and economic dimensions. They have to be considered in a holistic manner over a long period of time. Thus, **assessment of agricultural sustainability on the ground is challenging and implies long-term monitoring and investments. This raises concern about having sustainable agriculture, a long-term goal, as a target on a short period of time. Some building blocks of sustainable agriculture could be singled out and considered for short-term targets.**

In general, countries described the measures taken in an integrated manner for example in the form of conservation agriculture, organic agriculture/farming, climate smart/resilient agriculture, agroforestry, integrated pest management, sustainable soil management etc. In addition, countries described the mechanisms put in place to support sustainable agriculture including at the policy and institutional levels as well as research and capacity building.

Conservation agriculture

From the 6th national reports, conservation agriculture can be described as a set of management practices articulated around maintenance of soil fertility and permanent soil cover using cover crops or crop residues; minimum mechanical soil disturbance e.g., using no- or reduced tillage; crop diversity, rotation and associations and crop productivity. These practices help ensure that farming practices are sustainable in the long term and minimize detrimental effects to the landscape level processes and ecosystem services. They maintain the lands production capacity while preventing and combating soil erosion and protecting water resources and combating weeds and alien plant species. They maintain the above and belowground biodiversity and associated biological processes and ecosystem services such as organic matter and nutrient cycling, weed control, and soil and water conservation. They are less labor intensive. Conservation agriculture has been reported in many countries in all Africa's subregions with examples of (i) success in terms of number of people adopting the practices and only qualitative descriptions of the impact on crop yields and soil properties and (ii) doubt where adoption has been slow and incomplete. In order to support conservation agriculture, countries used different strategies including training sessions, distribution of appropriate tools, adoption of policies and incentives. However, **data collected at larger scales are needed to describe more convincingly the ecological and socioeconomic benefits from conservation agriculture at a time when a lot of attention needs to be devoted to producing sufficient food in Africa and fighting hunger.**

Three countries (Cabo Verde, Ghana and Niger), members of the International Partnership on Satoyama Initiative (IPSI) mentioned their current work in the context of the initiative which brings together local knowledge and practices for living in harmony with nature and promotes socio-ecological production

[83] SDG Target 2.4 - By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems

[84] Target 14.7 - By 2030, increase the economic benefits from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism

[85] Target 15.2 - By 2020, promote the implementation of sustainable management of all types of forests

landscapes and seascapes. A dozen of African countries are IPSI members. Most of them did not report on their IPSI activities in their respective 6th national reports.

Rangeland management

The capacity of rangelands to sustainably supply markets and satisfy the growing demand of beef and sheep is under a lot of pressure, while livestock production has been reported to contribute significantly to land degradation and greenhouse gas emissions. Countries adopted plans and policies to guide, train and incentivise towards sustainable rangeland management.

Organic agriculture and chemical inputs

Many countries have increased the use of organic farming (see section on ABT 4 on sustainable production). Convincing results from reliable studies need to be gathered. Organic farming systems generally produce lower yields compared with conventional agriculture. However, they are said to be more profitable and environmentally friendly. They are also believed to deliver more nutritious and healthy foods.

Climate smart/resilient agriculture

Climate smart agriculture is being widely promoted in Africa as a way to continue increasing agricultural production and productivity in the face of climate change. Through climate smart agriculture, farming systems are adapted to climate change and variability, their resilience and their ability to reduce greenhouse gas emissions and thus contribute to climate change mitigation are increased. Countries reported much on strategies, plans, guides, training and demonstrations to promote climate smart agriculture. Few references were made to bodies, such as extension services and data management systems, established to support climate smart agriculture and to selection and breeding programmes for crop varieties better adapted to the impact of climate change, different rainfall patterns, high temperatures, floods, drought and other pressures exacerbated by climate change such as pests, diseases and fire.

Eswatini, among others, recalled that climate smart agriculture technology promotes principles and practices of sustainable land management such as conservation agriculture and rangeland management. Among the few positive results reported, Zambia noted that the rise in the use of climate smart agriculture and conservation agriculture resulted in a reduction in land clearing for agriculture and the regeneration of vegetation and agrobiodiversity in the country. Results on the impact of climate smart agriculture are needed, not only at the project level but larger scales.

Agroforestry, soil management and soil quality improvement

Agroforestry/farm forestry and adoption of practices that encourage inclusion of trees, including fruit trees, and discourage the cutting of trees in farming systems were being widely promoted. Agroforestry is part of conservation agriculture and climate smart agriculture. Rwanda's report is a good illustration. In Rwanda, the system/practice has been promoted widely to control soil erosion, enrich soil, provide fodder for livestock, promote biodiversity, and reduce peoples' reliance on natural forests for biomass energy. Current successes of the Sustainable Land Management Programme include planting of 320,000 trees in all the catchments. Rwanda is also implementing an IFAD (International Fund for Agricultural Development) Pilot Projects to address soil fertility constraints, protect watersheds, improve livestock, and increase rice production. The practices used under this program include: the sustainable and productive land management; hedge cropping for soil conservation; planting of grass and shrubs for anti-erosive purposes; agroforestry on steep slopes and terraces; integration of improved animal husbandry practices into the agricultural production system; and development of marshlands for rice cultivation. Measures targeting soil quality improvements included the growing of nitrogen-fixing fodder and green manure crops such as peas for enriching soil organic matter; and the use of water biomass or biochar (charcoal as soil amendment especially for acidic soils) as fertilizers/ soil improvers. The "one cow per

family" is an interesting strategy that improved soils through the application of manure and socioeconomic wellbeing of the citizens. This program has also contributed towards controlling overgrazing and land degradation. Rwanda's landscape restoration measures with tree planting have helped protect 3000 ha of farmland against erosion (see ABT 14 and 15 for ecosystem restoration). Rwanda collaborates with international organizations such as the World Agroforestry Center.

Water management including wastewater management

Countries devised strategies and plans for managing water to be used in agriculture including rainwater, floodwater, groundwater, from rivers and treated wastewater. Egypt recalled that the country was one of the first countries that focused on treatment of wastewater to augment water resources to be used for various purposes, including agriculture and combating desertification.

Breeding programmes, intercropping, agricultural diversification and farming systems

Plant and animal selection and breeding programmes are part of measures for sustainable agriculture. There were also mentions of bee selection for honey production, for example in Mauritius in collaboration with the International Centre for Insect Physiology and Ecology (ICIPE). Countries maintain genebanks and use the germplasm for breeding for higher yield, better quality, disease and pest resistance, and adaptation to environmental conditions (e.g., Egypt). In many countries, these programs operate mainly thanks to the support of international organizations such as the International Institute of Tropical Agriculture (IITA) which have the human, financial and technological resources that are often limited or lacking in national institutions. Selected / improved seeds occupy an important place in the country's strategies for developing the agricultural sector. The programmes are usually carried out with the involvement of local communities who, in the end, will be the users of the products from the selection and breeding programmes. Certified seeds are distributed or sold to farmers. A few countries reported on their animal breeding programmes.

Enabling mechanisms and Supporting activities

Countries put in place various mechanisms and tools to support their work on sustainable agriculture including research institutes and research programmes centred on sustainable practices in agriculture (e.g., the Tanzania Agricultural Research Institute); policies (e.g., Eswatini's National Agricultural Research Policy); plans and frameworks (e.g., Morocco's Green Morocco Plan, which is about protecting biological resources against overexploitation in both terrestrial and marine areas, paying attention to the socioeconomic potential of these resources for future generations); national institutions (e.g., Morocco's National Agency for the Development of Oasis and Argan Zones (ANDZOA)); Mozambique's Sustenta project, which aims to contribute to the improvement of rural households' livelihoods and the sustainability of natural resources; partnerships (e.g., South Africa's Partnerships between communities/landowners and Department of Agriculture, Forestry and Fisheries (LandCare) or NGOs such as WWF)); certification and other incentive schemes including payment for ecosystem services, and reforms to eliminate harmful incentives e.g., subsidies on nitrogen fertilizers in countries like Egypt (see section on ABT 3), guidelines (e.g., SANBI's Grazing and Burning Guidelines or Grassland Ecosystems Guidelines); and funds such as Mozambique's BIOFUND. Liberia recalled the 2003 Comprehensive African Agricultural Development Program (CAADP), the continent-wide framework for agricultural growth, rural development and food and nutrition security in Africa. It four main pillars apply to sustainable agriculture.

Sustainable aquaculture

What is sustainable aquaculture

Aquaculture is described in GBO-5 as a diversity of traditional and non-traditional methods for the production of a broad variety of aquatic plants, seaweeds, algae, mollusks, crustaceans and echinoderms, as well as finfish. It takes place in inland, coastal and marine environments. Much inland-water aquaculture, constituting approximately two-thirds of the total world production, is considered

sustainable. Potential sustainability issues include habitat destruction during the construction of ponds or dams for aquaculture, source and quantity of feeds, source of water used (competition for potable water; or when water used is polluted), diseases leading to excessive loss of stocks and methods for disease control (e.g., use of antibiotics with residues that can be found in fish from aquaculture); the degree of integration with other agricultural/farming activities including the potential of escape of culture species and transmission of diseases or parasites from the ponds as well as ways and means wastes from aquaculture are handled. Other important issues are about the economic sustainability of the business and contribution of the aquaculture to its workers and local community socioeconomic development and wellbeing.

Actions taken

GBO-5 did not highlight the enormous potential of aquaculture in Africa and the ongoing initiatives in Africa. The 6th national reports from Africa described the following actions taken to make aquaculture sustainable

- Development of master plans and strategies. For example (i) a draft Aquaculture Development Strategy in Eritrea despite the limited aquaculture potential in that country due to shortage of permanent freshwater bodies, hot and arid climate of the coastal areas, abundance of wild fish in the marine environment, absence of fish-eating culture in the highlands, and low domestic demand of fishes; (ii) Liberia's Fisheries and Aquaculture Policy and Strategy (2014) aiming to increase aquaculture production to 15,000 tons by 2030, taking advantage of the abundance of water all year round and the compact texture of the soil (75% latosol); (iii) the 2018 Fisheries and Aquaculture Act and the 2019 Fisheries and Aquaculture Management Act under the umbrella of the Medium Term National Development Plan 2019-2023 and the Agenda for Prosperity (Poverty Reduction Strategy Paper - PRSP III) in Sierra Leone, despite the fact that the country did not adopt a target on aquaculture in its NBSAP; (iv) Algeria's "Master Plan for the Development of Fisheries and Aquaculture Activities" (Schéma Directeur de Développement des Activités de la Pêche et de l'Aquaculture - SDDAPA) with ambitious objectives for 2025. (v) The National Aquaculture Strategic Framework through which South Africa initiated projects that were expected to grow the aquaculture sector's revenue from about half a billion rand[86] in 2018 to almost R 1.4 billion in 2019; (vi) Morocco's plans consider the "fisheries tourism", the "artisanal fishing" and the "rural aquaculture" value chains and ensure that Moroccan aquaculture complies with European and international standards in terms of quality and safety. Preliminary results from 3 development plans which include the protection of endemic species show a production potential of 380,000 tons in Morocco with 245,000 tons from fish farming, 110,000 tons from shellfish farming and 24,000 tons of seafood; and the Seychelles' Mariculture Master plan including a report on Environment and Social Impact Assessment (ESIA). Exploitation was expected to commence operation in 2019 with development of brood stock sourced from local waters.
- Promotion of internationally agreed guidelines e.g., the FAO Code of conduct for responsible fisheries.
- Establishment of overseeing and control bodies such as the National Fisheries and Aquaculture Authority in Liberia and the National Agency for the Development of Aquaculture (ANDA) in Morocco including marine aquaculture. In Algeria, the National Laboratory for the Control and Analysis of Fishery and Aquaculture Products and Environmental Health was created in 2012 under the General Directorate of Fisheries and Aquaculture.
- Enactment or revision of laws and policies. For example, revision of laws to ensure no introduction of IAS in Egypt; South Africa's laws specifying species for aquaculture, and the Marine Living

[86] One rand is about US$ 0.07

Resources Act (MLRA) placing restrictions upon fish species based on size or use (i.e., establishing a permit system). Sustainable management and the conservation of biodiversity are further supported through consumer driven initiatives, such as the South African Sustainable Seafood Initiative (SASSI), which provides up-to-date lists "sustainable species" for purchase and consumption. Prohibited import into Tanzania of fish fingering produced through genetic manipulation.

- Application of environmental impact assessment (EIA) for all aquaculture-related projects, reported in many countries.
- Information sharing on issues for which sustainable management is necessary. For example, (i) pollution in Zimbabwe's aquatic ecosystems also providing suitable conditions for the spread of aquatic invasive plant species; (ii) climate change: Egypt, the top African country in aquaculture, produced a technical paper "Impacts of climate change on fisheries and aquaculture - Synthesis of current knowledge, adaptation and mitigation options" of relevance to the sustainability of aquaculture. Egypt noted that Climate change is likely to affect the choice of species, the vulnerability of aquaculture systems to weather extremes and the risks posed by disease. Aquaculture is also reliant on a range of ecosystem services, many of which will be affected by climate change. The technical paper provides a toolbox of existing and recommended fisheries and aquaculture risk reduction, adaptation and disaster response, as well as guidance for the development and implementation of sectoral adaptation strategies. The paper also describes how the fisheries and aquaculture sector can contribute to reducing greenhouse gas emissions, giving examples of improved technologies, feed conversion rates, or change in fish farming practices. Finally, the report is a reminder of the critical importance of fisheries and aquaculture for millions of people struggling to maintain reasonable livelihoods through the sector; (iii) the ecologically-unfriendly methods of feeding and harvesting cultured tilapia and catfish in Ghana, diseases and the introduction of invasive alien species in Inland and coastal waters from importation of alien fish species for aquaculture and ballast water discharge in ports and coastal waters, encouraged by weak law enforcement.
- Development of guidelines such as the guideline for investment in cage culture fish farming for Lake Victoria to facilitate sustainable aquaculture farming in the Lake; and guidelines for allocation and management of water for aquaculture projects in Egypt. Pilot projects in Morocco to test cage farming and protection of endemic species to contribute to the sustainability of aquaculture.
- Training programmes for fish farmers, aquaculture technicians and extension workers. Such training was carried out in Liberia by experts from Israel. Also, in late 2018, the AfDB-funded TAAT aquaculture compact organized a training on proven aquaculture technologies and best management practices for representatives of national agricultural research and extension systems (NARES) and aquaculture value chain actors from ten African countries[87]. The training aimed to increase fish production and self-sufficiency through sustainable intensification of existing aquaculture enterprises. This program was not mentioned in any national report.
- Assessment of potential and possibilities: Few countries reported on their exploratory work. In Liberia conducted a survey of Liberia's aquaculture sector with support from Israel
- Development and implementation of projects/programmes and research: Countries reported on their projects but quite often the results of the projects were not presented. For example, in reporting on its activities for sustainable aquaculture, Ghana indicated that the Aquaculture Research and Development Centre (ARDEC) bred a resilient and prolific variety of *Oreochromis*

[87] Democratic Republic of Congo, Ghana, Kenya, Nigeria and Zambia (focal countries), and Republic of Benin, Burundi, Cameroon, Cote d'Ivoire and Tanzania (satellite countries)

niloticus that was supplied to more than 200 commercial producers and hatcheries "all in an attempt to ensure conservation of tilapia". The results of this initiative were not presented. Similarly, Sierra Leone listed, among the actions taken on aquaculture, "the Artisanal Fisheries Development Programs (AFDEP) on sustainable fisheries and aquaculture" that was implemented with the view to promote sustainable fisheries and enhance the achievement of the objectives of the National Poverty Reduction Strategy Paper (PRSP). This project took place from 2003 to 2010[88], well before the period covered by the 6th national report. The project is just mentioned but not the achievements from the project. This is the case for many references found in some national reports.

- Improve access to markets. South Africa listed this important objective among the actions for sustainable aquaculture.
- Use of incentives such as eco-labelling. As discussed in section on ABT 3, incentives are an important tool supporting implementation of biodiversity objectives. In Ghana, for example, the number of traditional leaders who used to engage in illegal mining activities has declined as chiefs were being given incentives to set good examples on protecting water bodies, fisheries, and aquaculture in the country. Ecolabelling and other incentives were discussed in the section on ABT 3.

Some countries, such as Ghana and Rwanda, reported on their successes. Rehabilitation of 3 public hatcheries in Ghana and the provision of extension services to fish farms as well as the development of guidelines for best aquaculture practices led to an increase from 10,200 metric tons in 2010 to 62,718 metric tons in 2018. Figure 10 shows the increasing trend of aquaculture in Rwanda from 265 metric tons in 2011 to 5,128 metric tons in 2018. This is representative of the trend in many African countries strengthening some optimism about the possibility for Africa to become self sufficient in fish production. Egypt, which is one of the largest aquaculture producers in the world has implemented during the last 3 decades a policy to increase aquaculture to respond to the declining fisheries from all sources, and the increasing demand linked to population growth. It has increased fish hatcheries own by the General Authority for Resources Development, encouraged the private sector to invest in fish hatcheries, and supplied artificial feed developed by universities and research centers. Egypt's production increased from a few thousand tons in the early 80s to 1.1 million tonnes in 2014 to 1.3 million tonnes in 2017, an increase of 18 % during the last 4 years. Egypt has started integrated mega aquaculture projects based on research and development, development of local communities, and investment in all aspects of aquaculture. Egypt is exchanging its experience with other countries in Africa and Middle East.

For many countries such as Rwanda, Morocco, Tunisia, Egypt and Kenya, the main focus regarding aquaculture and mariculture is on production to fill the gaps from capture fisheries and/or reduce the pressure on the natural fish stock.

Reported challenges to aquaculture include poor infrastructure, unavailability of good-quality fingerlings and feeds, lack of or weak research to support aquaculture needs, diseases, volatile prices of inputs, short-term funding from international sources, and competition with other activities like agriculture for basic inputs such as land, water, and nutrients.

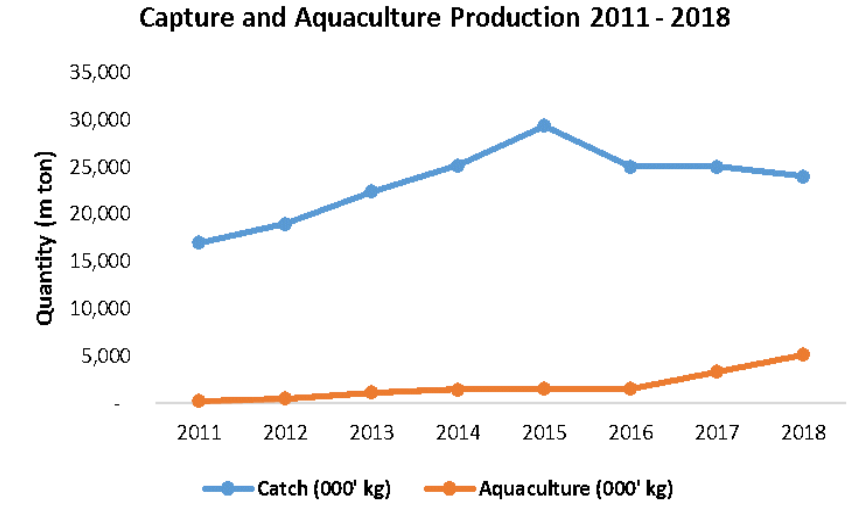
88 https://www.afdb.org/fileadmin/uploads/afdb/Documents/Project-and-Operations/_SIERRA_LEONE_-_PCR_-_Artisanal_Fisheries_Development_Project__AFDEP__.pdf

Sustainable forestry

There are several areas of concern for sustainable forestry in Africa. They have been confirmed in the document Sustainable Forest Management Framework for Africa 2020-2030[89] where they were classified under different categories: economic, social and cultural; policy and governance; institutional; technical; and environmental. The 6th national reports identified actions taken for sustainable forestry in all these categories (also see section on ABT 5).

Figure 10: Trends in Capture and Aquaculture Fisheries, 2011 – 2018

(Figure 17 reproduced from Rwanda's Sixth National Report to the Convention on Biological Diversity. Source: FAO 2020 cited in the report)



Regarding actions addressing environmental issues, countries have adopted and are implementing policies, codes of conduct and projects for reducing deforestation, forest degradation, fragmentation and conversion into other land uses such as agriculture or the construction of various types of infrastructure, overharvesting of timber and non-timber forest resources; for controlling fires, pollution, invasion by alien species, and pests and diseases, poaching and other threats to endemic species; and for restoring or rehabilitating lost and degraded forest ecosystems. Establishment and improved management of forests classified as protected, of community conserved forests have been the main thrust of the actions taken because they address many of the issues listed at the same time. Countries also made commitments to restore many forests, including through the African Forest Landscape Restoration Initiative coordinated by NEPAD, known as "AFR100" (see section on ABTs 14 and 15). Other strategies and programmes developed by the African Union that offer opportunities for the implementation of SFM include the 2015 African Strategy on Combating Illegal Exploitation and Illegal Trade in Wild Fauna and Flora in Africa; the AU wildlife strategy; and the Great Green Wall for the Sahara and the Sahel Initiative, which is expanding to embrace drylands in Eastern, Southern and other parts of Africa.

Supportive policy and governance options are important factors in the successful implementation of action that will make forestry sustainable in Africa. As concluded in the IPBES Regional report on the assessment of biodiversity and ecosystem services for Africa, the continent can move towards achieving its development aspirations, while at the same time improving the conservation and sustainable use of its valuable natural assets through multi-stakeholder and multilevel adaptive governance including improved

[89] https://pfbc-cbfp.org/news-partner/SFM-Convergence-Plan.html?file=files/docs/news/6-2020/SFM_Framework_EN_lowres_02.pdf

integration of indigenous and local knowledge [referred to as polycentric governance]. Illustration of this polycentric type of governance have been given in the 6th national reports in the case of sustainable forestry.

Various reports called for increased synergy in the implementation of the Rio conventions including for example through the (re)planting of trees selected among indigenous species to promote the recovery of biodiversity while addressing land degradation and contributing to climate change mitigation. The inclusion of forest-based activities in the nationally determined contributions to climate-change mitigation and adaptation offers an opportunity to increase areas under sustainable forestry in Africa. Synergy and support have also been called regarding the implementation of other conventions dealing with forest products such as timber under CITES, or protected forests in the context of UNESCO biosphere reserves and World Heritage Sites; or mangroves within Ramsar sites; or FAO. It was strange that none of the national reports referred to the United Nations Forum on Forests (except Eritrea that just indicated being a member of the Forum). Mainstreaming of forestry into national development plans and strategies and into relevant economic sectors was considered as a way to increase the chances of mobilizing more human and financial resources for the conservation and sustainable use of forests, including through the involvement of the private sector while discouraging sectors that may have negative impacts on forest. Participation of indigenous peoples and local communities at all levels from planning to implementation of decisions and the sharing of benefits from forestry is now widely accepted and countries have increased the involvement of IPLCs and encouraged the use of their knowledge and know-how in accordance with access and benefit sharing schemes under the Nagoya Protocol. Current land tenure systems have been highlighted in some reports as a constraint with indications that if the ownership of their lands can be ensured, IPLCs would better manage their resources including their forests, some of which are considered as sacred. In some cases, like in Cameroon, Eswatini, Guinea, Sierra Leone and Togo, the importance of traditional chiefdoms in achieving effective management of forest biodiversity and law enforcement was highlighted.

Many African countries described the importance of promoting incentive measures (see section on ABT 3) including certifications such as the Forest Stewardship Council (FSC) certification [Africa has the lowest number of FSC certificates] and the payment for ecosystem services that will provide the best incentives for the conservation of biodiversity including forest biodiversity. Forest certification is expanding in Africa but lack of local experts to undertake certification audits and to maintain operations to a certification standard is a major obstacle. Of all African countries, South Africa has made the best in forest certification. African countries have perceived REDD+ as one of the best financial incentives for sustainable forestry linking biodiversity commitments to the Paris Agreement and the Land Degradation Neutrality (see section on ABT 3 and ABT 20). While many countries[90] have REDD+ programmes, payments are discouragingly lagging. Forest Law

Enforcement and illegal trade of forest products has also been addressed in the 6th national reports. A few countries (Cameroon, Central African Republic, Congo, Ghana and Liberia) are implementing the Voluntary Partnership Agreement on Forest Law Enforcement, Governance and Trade (FLEGT) with the EU and Cote d'Ivoire, DR Congo and Gabon are in the process of negotiating. The agreement provides a monitoring system and a legal framework to ensure that all timbers imported into the European Union (EU) were in accordance with the law of the exporting country. Only Ghana and Central African Republic reported on this agreement. Ghana was the first country to sign the Agreement and is now testing the use of geo-referenced data in biodiversity in community forests through the use of the applications web community Timber Tracks (CoTTracks) to perform all the activities taking place at the site level. Central African Republic noted that the application of the agreement since joining in 2014 has effectively

[90] In Africa, 28 countries are partners in the UN-REDD Programme which was launched in 2008.

contributed to the sustainable exploitation of Central African forests, the improvement of State revenue and the fight against illegal logging. Insecurity and conflicts, including armed conflicts, among communities, were cited as obstacles to the sustainable management of forests in countries like DR Congo, Sudan and Chad.

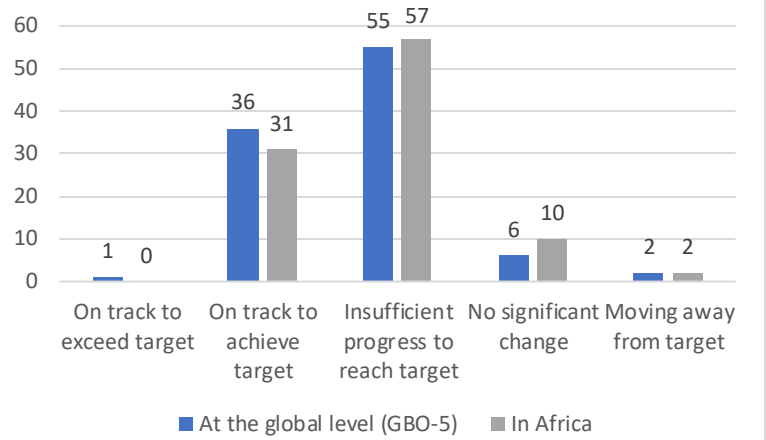
Other enabling initiatives include the ecological and socioeconomic valuation of forests (also see section on ABT 2), information needed particularly by decision- and policy-makers and that will facilitate the integration of forests in national accounts and national development strategies and plans. Such studies require more investments in Africa as well as activities to promote access and benefit sharing (see section on ABT 18) from the use of forest genetic resources. Agenda 2063 emphasized the need to improve and expand the wood-processing industry and increase the market value of forest products as well as job creation in all economic sectors including forestry. Some countries have increased their capacity to monitor the status of forest and the services they supply through for example remote sensing and geographic information systems. In DR Congo for example, the establishment of the eddy-flux towers in the Yangambi Biosphere Reserve will measure continuously the exchange of greenhouse gases between the atmosphere and the forest ecosystem in the Congo Basin. The towers will make it possible to contribute to accurately calculate the basin's carbon sink potential. Research is also ongoing for the best timber harvesting methods as well as the collection and selection of germplasm for use in afforestation and reforestation work. Several African countries have developed and are implementing strategies and programmes to acquire and maintain improved forest genetic resources to support SFM. The use of good-quality tree germplasms is necessary for any successful tree-planting and most ecosystem restoration programmes. Good-quality tree germplasms have the potential to increase profits by increasing forest productivity and wood quality, and by reducing wood production costs, while also increasing biodiversity conservation and resilience to climate change.

Overall progress

At the global level (GBO-5), of the Parties that have assessed progress towards their national targets associated with ABT 7, 36% were on track to reach the targets, 1% was on track to exceed them. Another 55% reported slow progress, 6% reported no progress towards the targets and 2% were moving away from reaching their targets. In Africa, 31% of the Parties that reported on national targets related to ABT 7 assessed their progress on track to achieve the targets; 57% had slow progress; 10% observed no change and 2 percent were moving away from the target. This indicates that Africa considered its progress towards the achievement of ABT 7-related national targets generally slow relative to the other countries in the world (Figure 11). Also, overall, most countries in Africa (69%) or in the world (63%) felt they were behind schedule.

Figure 11: Level of progress towards national targets relating to sustainable agriculture, aquaculture and fisheries at the regional and global levels

(in percent of number of countries that provided an assessment of progress toward their respective national targets relating to ABT 7)



These simple perceptions of progress cannot give a reliable baseline for future assessments or for decision-making. Progress towards SFM is not easy to measure because no single quantifiable characteristic fully describes its many social, environmental, and economic dimensions. The proportion of forest area under long-term management plans is one measure used by FAO – with coverage now estimated to be 54%[91] of forests. The area under independent forest certification schemes is a second (overlapping) measure. Globally, around 11% of forests are certified, and only 6% of this is in the tropics. However, these measures do not capture progress by communities and small enterprises for which formal planning and certification are less appropriate.

Challenges

Challenges for sustainable agriculture, aquaculture and forestry highlighted in national reports include the usual lack of financial resources and human expertise, weak institutions for research and for enforcing policies and legislation, such as forestry and agricultural codes as well as guidelines for aquaculture. More specifically, Namibia cited weak institutional capacities to support community-based natural resource management (CBNRM) processes (planning, enforcement, research, and value addition) and inadequate support to Sustainable Forest Management technologies on the ground. Eswatini or Mauritius and many other countries emphasized land tenure which is an obstacle in many countries. Countries like Zimbabwe and DR Congo cited economic crisis as the major impediment. DR Congo also noted the impact on agriculture and forestry of the following factors applicable to many other countries: armed conflicts, intercommunal violence and looting which have led to massive displacement of populations by dispossessing them of their fields and working tools; inadequate infrastructure, devastating natural disasters including devastation caused by diseases and pests; and limited access to basic goods and services for agriculture and aquaculture; and climatic constraints exacerbating problems of soil fertility and water availability. **A in-depth study is required to identify and address the causes underlying many of these challenges, in particular the lack of human capacities/expertise together with limited technical capacities despite the National Capacity Self Assessment initiative supported by United Nations organizations in the years 2000 from 2002 and the numerous strategies, strategic frameworks and institutions for enhancing capacity building in Africa and within African countries with the support of the African Union, the African Development Bank and many other organizations and partners.**

[91] https://www.gefieo.org/sites/default/files/documents/sfm-2020-approach-paper.pdf

NATIONAL TARGETS RELATED TO ABT 8

Aichi Biodiversity Target 8:
By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.

Priority status for biodiversity in Africa

Air, water and soils in Africa are being polluted from various sources, mainly in and around cities and industrial areas. Pollution is not listed among the 11 Africa's biodiversity priorities (Annex 1). However, Agenda 2063 drew attention to pollution in the context of the blue economy and water security. One of the indicative strategies of Agenda 2063 under Priority area 1 (Marine resources and Energy) of Goal 6 (Annex 3) to build a blue/ocean economy for accelerated economic growth, is to "develop / implement policies for reducing pollution of the ocean environment from both land and sea-based sources". In addition, by 2030, Africa should be a fully water secure continent. New practices and technologies will be in place to ensure efficient use of water resources and development of new sources. One of the 'Priority Actions for Urbanization and Human Settlements' is to ensure that water, in sufficient quantity and good quality, is accessible to the rapidly growing urban populations. Thus, the following 2023 targets are being pursued: (i) at least 10% of wastewater is recycled for agricultural and industrial use; and (ii) 50% of urban waste is recycled (Annex 5).

National targets related to ABT 8

In Africa, 74% of countries (against 75% at the global level) had a target on pollution. Seventy-five percent among these were the same as ABT 8 with end-years ranging between 2018 and 2030. Some countries provided additional specifics such as identification of pollution sources before reducing the pollutions; identification of priority ecosystems; specific targets for pollution in coastal and marine areas, islands and agricultural lands. Mozambique, The Gambia and Nigeria included a quantitative factor in their targets. Countries that did not have targets on pollution such as DR Congo, South Africa, Senegal and Tunisia had or developed regulations, legislation and programmes to control pollution.

The 2030 Sustainable Development Agenda contains many targets on pollution for improving water quality, managing the release of all types of pollutants to air, water and soil in order to minimize their adverse impacts on human health and the environment, and for the application of the 3Rs (reduce wastes, recycle and reuse) i.e., SDG Target 6.3, Target 12.4, Target 12.5 and Target 14.1.

Actions taken

Most African reports emphasized that pollution has become a serious problem for biodiversity. Different types of pollution have been described. They include pollution generated by urban waste from the mismanagement of household waste, pollution of water, air, soil and subsoil attributable to the dumping of waste from activities such as industrial exploitation of oil in the sea, logging, mining, unsustainable industrial and artisanal fishing practices, the use of unapproved pesticides and excess of chemicals and pesticides in agro-industrial plantations. Actions taken to limit and reduce pollution and its negative impacts on biodiversity and human health included: legislation and enforcement/compliance mechanisms e.g., wastewater discharge permits and ban or levy on the production, importation, marketing, possession and use of plastic bags; adoption of cleaner production technologies including efficient cookstoves and the use of more efficient cooking fuels such as Liquefied Petroleum Gas (LPG), and establishment of cleaner production centres also capable of training; establishment of appropriate discharge facilities;

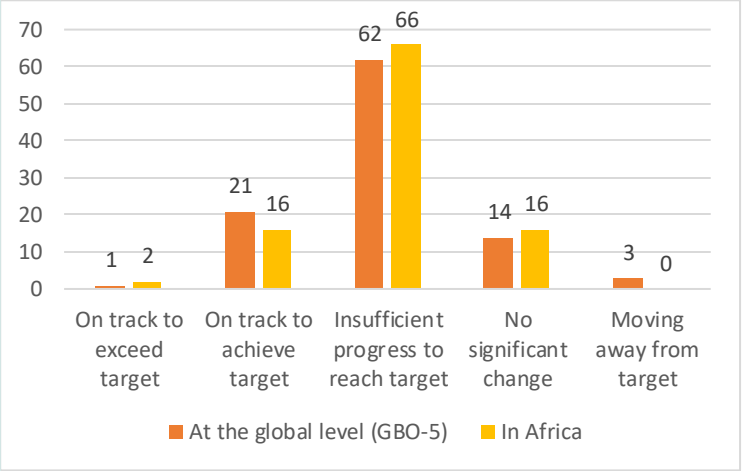
development and implementation of programmes such as the National Industrial Pollution Prevention Program in Morocco or the rehabilitation of the Zaalklapspruit wetland to recover its ability to clean water contaminated by mining, industrial effluent, sewage, and agricultural runoff; awareness raising and building of human and technological capacities; recycling of wastes; support of alternative uses for solid waste through for example biogas production; strengthening human and technological capacities for monitoring pollution, including through establishment of partnerships; enhancing implementation of the Montreal Protocol, the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, the Rotterdam Convention and the Stockholm Convention, if they are Parties to these conventions. Despite all these efforts, pollution is still not well controlled in many countries in Africa, with detrimental impacts on ecosystems reported in the national reports. **Assessment of their sources, mode and level of impacts, and their ecological and socioeconomic consequences is critical and required**.

Overall progress

Regarding progress in achieving national targets on pollution, Africa's self-evaluated performance was slightly below world average with 18% of countries that submitted an assessment of progress under their national targets on pollution on track to exceed (2%) or to achieve (16%) their targets, against 22% at the global level (Figure 12). It is also useful to note that at the regional and global levels, the majority of the countries made no or insufficient progress.

Figure 12: Level of progress towards national targets relating to the reduction of pollution at the regional and global levels

(in percent of number of countries that provided an assessment of progress toward their respective national targets relating to ABT 8)



Challenges

The challenges in addressing pollution include the generic lack of sufficient financial resources, weak technical capacities and human expertise for monitoring soil, water and air pollutions; for designing and applying ways and means to reduce waste production, reuse products and recycle wastes; for implementing the 'numerous' international conventions addressing pollution; for updating standards and integrating them in policies and environmental impact assessment (EIA) and strategic environmental assessment (SEA); for designing alternatives to plastic bags and containers; limited information on ecological and socioeconomic (including human health) impacts of pollutions for use in awareness raising and education programmes, and by policy and decision-makers; and the importation of e-wastes and other second-hand products that cannot be recycled or disposed of properly.

NATIONAL TARGETS RELATED TO ABT 9

Aichi Biodiversity Target 9:
By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.

Priority status for biodiversity in Africa

Invasive alien species (IAS) are considered as one of the leading drivers of biodiversity loss with huge socioeconomic impacts worldwide, particularly on islands. IAS distribution and full ecological and socioeconomic impact have not been studied much in most of Africa (example of exception is South Africa). IAS are one of the 11 Africa's biodiversity priorities (Annex 1), but they are not mentioned in Agenda 2063. There are indications that IAS are spreading unabated in Africa, in agroecosystems, forests, in waterways and other aquatic systems with negative impact on fish production, agricultural productivity and food security in general, grazing, water supplies and coastal tourism. Climate change, to which Africa is the most vulnerable continent, is known to exacerbate the spread and establishment of IAS and worsen their impacts.

It is important to recall that Article 8h of the CBD calls on Parties to "prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or species." Thereon, the CBD Parties undertook work on invasive alien species, including microorganisms, whose introduction and/or spread outside their natural past or present distribution threatens biological diversity, human health with potential socioeconomic impact. The spread of COVID 19 and many other pathogenic agents could be considered as cases of IAS.

National targets related to ABT 9

Seventy five percent of countries in Africa have a target on IAS, against 84% at the global level. In Africa, 39 % of national targets on IAS are the same as ABT 9 but some have different end-years, e.g., 2022 for Eswatini, 2025 for Madagascar and 2027 for Somalia. Another 39% of the national targets have less elements than ABT 9 and the remaining national targets on IAS are different from ABT 9.

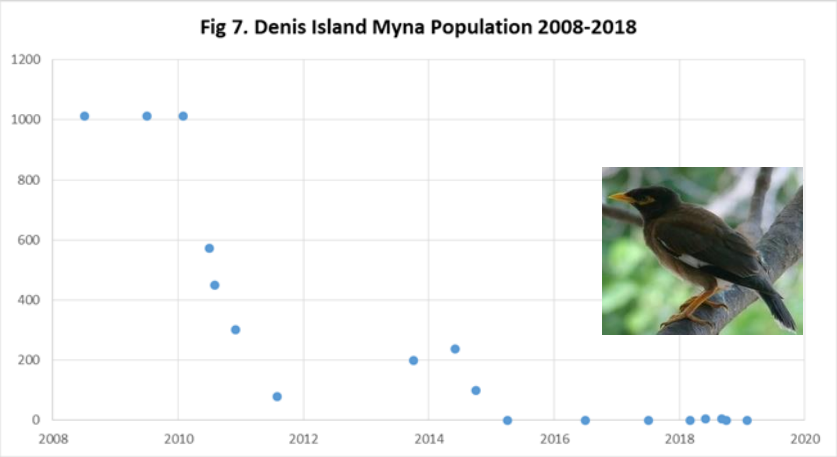
Actions taken

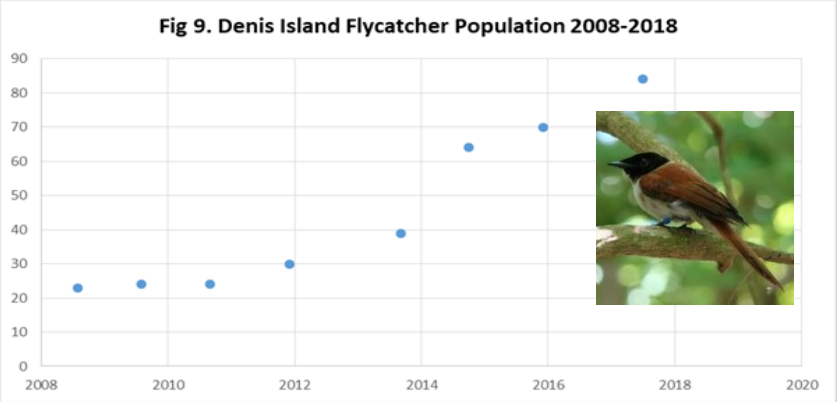
GBO-5 reported that good progress had been made during the past decade on identifying and prioritizing IAS with many successful eradication programmes especially for invasive mammals on islands. The **progress at the global level does not fully represent progress in Africa.** GBO-5 reported more than 800 successful eradications of invasive mammals on islands (almost 200 since 2010), with positive benefits for an estimated 236 native terrestrial species on 181 islands. In Africa, Island States, Mauritius, Seychelles, Cabo Verde, Sao Tome & Principe and Madagascar reported insufficient progress; Comoros, no significant change; and Equatorial Guinea did not adopt a national target related to ABT 9. Only Seychelles reported on eradication of alien mammalian predators i.e., cats and rats (*Rattus* sp), other mammalian species notably goats (*Capra hircus*) and various bird species, notably the Indian myna bird (*Acridotheres tristis*). Figure 13 shows the positive trend in area of mammalian predator free land in Seychelles Central Archipelago between 1990 and 2018. Seychelles did not stop at presenting data on eradication but added data on the ultimate goal of the eradications, notably the recovery of endemic biodiversity (see Box 3). Mauritius reported that they were working on eradication of the Chinese Guava plant, but that new invasive alien species were spreading. The country indicated needing support from international

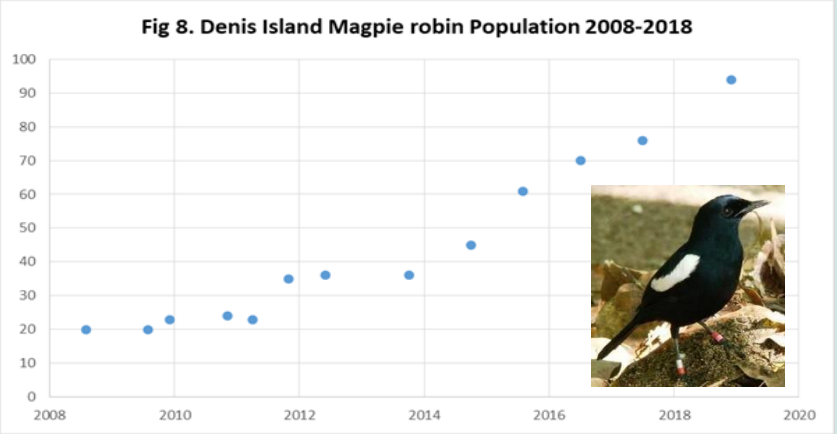
organizations, financial support, enforcement of policy and legislative measures and human capacity building. GBO-5 information on the island of Marion in South Africa could not be verified. South Africa's 6th national report does not make reference to eradication of invasive mammal species on Marion Island. The only successful eradication reported in the South Africa's national report is by CapeNature that tested eradication projects for invasive fish species. One of the projects was reported successful.

The three elements of ABT 9 are: (i) invasive alien species and pathways are identified and prioritized, (ii) priority IAS are controlled or eradicated and (iii) measures are in place to manage pathways to prevent IAS introduction and establishment. Regarding IAS identification and prioritization, many African countries consulted existing databases, such as the International Plant Protection Convention database or the IUCN Global Register of Introduced and Invasive Species, to provide lists of their IAS for the 6th national report. Some countries updated or are updating the information while trying to prioritize the IAS on the basis of their invasiveness, ability to establish and spread, and their ecological and socioeconomic impacts and to map them.

Box 3: Impact of eradication of Common Myna on populations of Seychelles endemic Magpie-robin and paradise flycatcher (Source: Seychelles 6th National Report to the CBD)

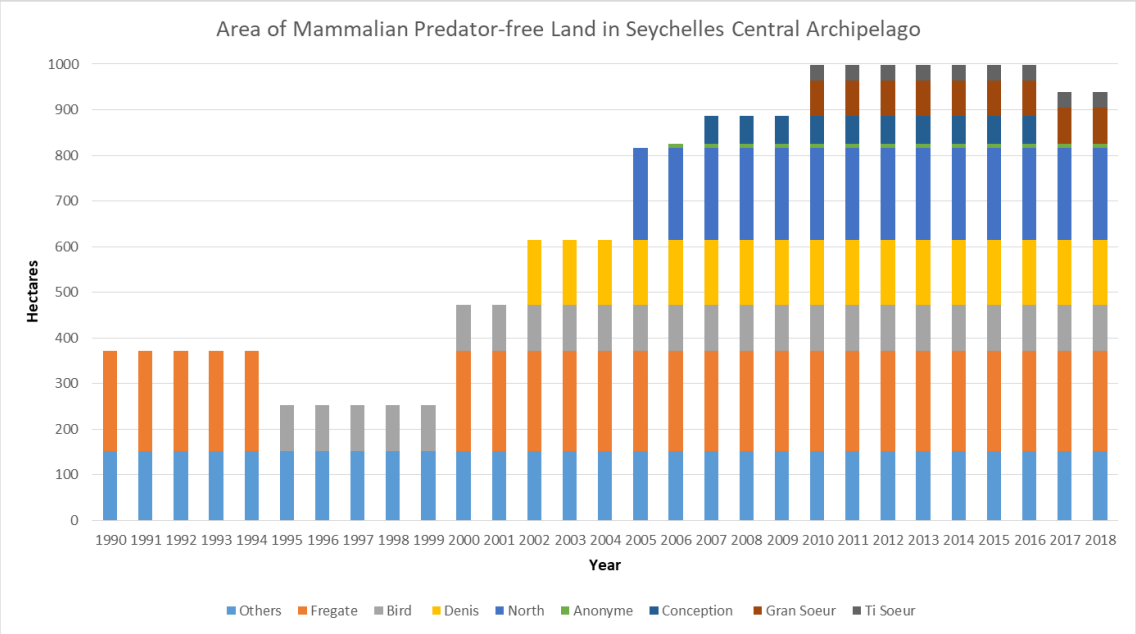






Common Myna *Acridotheres tristis* is among the world's most damaging invasive species through disturbance, predation, competition pathogen introduction to native birds and other taxa. The common myna has been having a negative impact on endangered endemic birds on Denis Island in Seychelles. An eradication campaign was launched. The rapid increase in populations of the endemic birds such as Magpie-robin (*Copsychus sechellarum*) (Fig 8/this box) and paradise flycatcher (*Terpsiphone corvina*) (Fig. 9/this Box) seems to be directly correlated to the declining Myna population due to culling (Fig 7/this Box).

Figure 13. Area of Mammalian Predator Free Land in Seychelles Central Archipelago from 1990 to 2018 (Source: Figure 12 reproduced from Seychelles Sixth National Report to the Convention on Biological Diversity)



While most governments decided to focus on a small number of IAS present in their respective countries, very few among them carried out studies to define their priority list of IAS. For example, among the latter few, Rwanda published in its 6th national report priority invasive alien plants (10), fishes (5) and insects (3) with maps showing the distribution of the key IAS in the country. These studies are still ongoing in other countries and need to be upscaled to cover whole countries and not only particular sites.

The analysis of the pathways of introduction of IAS is fundamental for the management, risk assessment, monitoring and surveillance of IAS. The generic pathways of introduction of IAS are known and applicable to Africa. No systematic studies have been reported in the 6th national reports to identify and prioritize the pathways of IAS introductions in countries or new environments within countries. There is a need to mobilize human, technical and financial resources and explore cooperation with neighboring countries, in the subregion and at the regional level.

Regarding IAS control, about half of the countries in Africa have developed or are in the process of developing national strategies and action plan for the prevention, control and eradication of IAS. In many countries, implementation is at an early stage due to limited financial, human and technological resources. The South Africa's Strategy[92], developed in 2014, is the only one in Africa at an advanced stage of implementation. It contains measures at the four stages of the invasion, namely (i) introduction, (ii) establishment, (iii) expansion and (iv) IAS dominance. It covers IAS that are vertebrates, invertebrates, plants and microorganisms of the terrestrial, marine and aquatic world. National reports describe ongoing initiatives to control IAS through mechanical and biological controls, and by processing IAS to develop tradeable products. Control and eradication work covers a few IAS some of which are part of the priority lists when they exist. Quarantine services are generally available at points of entry (airports, ports, some main roads between countries). Some coordinated initiatives were reported at the subregional levels and

[92] http://www.info.gov.za/acts/2004/a10-

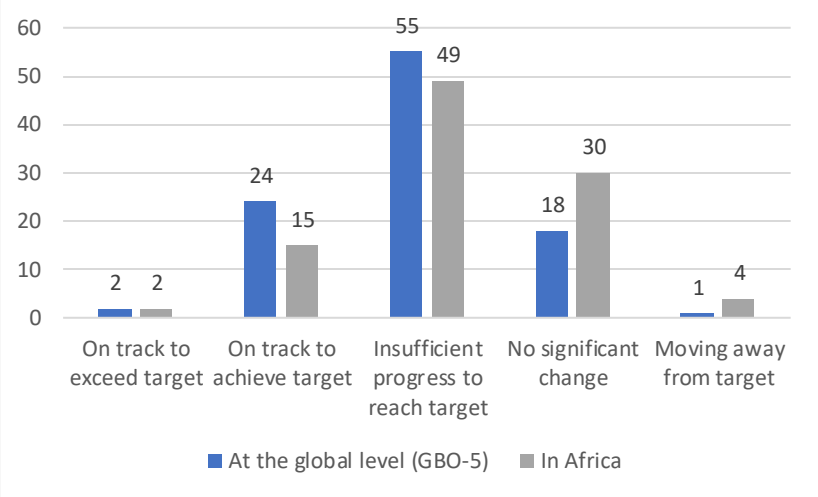
in transboundary ecosystems, e.g., management of the invasive *Sargassum natans* and *Sargassum fluitans* under the Abidjan Convention or the prevention of the introduction and spreading of alien species in the IGAD region or the COMIFAC biological control program against invasive freshwater grasses.

The national reports presented some success stories including biological control of aquatic grass species using phytophagous insects in Congo, integrated management of *Prosopis* controlling the invasiveness of the species and at the same time utilizing it as a source of energy in Eritrea, and the largest alien clearing and control programme within South Africa by the Department of Environmental Affairs Working for Water (WfW) programme.

Overall progress

African countries self assessment of their progress indicates that only 17% of countries were on track to achieve (15%) or exceed (2%) their respective targets, as compared to 26% worldwide (Figure 14). South Africa is the country that reported they were exceeding expectation. A large proportion of African countries considered that they were not making any progress (30%) or that their actions were making the IAS situation worse (Eswatini and Somalia).

Figure 14: Level of progress towards national targets relating to the prevention and control of invasive alien species at the regional and global levels (in percent of number of countries that provided an assessment of progress toward their respective national targets related to ABT 9)



Challenges

Various challenges were highlighted in the 6th national reports. Decision-makers' poor awareness of the socioeconomic impacts of IAS, ways of IAS control (including biological, mechanical), and the possibilities to transform IAS and thus add value was considered as one of the main underlying obstacles. The other challenges include inadequate technical and financial resources; land tenure unfavorable to local communities who need to be engaged in control measures; lack of detailed information including maps on IAS distribution and spreading; the multiplicity of entry points to the territories (airports, ports, roads, waterways bearing also in mind the movements of people caused by armed conflicts and increased trade) and the porous and informal nature of many borders between countries while there is a shortage of personnel with IAS expertise; weak enforcement of regulations relating to IAS; and poor or lack of coordination of management of AIS in the respective sector ministries (agriculture, environment, water, fisheries, wildlife, forestry).

NATIONAL TARGETS RELATED TO ABT 10

Aichi Biodiversity Target 10:
By 2015, the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning.

Priority status for biodiversity in Africa

Coastal and marine biodiversity as well as climate change are among the Africa's biodiversity priorities (Annex 1). Agenda 2063 emphasized that Africa was recognized as the most vulnerable continent to climate change and climate variability, and had a low adaptive capability. It was therefore agreed to put in place measures to sustainably manage the continent's rich biodiversity, forests, land and waters and using mainly adaptive measures to address climate change risks. In 2014, Africa established the African Climate Change Fund with the objective of addressing climate change and its associated challenges. In addition, Agenda 2063 has "Climate Resilience and Natural Disasters and preparedness" as its priority area 3 under Goal 7 on "Environmentally sustainable climate resilient economies and communities" (Annex 6). However, there was no specific target under this priority relating to coral reefs and ecosystems that are vulnerable to climate change and ocean acidification.

While in ABT 10 is to ensure that ecosystems that are impacted by climate change or ocean acidification are restored and maintained at their functioning capacity, reference in Agenda 2063 to climate change and ways and means to address it go beyond the maintenance of the environment. Agenda 2063 focuses on the importance of these actions in ensuring socioeconomic development. The services that vulnerable ecosystems impacted by climate change and ocean acidification can provide are important for food, health and livelihood security in Africa and are thus in line with the AfDB Five Priorities.

National targets related to ABT 10

Only 48% of countries adopted national targets identical (12 countries, of which 5 countries adopted a target with the same end-year of 2015 as ABT 10 while the others had no date or end-year ranging between 2016 and 2025) or equivalent to ABT 10 (14 countries with deadlines between 2020 and 2030). The reasons why more than half of the countries did not have a specific target equivalent to ABT 10 could be because the countries did not have coral reefs, or lacked data on coral reefs, or did not want to single them out from other vulnerable ecosystems, or were landlocked and did not have marine and coastal ecosystems. Four out of the 6 French-speaking landlocked countries did not have a target equivalent to ABT 10 because the French translation of ABT 10 specified "coral reefs and other vulnerable ***marine and coastal*** ecosystems affected by climate change or ocean acidification" ("*les récifs coralliens et les autres écosystèmes vulnérables marins et côtiers affectés par les changements climatiques ou l'acidification des oceans*") while the text in English (as well as the text in Spanish) is "*coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification*" without limiting to marine and coastal areas. This is the reason given by Burundi for not having adopted a target equivalent to ABT 10. **It is critical that translations of strategic documents into other languages be fully in line with the English original.**

Guinea, which is not a landlocked country did not develop a national target equivalent to ABT 10 "due to the lack of data on coral reefs in Guinean waters". The other countries that have marine ecosystems but that did not indicate any occurrence of coral reefs in their territorial waters, despite recent

publications[93] describing the presence of cold water and warm water coral reefs around the Continent, are Cameroon, Gabon, Equatorial Guinea, Nigeria, Benin, Togo, Liberia, Guinea Bissau, Gambia and Senegal. In Mauritania, coral reefs are only mentioned as one of the most fragile or threatened ecosystems along with mangroves, wetlands, forests, estuaries, nurseries and areas strongly influenced by human activities, without more description. South Africa mentioned its coral reefs in reference to the IUCN global assessment for the Red List Index. Sierra Leone indicated having programmes to (i) conduct research into the status of biodiversity in the major coastal and marine ecosystem, particularly coral reefs; and (ii) identify and demarcate critical ecosystems under threat, including coral reefs. Congo's and Angola's targets had a provision to minimize anthropogenic pressures on coral reefs. These countries' national reports did not report on coral reefs within their territories.

ABT 10 is the target of the Strategic Plan for Biodiversity 2011-2020 that was the least adopted or integrated into specific national targets in Africa. This is in contrast with the fact that climate change is top on the socioeconomic agendas of African countries, that countries endowed with coral reefs appreciate the multiple services provided by these ecosystems, and that vulnerable ecosystems impacted by climate change such as mangroves, various wetlands including lakes, miombo and agroecosystems are also important for people's daily lives but also for sustainable development and welfare.

Actions taken

In general, countries were carrying out the following actions to achieve their targets related to ABT 10: (i) identify and describe the vulnerable ecosystems impacted by climate change or ocean acidification. The vulnerable ecosystems highlighted in national targets equivalent to ABT 10 are coral reefs, wetlands including the iconic lakes like Lake Chad, woodlands, savannas and mosaic forests, mangroves, mudflats/mudslides, sand banks, tips of mountains like Mount Kilimanjaro, and marine and coastal ecosystems; (ii) identify and assess the pressures, essentially anthropogenic pressures, exerted on them including climate change; (iii) formulate and implement strategies, policies and actions to reduce and/or remove the pressures so as to restore and maintain the integrity and functioning, including the provisioning of services, of those ecosystems; and (iv) strengthen the required human, financial and institutional capacities.

Countries along the eastern part of Africa from the Red Sea to Madagascar in the Indian Ocean described the status of their coral reefs. Although international organisations and UNEP have been compiling information on cold-water coral reef in the past decades including along the African coast in the Atlantic Ocean, most African countries in the side of the Atlantic Ocean have not integrated that information in their biodiversity assessments. The other vulnerable ecosystems, apart from forests, were usually described in the updated country profile section of the national reports.

The impact of climate change has been documented in many assessments e.g., the IPCC reports that African countries referred to in their national reports. Climate change is also known to exacerbate the other pressures on biodiversity in vulnerable ecosystems, including fragmentation and habitat conversion, pollution, overexploitation and invasive alien species. African countries did not discuss ocean acidification. Only South Africa noted that its impact was negligible compared to the change in temperature and precipitation and sea-level rise. Somalia reminded the negative impact of armed groups whose presence in the region increases the risk of oil pollutions when targeted ships are oil and gas tankers.

[93] E.g., https://data.unep-wcmc.org/pdfs/1/WCMC_008_Global_Distribution_of_Coral_Reefs.pdf?1617121809 and https://www.grida.no/resources/7163

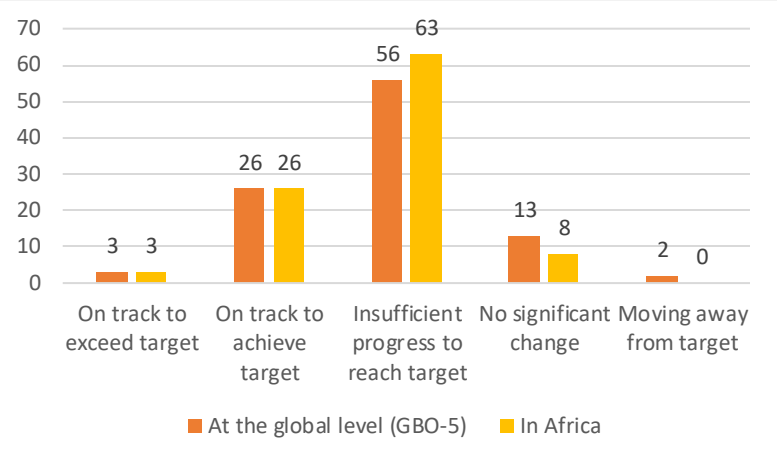
The strategies, policies and actions include continuous/regular monitoring of ecosystems, integrated ecosystem management, ecosystem restoration as well as the establishment of protected areas to restore and/or maintain the functioning, integrity and resilience of coastal and marine areas, other aquatic ecosystems and terrestrial ecosystems while ensuring their effective contribution to the people. Actions taken to address the pressures on other vulnerable ecosystems include the enactment and enforcement of legislations and policies; the integration of biodiversity-inclusive environmental impact assessment in all the sectors that use or impact biodiversity and its services; the expansion of protected areas and conservation area systems and the improvement of their management effectiveness; ecosystem restoration; reforestation and other projects undertaken in the context of REDD+ or the fight against drought and desertification. In many cases, these actions were supported by research to collect data on status and trends of vulnerable ecosystems and of the anthropogenic pressures; traditional knowledge and know-how; capacity-building to increase the needed expertise; public awareness including on disaster risk management and reduction; and financial resource mobilization as well as regional and international cooperation. Only few references were made to gender issues and women needs. Although GBO-5 did not consider floods among the anthropogenic pressures exerted on vulnerable ecosystems, some countries in Africa took some measures to address floods, aware that human activities, such as deforestation, urbanization and construction of other types of infrastructure, poor land use practices in farming systems including overgrazing and improper waste disposal, can degrade the environment, cause and/or contribute to flooding. The measures include the establishment of flood early warning systems, the planting of trees and vegetation on mountain slopes, and climate smart agriculture with the use of flood tolerant crops and appropriate farming system. The need for synergy among the Rio conventions was recalled by some countries through the complementary implementation of the NBSAP under the CBD, the National Adaptation Programmes of Action (NAPA) under the UNFCCC and the National Action Programmes (NAP) under the UNCCD.

Financial limitations, the needs for acquiring expertise, scientific research including for the valuation of vulnerable ecosystems, and disseminating information and best practices among all stakeholders as well as the enacting and enforcement of laws have been mentioned in the 6th national reports as prerequisites for significant progress in achieving targets related to ABT 10. Capacities needs are essentially in the field of biodiversity inclusive environmental impact assessment where not only specific expertise is needed but also technical tools and infrastructures. Partnerships were useful to offset some of the capacity gaps. For example, West Indian Ocean countries aligned themselves with the International Coral Reef Initiative (ICRI) to ensure adequate monitoring and conservation of coral reefs in the region. They strengthened their regional cooperation through frameworks like the Indian Ocean Commission or the Nairobi Convention, and regional monitoring and reporting on coral reef status through the Global Coral Monitoring Network (GCRMN). Countries also developed many projects that mobilized funds domestically including through the tourism sector and internationally including from AfDB, GEF and various climate funds.

Overall progress

The level of progress perceived by African countries in implementing their respective targets equivalent to ABT 10 was the same as at the global level (Figure 15). In both cases, 29% of countries considered they were on track to achieve (26%) or exceed (3%) their targets. Most countries (71% in Africa or at the global level) felt that there was no progress or progress was insufficient to achieve the targets, with 2% at the global level considering they were moving away from their targets.

Figure 15: Level of progress towards national targets relating to the minimization of climate change impact on vulnerable ecosystems at the regional and global levels (in percent of number of countries that provided an assessment of progress toward their respective national targets relating to ABT 10)



NATIONAL TARGETS RELATED TO ABT 11

Aichi Biodiversity Target 11:
By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes

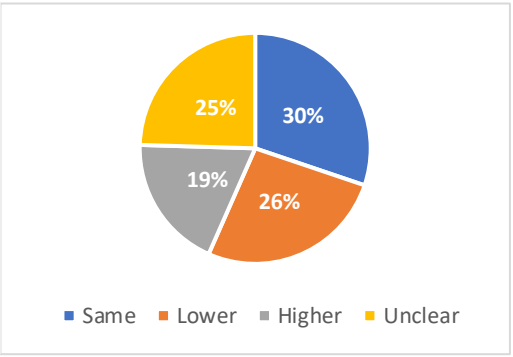
Priority status for biodiversity in Africa

'Protected areas' and areas under other effective area-based conservation measures (OECMs) or conservation areas are not on the list of the 11 Africa's biodiversity priorities (Annex 1). However, protected areas and community-conserved areas have always been the strategies that countries in the world use to achieve the long-term conservation of nature with its associated benefits, including cultural values. In Agenda 2063 (Annex 4), Africa's goals regarding protected areas are ambitious. As stated, in order to build environmentally sustainable and climate resilient economies and communities, "by 2063, national parks and protected areas (both terrestrial and marine) will be well managed and threats to them significantly reduced. […] African countries would have reduced loss of biodiversity by at least 90 per cent; and natural habitats conserved." In so doing, all the benefits that can be derived from nature for a prosperous Africa will be optimized. In its First Ten Year Implementation Plan, Agenda 2063 endorsed ABT 11 with the 2023 targets to (i) preserve at least 17% of terrestrial and inland water and 10% of coastal and marine areas; (ii) manage well all national parks and protected areas on the basis master and national plans; and (iii) have in place at the regional level harmonized and binding agreements and regulatory frameworks on fair, equitable and sustainable management and exploitation of transboundary natural resources (water, parks, wildlife and oceans). Agenda 2063 suggests many measures including for example enacting strict and punitive legislation for wildlife crimes, putting in place sound land tenure and property rights, and ratifying and implementing the African Convention on the Conservation of Nature and Natural Resources.

National targets related to ABT 11

Except Malawi, all the countries in Africa had national targets related to ABT 11. Thirty percent of the targets on protected area coverage in Africa were the same as in ABT 11; the percentage was 12% at the global level. In Africa, 19% of countries had more ambition than the ABT while 26% felt that their situation allowed them to decide only on lower targets (e.g., 5% coastal and marine protected areas for Liberia and Egypt or 10% national territory for Nigeria, Eritrea and Eswatini). None of the targets specified the coverage of OECM and no country registered OECMs in WDPA. Figure 16 shows the number of countries having the same, lower or higher protected area coverage targets as ABT11. Thirty percent of countries had the same targets as the Strategic Plan for Biodiversity 2011 – 2020 of 17% protected terrestrial areas including inland waters (protected areas and other conservation areas) and 10% protected coastal and marine areas. The end years of the targets ranged between 2015 and 2030. Two countries adopted years before 2020 (2015/Burundi and 2018/Mali). Most countries (29) aligned their end-years with ABT 11 while one quarter of countries recognized that they needed more time (between 2022 and 2030) to reach their national targets on protected areas. Even countries that did not adopt targets on protected areas were carrying out work on protected areas.

Figure 16: Number of countries (in percent) with same protected area coverage targets as ABT11, lower or higher targets than ABT 11 (53 countries considered)



Actions taken

When countries were adopting their targets on protected areas, information that often lacked was the reasons behind the expansions of their protected area systems, particularly the socioeconomic benefits from protected areas in terms of revenues, job creation and the wellbeing of the populations. This information is of utmost importance not only to decision-makers but also to the communities that would be involved in the protection activities.

Protected area coverage

In 2014, 13.8 % terrestrial and inland waters and 3.7 % marine and coastal areas were covered by protected areas in Africa. This was below the global average of 15.4 % land and 8.4 % marine and coastal areas. As of end of 2020, Africa's protected area system covered 17.95 % (i.e., 14.11% terrestrial protected areas + 3.84% OECMs from Algeria) and 5.6% (i.e., marine protected areas of the 55 countries of the African Union). The trend in increase of PAs between 2010 and 2020 was slow with only an increase of 4.15% terrestrial areas and 1.9% marine areas added to the 2014 Africa's protected area system (Figure 17). The addition of OECMs has increased Africa's protected area system by 3.84% as of December 2020. Consideration of OECMs could be a strategy for increasing the coverage of protected area systems in WDPA. However, because these areas exist already, their registration in WDPA will/may not change the biodiversity situation on the ground.

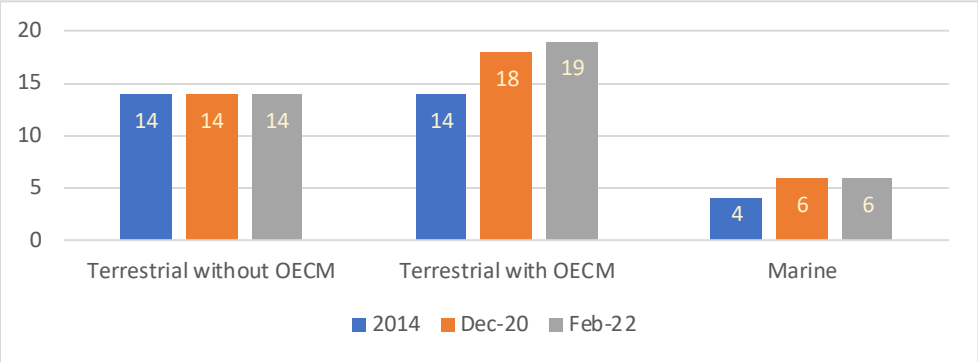


Figure 17: Trend in the coverage (in percent) **of terrestrial and marine protected areas in Africa from 2014 to February 2022**

Source: Data from WDPA

For a full effectiveness, protected area systems have to represent all the ecosystems and ensure the protection of species particularly those that are or may become threatened. Individual protected areas need to be connected especially if they are small in size so that they provide the necessary space for the range of the species they protect. They also have to be managed effectively so that they can achieve the objectives for which they were established. As countries have been realizing the benefits from their protected areas and conservation areas, and in line with the Strategic Plan for Biodiversity 2011-2020, countries adopted targets to expand their protected area systems and conservation areas, paying attention to representativeness, connectedness and management effectiveness.

Protected area representativeness

In general countries acknowledged the need for and importance of improving representativeness not only of ecoregions but also unique ecosystems and key species, particularly the threatened species. A few countries presented their Protected Area Representativeness Indices[94] usually from the Biodiversity Indicators Partnership. Determination of the index requires data and some expertise e.g., in remote environmental mapping, biodiversity informatics, and macroecological modelling[95]. **If Protected Area Representativeness Index is to be used to communicate messages on biodiversity, if countries can make efforts to assess this indicator using their own means, and in order to ensure that countries own the results of the assessment, it is necessary that what is represented is known and understood clearly in common languages. It is important that what is represented also includes components of biodiversity that people value**. Participation of local communities or indigenous peoples has been found critical when gap analyses are being conducted. Land tenure rights were usually the main obstacle to reaching consensus. Species representation in protected areas was not considered systematically in national reports. Only few countries such as Egypt, Mozambique or South Africa included such elements in their national reports.

National reports did not break down the coverage of protected areas to specify e.g., the proportion of each type of forests, savannas, inland waters, peatlands, mountain, coral reefs etc. that is included in the protected area system. Qualitative information was given at times regarding the occurrence of types of ecosystems within protected areas. However, quantitative data (maps and figures) were presented on key biodiversity areas (KBAs) and their coverage in protected areas by the IBAT Alliance. The maps and other

[94] https://bipdashboard.natureserve.org/bip_metadata/protected-area-representativeness-index

[95] https://www.ipbes.net/sites/default/files/Metadata_GEO_BON_Protected_Area_Representativeness_Index.pdf

data published by IBAT are particularly useful in showing gaps in the protection of ecologically and biologically significant areas, and for the prioritization of areas where to establish or expand protected areas as well as other biodiversity management approaches such as community conserved areas.

Protected area coverage of species distributions was also not described systematically in national reports. However, national reports noted the presence of some threatened species, particularly keystone endemic species. In the face of climate change impacts that will possibly lead to the degradation of parts of protected areas, some species may lose parts of their protected ranges. Climate projections indicate that a large proportion of amphibian, bird and mammal species are expected to be found in areas that will become of lower climate suitability. A GEF-funded pilot project titled Protected Areas Resilient to Climate Change (PARCC) was carried out from 2010 to 2015 in West Africa to test ways and means to (re)design PA networks and make them more resilient to the impacts of climate change. The project's gap analysis showed that some conservation features were completely unprotected, especially for threatened species. The project concluded that to meet all the conservation targets, over 20% of the West Africa region would need to be protected. The analysis also indicated the areas most suitable for new protected areas including corridors, and PA system expansion. **Despite the importance of the work for the future of the PA systems in the countries involved in the project and the threats posed by climate change in West Africa, only Togo referred to the PARCC project in its national report. This situation raise doubt on the depth of involvement of the other countries in the project.**

Connectedness/connectivity

A few countries such as South Sudan and Zimbabwe reported on their Protected Area Connectedness Indices. They show that there have been continuous slight increases in the national indices, but there is still much to do. Financial resources and human capacity as well as awareness raising and consultations with local communities and indigenous peoples are required. A country reminded the importance of applying the ecosystem approach which is the primary framework for action under the CBD and the principles guiding the concept of ecological network. Countries noted the importance of establishing more corridors, paying attention to migratory species routes and integrating the work on connectedness into larger landscapes. Some corridors require restoration.

Additional financial, technical and human resources were identified as needed for the systematic identification and mapping of areas requiring connection for improved biodiversity conservation. A major challenge highlighted in some national reports is the competition between corridors for biodiversity conservation purposes and needs for revenues from logging and agricultural production. Thus, awareness raising activities targeting in particular local communities and indigenous peoples were being conducted regarding the importance of connecting protected areas. Countries described many initiatives to connect protected areas but did not present data on the effectiveness of these actions.

Expansion of protected area systems

African countries have not yet realized all the benefits from protected areas and conservation areas in terms of conservation and recovery of threatened species and socioeconomic gains for local communities and the wellbeing of all the stakeholders. In some countries, local communities saw themselves expelled from their ancestral lands to accommodate protected areas. Thus, there is little or no motivation or strong incentives for the establishment of new protected areas, even if they are needed to improve representativeness and connectedness.

Ensuring effective protection

Management effectiveness

Many countries reported on their protected area management effectiveness (PAME) assessments using tools such as the Rapid Assessment and Prioritization of Protected Area Management (RAPPAM)

methodology and the Management Effectiveness Tracking Tool (METT). An analysis of management reports indicates that most protected areas are not managed effectively due to lack of adequate resources in terms of both staffing and budget, poor law enforcement, and poor infrastructure. Excessive pressure on managers to accommodate unsustainable demands was also added to the list of obstacles. Other analyses, including the 6th national reports and NBSAPs, revealed that where local communities and indigenous peoples were explicitly involved in decision-making and the co-management of protected areas, both conservation and socioeconomic outcomes were improved.

Development of management plans have been among the actions that countries undertook to improve their protected area management effectiveness (PAME). In general, only few management plans have been drafted. Often, countries focus on these PAME evaluation processes and development of protected area management plans and pay little or no attention to the extent to which management plans were achieving the biodiversity objectives for which the protected areas have been established. Some countries drew attention to the limited involvement, often for the form, of local communities and indigenous peoples in management decisions. As a result, local communities were not always supportive of the protected areas.

Protected area effectiveness

Protected areas were established to ensure the recovery and maintenance of threatened plant and animal species. Some were created to protect springs of water, to serve as carbon sinks or breeding grounds for wildlife and fish, critical to the food security of hundreds of millions of people, for ecotourism and benefit to national economies etc. An important consideration is that many of the protected areas in Africa (and elsewhere) are not achieving the objectives for which they were established, for various reasons such as the limited human resources to enforce laws, limited financial resources to hire enough rangers to curtail poaching and illegal trade of wildlife, insufficient equipment to monitor wildlife, the presence of armed groups inside and around protected areas especially when oil and minerals have been found there, uncontrolled bushfires etc. **These constraints need to be assessed in detail including the underlying factors. Such quantitative details can be found in reports that countries regularly submit on World Heritage Sites and in annual reports under the Ramsar Convention or the Convention of Migratory Species.** Having management plans is not an indication of effective protected area. References to PAME draws more attention to processes than the outcomes. The national reports included some examples of effective protected areas highlighting the usefulness of protected area management plans. During 2013 and 2019, the great ape's populations in the Volcanoes National Park in Rwanda increased by 26.3%. The actions listed in the management plan were systematically being implemented. They included *inter alia* the strengthening of the Park's surveillance program (wardens, rangers, and local community members) and incentives to local communities that significantly reduced illegal activities such as poaching, prevented encroachment and overexploitation of resources, increased the de-snaring activities; the strengthening of consultations and collaboration with the other two park authorities who share the Virunga ecosystem; and the Tourism Revenue sharing program that supports the socioeconomic development of the communities living adjacent to the park.

Overall progress

The country self-assessment of progress towards the achievement of national targets relating to ABT 11 indicates that 54% of countries in Africa were on track to achieve (46%) and exceed (8%) the targets and that the percentage was similar (52%) at the global level (Figure 18). In general, more countries (54% in Africa and 52% at the global level) have made good progress.

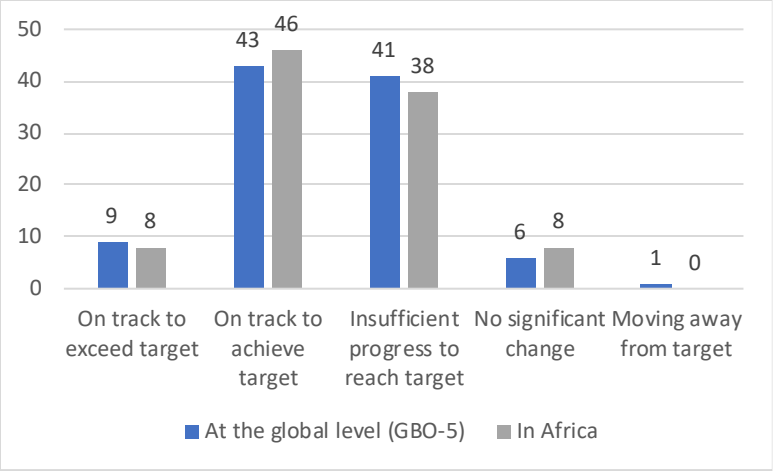


Figure 18: Level of progress towards national targets relating to protected areas at the regional and global levels (in percent of number of countries that provided an assessment of progress toward their respective national targets relating to ABT 11)

Some lessons learned

In their 6th national reports submitted between2018 and 2020, countries assessed progress towards their national targets and rated as follows: progress on track to exceed the target, progress on track to achieve the target, insufficient progress, no progress or moving away from the target. For protected areas, ratings were to be applied, at least in the case of targets having the same scope as ABT 11, to protected area coverage (terrestrial and inland water as well as coastal and marine areas), management effectiveness and equity, ecologically representativeness, connectedness, and integration into the wider landscapes and seascapes.

Lesson 1*: There are many elements in the target. It is not clear whether the one rating given by countries for this target took into account all the elements. Seychelles decided to give ratings for (i) terrestrial and inland water area, (ii) terrestrial and inland water area management, (iii) marine area, and (iv) marine protected are management. To avoid confusion, it will be necessary to specify in the reporting guidance that a rating should be given to each element of the target or to adopt targets that have only one specific element.*

Progress ratings published in the national reports were made in 2018 and 2019 with the exception of Mauritius (assessment made in 2020). It was possible to check whether the countries' projections were confirmed by WDPA data at the end of 2020, the end-year of most of the targets.

- Excluding PA targets having end-years beyond 2020 i.e., for which there is still time even if the targets have not yet been achieved, 49% of national targets on terrestrial protected area coverage have not been achieved as of January 2021 (Figure 19). They include for example targets adopted by Burundi (10% terrestrial and inland water for 2015), Mali (15% national territory for 2018), Lesotho (like ABT 11) or Ethiopia (20% for 2020). Among these, half of the progress ratings were overestimated because progress was rated 'on track to be achieved' for example for Mali, Rwanda or Ethiopia. Nine countries such as Ghana, Kenya and Lesotho rated rightly that their progress was insufficient.
- Fifty-one percent of the national targets (excluding PA targets having end-years beyond 2020) were exceeded (Figure 19). Gabon, Seychelles, Namibia and Guinea Bissau rated their progress rightly as "targets on track to be exceeded" in their respective national reports. The other countries (among the countries that exceeded their targets) such as Niger, Zambia, Equatorial Guinea and Morocco have underestimated their progress

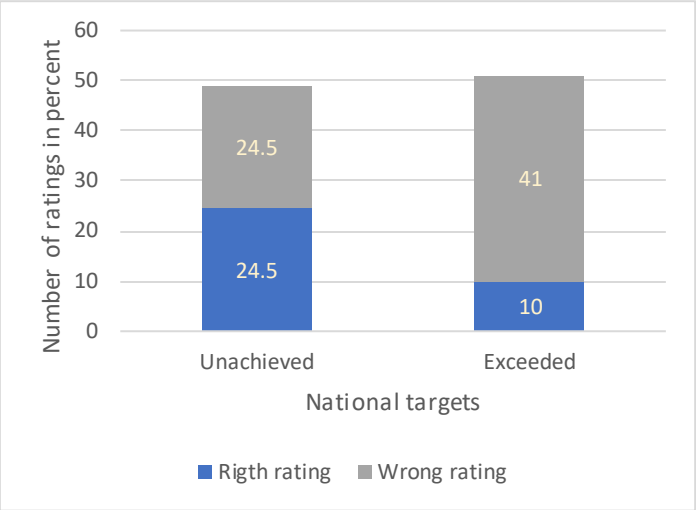


Figure 19: Number of wrong and right ratings of progress towards the achievement of the terrestrial coverage of national targets related to ABT 11 (in percent of total countries excluding targets having end-year beyond 2020)

***Lesson 2**: Ratings provided by countries in assessing progress towards their national targets should only be considered as indicative and not used as basis for decision-making. Such ratings can have absolute value if they are based on solid metrics and not just perceptions, and if they are based on outcomes.*

Most targets for marine and coastal areas have not been met with the following exceptions: (i) Egypt almost met its 5% target (4.95% at the end of 2020) as well as Cameroon with 10.89% for a 10% target; (ii) the following countries exceeded their 10% targets as follows: 16.0% for Sudan, 28.8% for Gabon and 32.8% for Seychelles.

***Lesson 3**: Some targets have their end-years beyond 2020 and it was not possible to check whether the rating provided in the national report was an over estimation or an underestimation of the progress. It would be useful that the reporting guidance suggest that countries describe the level of their expected progress at the end of the time of the strategy i.e., 2030 if that year will be the end year for the post-2020 Global Biodiversity framework that will be adopted at the forthcoming meeting of the Conference of the Parties.*

As of January 2021, only 5 countries have a marine and costal area coverage of 10% or more. Close to 39% of countries in Africa have already exceeded a terrestrial PA coverage of 20% (Figure 20) and 9 countries[96] among them have a terrestrial PA coverage ranging between 33.1% (Morocco with its OECMs) and 61.5% (Seychelles). Thirty-five percent of countries have a terrestrial PA coverage below 10%.

[96] Algeria, Comoros, Congo, Guinea, Morocco, Namibia, Seychelles, Tanzania and Zambia

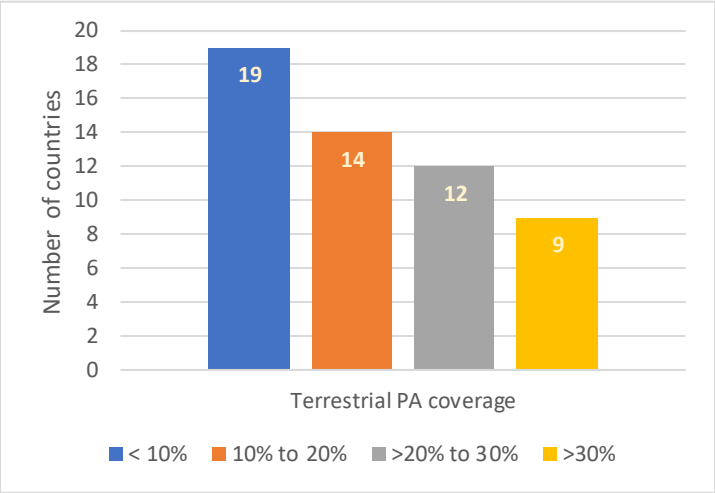


Figure 20: Number of countries for each range of percent PA coverage.

(Source of data is WDPA accessed in January 2021)

An important question is whether the countries having large proportions of the territory protected see some proportional improvement in their biodiversity conservation, in particular in the reduction of natural habitat loss and degradation, in the reduction of anthropogenic pressures on vulnerable ecosystems, in the reduction of threatened species, and improvement in fish stocks. Thus, we considered the reported levels of progress towards national targets related to ABT 5 (on natural habitat loss halved and degradation reduced), ABT 10 (on minimization of pressures on vulnerable ecosystems) and ABT 12 (reducing risk of extinction) in all the countries having terrestrial PA coverage of 20% or more, and progress towards national targets related to ABT 6 (on fish and invertebrate stocks and aquatic plants) in countries having marine protected area coverage of more than 10% (i.e., Gabon, Seychelles, South Africa and Sudan).

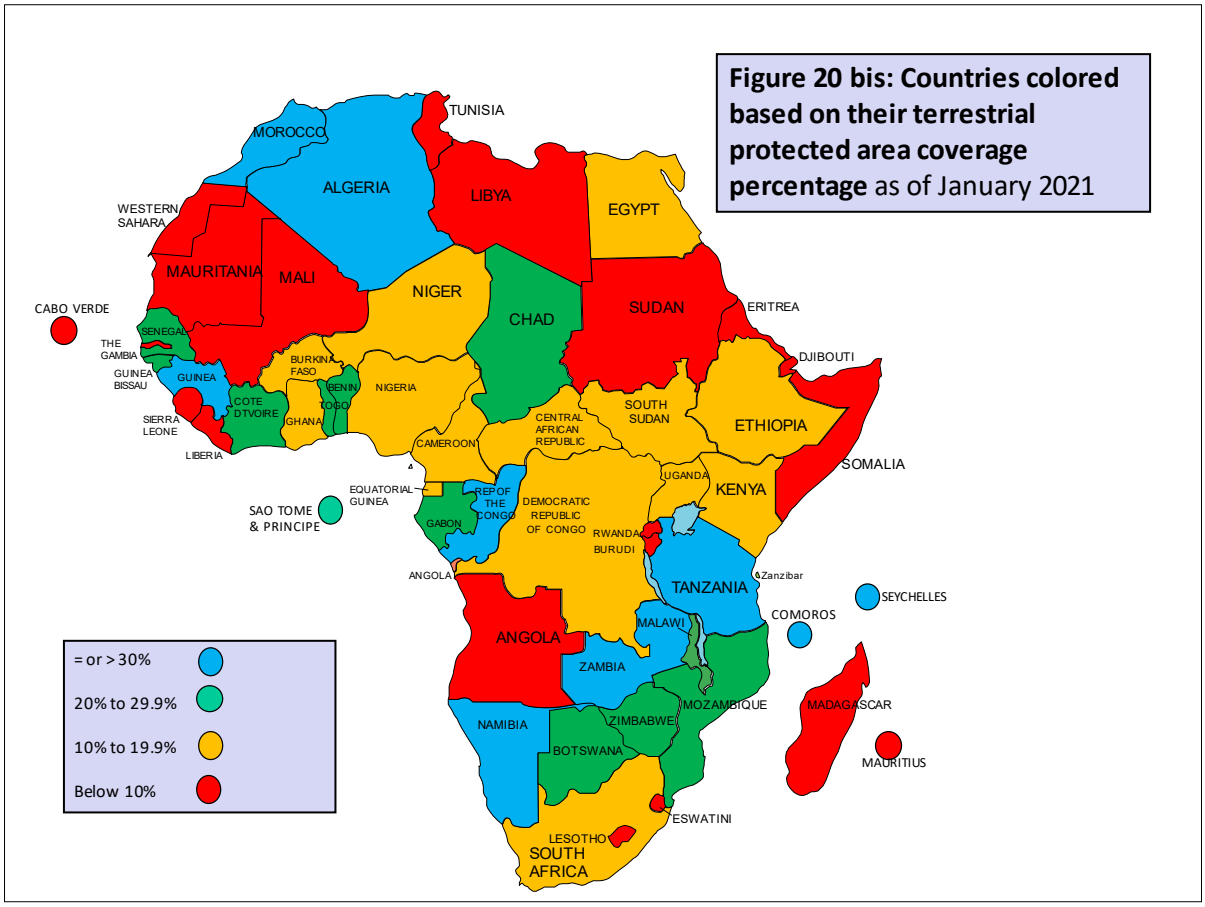
To the question whether large terrestrial protected area coverage helped progress under targets related to ABT 5, 10 and 12. The answer is no because most (59%) of the ratings of progress under the national targets related to these 3 ABTs in the countries having large proportions of territory protected were "insufficient progress" and 12% no progress. Even 4% of the ratings indicated that the biodiversity situation was moving away from the targets. Only 20% (essentially for ABT 12 on vulnerable ecosystems impacted by climate change) were considered "on track to achieve the targets" and 4% to exceed the targets.

To the question whether large marine protected area coverage helped advance progress under targets related to ABT 6 and 12 in aquatic ecosystems, we observed that apparently there was no correlation between the percentage of protected areas and progress under those targets. All ratings were "insufficient progress" or "moving away from targets". Seychelles example is telling. Seychelles has the largest marine PA coverage in Africa of 32.82%. Progress on its target related to ABT 6 was rated as "moving away from target" because "trends in fishery catch, specific catch management initiatives and ecosystem quality continued to be negative"; "most targeted stocks were subject to overfishing and subject to ongoing overfishing". It is likely that management (rated as insufficient) was the element to consider if the impact of marine protected areas is to be improved.

The message from these observations is that it is not because large areas of land have been declared protected that the loss of natural habitats including forests will be reduced (ABT 5), that fish and invertebrate stocks will be maintained (ABT 6), that vulnerable ecosystems impacted by climate change

will be protected from anthropogenic pressures (ABT 10), or that threatened species will be protected, and their populations recovered (ABT 12).

Lesson 4: *Right emphasis must be put on ways and means to make sure that PAs are effective and not only, as it is currently, on the expansion of protected areas to reach 30% of the planet.*



Source of data: CBD Secretariat based on WDPA January 2021
NB: The size of the Small Island States is not shown, only their approximate location on the map.

NATIONAL TARGETS RELATED TO ABT 12

Aichi Biodiversity Target 12:
By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.

Priority status for biodiversity in Africa

Threatened species are not specifically listed among the 11 Africa's biodiversity priorities (Annex 1). However, poaching and illegal trade which are among the priorities are some of the major threats to wildlife in Africa. Agenda 2063 refers to threatened and endangered species under Aspiration 1, Goal 7 (Environmentally sustainable climate resilient economies and communities), Priority Area (1) on

Biodiversity, conservation and sustainable naturalresource management (Annex 4) and Priority Area (3) on climate resilience and natural disasters and preparedness (Annex 6). Agenda 2063 recommends that for achieving the 2023 targets under priority area (1), countries should consider among other actions: (i) to develop policies / regulatory frameworks that reduce dependence of the population on threatened species and ecosystems, eliminate all forms of trade in endangered species, and (iii) enact strict and punitive legislation for wildlife crimes, including poaching and trafficking and enforce such legislation without any kind of bias (political, economic, social and ethnic). Under Priority Area (3), Agenda 2063 recommends the establishment of a bank/banks of genetic marine resources to restore threatened species and degraded ecosystems, particularly in Island States. The Living Planet Index (LPI)[97] report indicates that there has been a 65% decline in species abundance between 1970 and 2016 in Africa. This is significant. If the high economic cost of losing keystone species is taken into consideration especially in terms of shortfall in the tourism sector, then recovery and conservation of wild species should also be included among Africa's priorities.

Through Targets 15.5 and 15.7, the Sustainable Development Agenda reinforces ABT 12 and provides some details about the threats and actions to take. SDG Target 15.5 calls for taking urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species. SDG Target 15.7 is about the need to take urgent action to end poaching and trafficking of protected species of flora and fauna and address both demand and supply of illegal wildlife products.

National targets related to ABT 12

At the global level (GBO-5), 86% NBSAPs contain targets related to ABT12; and only about a fifth of Parties (21%) have national targets with a scope and level of ambition similar to the global target. In Africa, 88% of countries adopted a target on threatened species. Forty-four percent of countries had the same target as ABT 12 (some with different end-years e.g., Malawi and Central African Republic: 2025). Forty-four percent of countries crafted their targets differently from ABT 12, and 12% of countries had no specific target on threatened species. As part of the success factors, countries like Egypt, Mozambique, The Gambia and South Africa, integrated quantitative factors in their targets to clearly specify the end goal and better communication. Lack of specific target on threatened species does not mean that the countries did not carry out actions to address the decline or recovery of threatened species. For example, without a target on threatened species, Equatorial Guinea has been implementing the TOMAGE project for the conservation of sea turtles (2004-2019) and the Bioko Island Biodiversity Protection Program focusing on critically endangered primates and nesting marine turtles.

Actions taken

The 6th national reports from Africa acknowledge that populations of their wild species of fauna and flora are in decline. Data supporting these observations are mainly from assessments such as the FAO Forest Resources Assessment, observations in the World Heritage Sites and in response to the requirements under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and the 2018 IBPES regional assessment report on Biodiversity and Ecosystem Services for Africa[98]. More detailed and relatively comprehensive data are provided by organisations such as IUCN through the Red List of Threatened Species[99], IBAT Alliance[100] and the WWF Living Planet Index.

[97] https://livingplanet.panda.org/
[98] https://ipbes.net/assessment-reports/africa
[99] https://www.iucnredlist.org/
[100] https://www.ibat-alliance.org/

Countries have taken various measures to address the decline in wildlife. Measures taken can be regrouped under prevention, direct action to stop the decline in species populations, recovery and supporting activities. More specifically, countries took the following actions to achieve their national targets related to ABT 12 and contribute to the implementation of ABT 13 at the global level: they inventoried and mapped the (known) threatened species; they prioritized them on the basis of their population declines; they identified the threats, mapped them and described their levels and impacts; they reviewed the measures taken and described their effectiveness; considering the constraints encountered, they addressed the obstacles, adjusted existing measures and took additional measures when possible and as needed; some put in place monitoring and evaluation mechanisms and described some of the positive outcomes e.g., in terms of species recovery. All of them conducted supporting activities to increase the chances of success.

Regarding inventory and mapping of known threatened species, the IUCN Red List was widely used. Angola, Namibia and Liberia through their ABT 12-related target have been updating their lists of threatened species as well as Ghana and Rwanda starting with the IUCN Red List of the respective countries. Threatened species under consideration were mainly from national parks. Few countries, such as Egypt provided information on the distribution and mapping of endangered species. South Africa's Red List Index analysis is updated annually by the red List team at SANBI's Threatened Species Programme.

The generic causes of the decline in wildlife species are known and include natural habitats degradation, fragmentation and conversion to other land uses including deforestation; excessive harvesting, grazing and hunting as well as poaching and illegal trade often in areas that have become difficult to access due to the presence of armed groups; pollution especially from mining, oil extraction and wastes; invasive alien species; bushfires; drought and desertification; and natural disasters. The impact of all these drivers of biodiversity loss is exacerbated by climate change.

Twenty five percent of the reports in Africa mentioned human-wildlife conflicts. Countries that addressed human-wildlife conflicts pursued the objective to alleviate/mitigate these conflicts particularly in protected areas and areas surrounding protected areas, in relation with protected animals like lion, hippos, warthogs, baboons, monkeys and elephants, for which occurrences of conflicts are recorded regularly. Some countries developed strategies and/or action or management plans to achieve this goal, including awareness raising among local communities about the socioeconomic gains from conservation of wildlife. Examples of such strategies and actions or management plans include the 2015 Regional Strategy for Cheetah and Mabeco Conservation in Southern Africa, and the National Strategy for the management of human-wildlife conflict in Mozambique.

Every country has sets of preventive measures in the form of legislation, regulations and policies for the conservation and sustainable use of wildlife, some of which are keystone species or species of socioeconomic and cultural value. Enforcement of legislation and policies have sometimes suffered from political, economic, social and ethnic bias. Measures taken in the context of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) are relevant (see e.g., implementation of Gabon's target 11 and DR Congo's target 5.3). They include for example the establishment of quotas to limit the trade in threatened species listed in CITES appendices or the "Monitoring the Illegal Killing of Elephants" (MIKE) Programme, among others. These measures under CITES take advantage of many mechanisms in place such as the African Elephant Fund, the CITES Tree Species Programme and the CITES Trade Database. In the context of its target 11, South Africa proposed new species to be added to the CITES appendices and put in place an early warning system using online monitoring to flag new species potentially threatened by international trade. In addition, in order to make sustainable the ongoing international trade in indigenous plant resources and ensure the long-term survival of species in the wild, several research projects and conservation interventions are underway for

a number of South African plants. Other Parties to CITES are carrying out similar activities. A dozen of countries such as Egypt, Botswana, Namibia, Zambia, Guinea Bissau, Liberia, Cabo Verde, Madagascar, Gabon and Sierra Leone etc. dropped prevention from their targets but took measures that are indirectly preventing the threats or the decline in species populations.

Countries have developed and implemented ecosystem and species management plans. For example, implementation of South Africa's target 11 (No species of wild flora endangered by international trade) required the development and implementation of the "Biodiversity Management Plan for Critically Endangered and Endangered cycads". The plan was ready in 2018 and was being implemented. Several examples of ex situ and in situ conservation for endangered and critically endangered species have been reported. However, suggestions were also made to use holistic and multi-disciplinary approaches to save endangered species (e.g., for the Grey crowned crane in Rwanda).

Regarding the recovery of threatened species, the 6th national reports focused on species-specific active or passive recovery programmes (with possibility of payment for ecosystem services) for keystone or culturally important species, which may be part of ecotourism attractions; breeding programmes; habitat restorations, community-based conservation, protected areas, wildlife sanctuaries and conservation areas with the monitoring of keystone species. The focus of many of these measures is usually on those species that have become critically endangered such as rhinoceros, elephants, pangolins. It is only in a few cases such as for wild relatives of food crops that programmes were designed to enhance management measure, those species being beneficial essentially for food security and other socioeconomic benefits (e.g., the more drought and heat-tolerant wild rooibos in South Africa or wild plant species providing shade in cocoa and coffee plantations in West Africa).

Some countries put in place monitoring and evaluation mechanisms. These require investments in technical infrastructure and human capacities. Regular assessments of the impact of measures taken allow to adjust and enhance the effectiveness of the measures.

Supporting activities include a participatory planning process ensuring the involvement of the indigenous peoples and local communities (IPLCs); awareness-raising programmes, training and integration in education curriculums; mobilization of financial resources; incentive measures including payment for ecosystem services schemes and application of 'polluter pays' concept. Some countries (e.g., South Africa and Malawi) established trust funds to address the long-term conservation of wildlife in danger of extinction. Additional funds are being taped from bilateral and multilateral sources and from individual donors. Sustainable sources of funding are key to successful and long-term implementation of conservation measures.

Overall progress

In the 6th national reports, progress towards ABT 12 was as follows: of the countries that reported on the implementation of their targets, 2 African countries (4%) considered they were on track to exceed the target and 20 countries (40%) were on track to achieve their targets. The progress of 24 countries (48%) was considered insufficient and 3 countries (6%) reported they made no progress. One country (Somalia) found they were moving away from the target. Figure 21 shows that based on self assessment Africa did a bit better than the global average with 44% of countries being on track to achieve (40%) or exceed (4%) the ABT 12- related national targets while 38% of countries at the global level were on track to achieve (36%) or exceed (2%) their ABT 12-related targets. **It will be useful to see how the measures taken and the progress achieved contribute to the achievement of the related targets in Agenda 2063 and whether or how much protected area systems and their expansion are contributing to the improvement of the status of threatened species**.

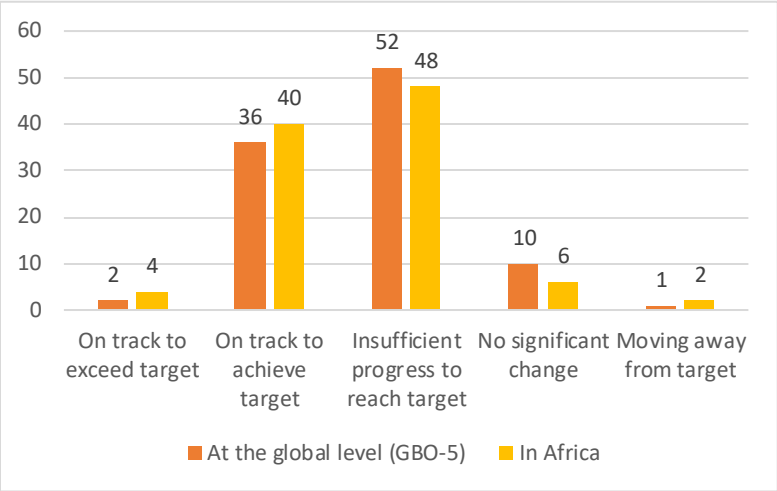


Figure 21: Level of progress towards national targets relating to the reduction of species extinction risk at the regional and global levels (in percent of number of countries that provided an assessment of progress toward their respective national targets relating to ABT 12)

Challenges

Challenges met include essentially limited financial, human and technical capacity for the identification, assessment of status, trends and spatial distribution of the threatened species; for regular monitoring of the wild species, their trade and effective law enforcement. Addressing these challenges imply that factors underlying the lack of each type of capacity need to be identified and their levels and impacts assessed.

NATIONAL TARGETS RELATED TO ABT 13

Aichi Biodiversity Target 13:
By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.

Priority status for biodiversity in Africa

The need to stop the ongoing genetic erosion and maintain/protect the genetic diversity of cultivated plants and farmed and domesticated animals as well as their wild relatives and other socio-economically and culturally valuable species is not among the Africa's biodiversity priorities (Annex 1). However, genetic diversity is critical for food, health and livelihood security in line with the AfDB High Five. In addition, in Priority Area 1 (Biodiversity, conservation and sustainable natural resource management) under Goal 7 (Environmentally sustainable climate resilient economies and communities) of Agenda 2063 (Annex 4), one of 2023 targets is to maintain the "genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives including other socio-economically as well as cultural valuables species". This Agenda 2063 target is an endorsement of the first part of ABT 13 by Africa.

The SDG Target 2.5 (By 2020, maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild specie and promote access to and fair and equitable sharing

of benefits arising from the utilization of genetic resources and associated traditional knowledge) reinforces ABT 13 and link it to the Access and Benefit Sharing (ABS) scheme covered under ABT 16.

National targets related to ABT 13

In Africa, 79% of countries adopted targets related to ABT 13 against 74% at the global level. In Africa, 18 targets are the same as ABT 13 except that end-years range between 2016 and 2025, while 17 targets have less elements than ABT 13 and 7 targets are totally different. Most of the 11 countries that did not have ABT 13 -related targets such as South Africa or Egypt were carrying out activities contributing to ABT 13. Mozambique's target which had less elements than ABT 13 had 2030 as end-year. A few countries added to their target statement valorisation of genetic diversity, or prioritisation of the genetic diversity to be protected. Some targets dropped references to the strategy to be developed and implemented for minimizing genetic erosion, or references to the genetic diversity of other socio-economically (such as pollinators) as well as culturally valuable species.

Actions taken

Countries undertook many actions to achieve their national targets related to ABT 13 and to contribute to ABT 13 and related SDGs. Those actions include the following:

- Inventory and document the genetic diversity of cultivated plants and their wild relatives, farmed and domesticated animals and their wild relatives, and other socio-economically and culturally valuable species;
- Identify both direct and indirect pressures on genetic diversity and assess/describe their impacts and the socioeconomic consequences of their impacts;
- Develop and implement strategies for minimizing genetic erosion and safeguarding genetic diversity by targeting the pressures; and
- Check the outcomes of the actions taken/strategies in terms of conservation of genetic diversity.

In some countries, inventories and documentation require the use of sophisticated/specific technologies and expertise that are not widely available. Characterization of genetic diversity include morphological, cytological, molecular and (bio)chemical characterization. In South Africa for example, genetic monitoring based on allelic richness is used for threatened amphibian species with plans to extend the approach to other priority species. Furthermore, phylogenetic diversity and evolutionary distinctiveness spatial maps have been developed for reptiles across the country, allowing for the identification of priority areas for conservation and development planning. These maps have the potential to influence South Africa's strategy to safeguard genetic diversity by informing protected area strategies and environmental impact assessments. Egypt and Ethiopia are some of the few countries that consider microbial genetic resources in addition to plant and animal genetic diversity. While documenting genetic diversity, countries usually gather simultaneously the indigenous knowledge associated with the seeds or animals or other genetic materials.

The pressures impacting genetic diversity are the same as the generic drivers of biodiversity loss. They are usually just listed in the national reports but their strength/levels as well as the socioeconomic consequences of their impacts are rarely given as they require a lot of financial and human investments which are not always available.

The strategies for minimizing genetic erosion and safeguarding genetic diversity are developed not only for genetic diversity but encompass many objectives. National reports referred mostly to in situ and ex situ conservation programmes involving protected areas, community conserved areas, sacred areas, wildlife sanctuaries, seed and gene/DNA banks with cryopreservation facilities, botanical and zoological gardens. These programmes are usually supported by the following activities:

- Establishment or strengthening of national institutions for planning and implementing plant/animal genetic resources measures, for agriculture/livestock sector development, for research with biotechnological capabilities; for building capacity for genetic diversity characterization, inventory, and monitoring of trends; and data/information management and awareness raising about the value of genetic diversity in particular for food and health security;
- International cooperation to build capacities and offset gaps in expertise;
- Review and development of national policies and legal frameworks; and
- Financial resource mobilization.

Living collections of threatened animals and plants in botanical and zoological gardens can be very costly. In South Africa, threatened plant species maintained in gardens are used as stock material for restoration programs. National gene banks (NGB) can be very complex and require significant human, technological and financial resources. Based on Egypt's description of its NGB in the national report, a NGB's mandate can include (i) the collecting, evaluation, documentation and preservation/conservation of plant, animal and microbial germplasms; and (ii) the contribution of genetic materials and associated information to breeding programs. A NGB can be involved in taxonomy and characterization work and maintenance of herbariums in addition to the storage and propagation of genetic materials. In this perspective, the NGB should have enough storage facilities for seeds and other genetic materials, facilities for seed germination and regeneration, seed evaluation, data/information management. The following laboratories are needed: a molecular genetics laboratory for fingerprinting for plant and animal genetic resources using techniques based on DNA, and for the determination of the degree of relationship among the accessions and to identify duplicates; a cytogenetic laboratory for studying the genetic stability of genetic resources and mapping the chromosomal genetic resources; a (bio)chemical analyses laboratory; and in vitro storage and cryopreservation laboratory.

Many of the above actions and infrastructure also contribute to the implementation of SDG target 2.5, Agenda 2063 and at least two of the AfDB priorities i.e., "Feed Africa" and "Improve quality of life of the people in Africa".

Overall progress

Based on countries self evaluation (Figure 22), 35% of African countries considered they were on track to achieve (33%) and exceed (2%) their national targets related to ABT 13, and overall, two-thirds of the countries in Africa (66%) made no or insufficient progress towards the achievement of their national targets related to ABT 13. The same proportions were observed at the global level.

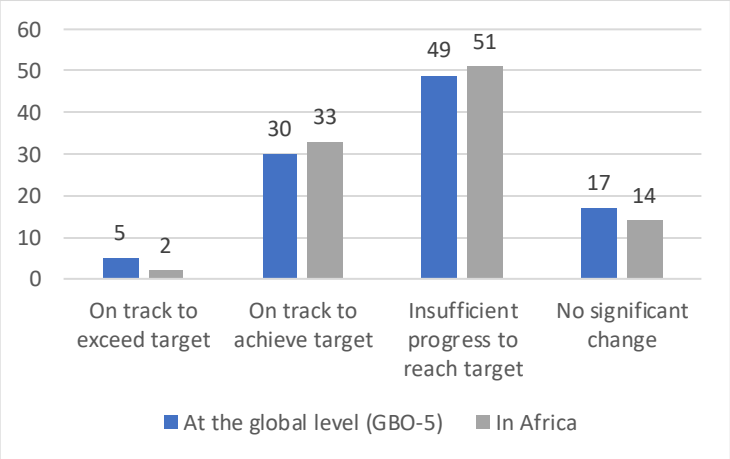


Figure 22: Level of progress towards national targets relating to the conservation of genetic resources at the regional and global levels (in percent of number of countries that provided an assessment of progress toward their respective national targets relating to ABT 13)

NATIONAL TARGETS RELATED TO ABT 14

Aichi Biodiversity Target 14:
By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable

Priority status for biodiversity in Africa

Scientists reported that, about 24% of Africa's land (7.2 million km^2) was degraded and that over the next 50 years, much of the ecosystem degradation in the world would take place in Africa. Africa stated its ecosystem restoration priorities in Agenda 2063: to have Africa's forest and vegetation covers restored to 1963 levels, and land degradation and desertification stopped and then reversed by 2063. Moreover, and more specifically for Small Island States, Africa decided the establishment of banks of genetic marine resources to restore threatened species and degraded ecosystems, in addition to the expansion of marine protected areas. These actions are part of Africa's programme to build environmentally sustainable and climate resilient economies and communities through biodiversity conservation and sustainable natural resources management. Health, livelihoods and well-being encapsulate the elements of one of the AfDB High Five, "Improve quality of life of the people in Africa".

The African Ministerial Summit held in the margins of biodiversity COP-14 in 2018 endorsed the list the 11 Africa's biodiversity priorities (Annex 1) having ecosystem restoration as the first priority on the list. The Summit also adopted the 2019-2030 Pan-African Action Agenda on Ecosystem Restoration for Increased Resilience, with the target to restore over 200 million ha by 2030. This agenda strengthens and complements other ongoing restoration initiatives including the African Resilient Landscapes Initiative, the African Forest Landscape Restoration Initiative (AFR100), the Great Green Wall for the Sahara and the Sahel Initiative, the Forest Ecosystem Restoration Initiative (FERI), the Central African Forest Initiative, the Integrated Lake Basin Management Initiative (LBMI), and the Mangrove Capital Africa programme. It is not clear whether the Pan-African decision on restoring 200 million ha took into account Agenda 2063 target for having Africa's forest and vegetation covers restored to 1963 levels.

Ecosystem restoration, especially if it encompasses "ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being", represents a great opportunity for Africa not only to restore its natural capital/infrastructure and thus rebuild the resilience of its ecosystems and societies to various threats such as climate change and drought/desertification but also to provide jobs and generate multiple benefits for people. Ecosystem restoration will thus contribute not only to the implementation of the CBD, particularly its Article 8(f)[101], but also the UNCCD by reducing Africa's vulnerability to desertification as well as the UNFCCC and the 2015 Paris Agreement on climate change. IPBES listed the services that can eb derived from biodiversity/nature (Annex 7).

[101] Rehabilitate and restore degraded ecosystems and promote the recovery of threatened species, inter alia, through the development and implementation of plans or other management strategies

National targets related to ABT 14

Close to 80% of the African countries developed targets on restoration; half of these countries adopted exactly ABT 14 and 15 and a few of them combined these two ABTs by considering carbon sequestration as one of the essential services from some ecosystems; the other half did not refer to the importance of the ecosystems to be restored but just listed them e.g., as eroded coastal beaches, sites degraded by droughts or floods within the semi-arid ecosystem, or as degraded freshwater catchment areas, riparian zones, wetlands, aquatic ecosystems, protected areas, sacred forests, lands of high biodiversity hotspots, coral reef areas, forest areas and farmlands. Some countries defined the area to be restored as 15% of degraded ecosystems to contribute to carbon stocks and thus climate change mitigation (like in ABT 15) or just as 15% of degraded ecosystems or 15 % of the priority areas among degraded ecosystems. Some others defined the area to be restored in hectares. South Africa's targets on ecosystem restoration are examples of specific, measurable and feasible targets, with clear quantitative factors[102] that enable a reliable assessment of progress. A few countries (e.g., Botswana) included in the target the need to first identify and inventory degraded ecosystems or ecosystem services. Some targets particularly under the GSPC addressed research on tree species for restoration programmes. Seven[103] of the countries that submitted national reports did not adopt targets on restoration of ecosystems. However, all of them were carrying out activities for the restoration of selected ecosystems and some of them, such as Togo and Niger, had made pledges to restore degraded ecosystems in the context of AFR100. End years of the targets varied between 2017 (Burundi) and 2030 (Mozambique or Comoros).

> ***By 2063, Africa's forest and vegetation cover would be restored to 1963 levels. Land degradation and desertification would have been stopped and then reversed*** *(Agenda 2063 Framework Document, 2015)*

Actions taken

The various measures taken to achieve national targets on restoration of ecosystems providing essential services can be compiled as follows: (i) Identification and description of ecosystems providing essential services and whether they are terrestrial or aquatic and whether they are mountains, forests, wetlands, rivers, lakes, marine and coastal ecosystems, drylands; (ii) description of the services they provide including whether provision of water, or contribution to health, livelihoods and wellbeing, and whether important for climate change mitigation and adaptation; (iii) indication whether the services are particularly important to the needs of women, indigenous peoples and local communities, and the poor and vulnerable; (iv) whether they are lands affected by desertification, drought and floods, or whether they are affected by invasive alien species, pollution, fragmentation, overharvesting and climate change (e.g., sea level rise) and description of the levels of these pressures and their impacts on ecosystems; (v) prioritization of degraded ecosystems for restoration; (vi) assessment of ongoing and planned restoration measures; and (vii) adjustment or scaling up of the measures and application of new ones as needed; (viii) assessment of the consequences of the restoration measures taken. Additional actions reported included economic valuation, raising awareness of the importance of ecosystem services, capacity building and

[102] South Africa Target 12 is (NBSAP version) "By 2019, a total of 1 370 600 ha of land, (NBSAP version) consisting of 1 218 106 ha under the Department of Environmental Affairs (DEA) and 152 500 ha under the Department of Agriculture, Forestry and Fisheries (DAFF), restored, with 3 230 271 ha of follow up treatment, and Target 13 is "By 2019, 695 wetlands have been rehabilitated."

[103] Djibouti, Equatorial Guinea, Gabon, Niger, Sao Tome and Principe, Togo, Zambia

mobilization of funds. Few national reports included details on the description of the ecosystems under restoration, including the full array of services they provide, the relevance of these services to the needs of women, indigenous peoples and local communities, and the poor and vulnerable.

The 6th national reports did not present data on degraded areas at the national level only at site levels. Some countries had planned inventories of such areas during the past decade. However, many of them have not yet started or completed the inventories. Data on degraded ecosystems in the 6th national reports generally cover data on rate and extent of deforestation and forest degradation from the FAO Forest Resources Assessment and work on REDD+. Some of this information has been taken into consideration in the development of nationally determined contributions (NDCs) under the UNFCCC. Data on land degradation collected under the UNCCD and in the context of Land Degradation Neutrality *(*LDN*)* were also presented in a few national reports. The UN Biodiversity Lab[104], in partnership with UNDP and UN Environment, made available country maps[105] on features describing ecosystem degradation, including pollution, human pressures and footprint, trends in forest and mangrove cover, human pressures within protected areas or in marine areas. Many African countries reproduced some of those maps in their 6th national reports **with no or little integration in the discussions of restoration measures or the pledges. Data on degraded ecosystems presented in the 6th national reports were not sufficiently comprehensive to serve as baselines for future determination of the proportion of degraded ecosystem that could be targeted post 2020**. In addition, data on ecological and socioeconomic impact of ecosystem degradation were usually not provided but general qualitative statements such as "loss of forests and native vegetation has affected smallholder subsistence systems".

Some studies indicate that more than 720 million hectares in Africa have the potential to be restored. Current pledges to restore ecosystems in Africa are: (i) restoration of over 200 million ha by 2030 under the 2018 Pan-African Ecosystem Restoration Action Agenda. It is not clear whether this target took into account Agenda 2063 targets on ecosystem restoration; (ii) restoration of 100 million hectares of land by 2030 through AFR100[106] (the African Forest Landscape Restoration Initiative) (see commitmnts in Annex 8) which contributes to the Bonn Challenge[107], the African Resilient Landscapes Initiative[108] (ARLI). The pledges made under AFR100 and the Pan-African Ecosystem Restoration Action Agenda (Figure 23) represent only 45.3% of the 720 million hectares with potential for restoration. Some ecosystem restoration targets[109] were adopted within the Land Degradation Neutrality target setting projects.

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[104] https://www.unbiodiversitylab.org/about.html

[105] These UN Biodiversity Lab maps should be interpreted with caution and verified / validated at site level. Some maps may be based on simplifications due to the absence of systematic data or insufficient data

[106] https://afr100.org/. As of 14 April 2021, 30 countries have committed to restore 126 million hectares, with $1B in development finance and $481M private sector commitment

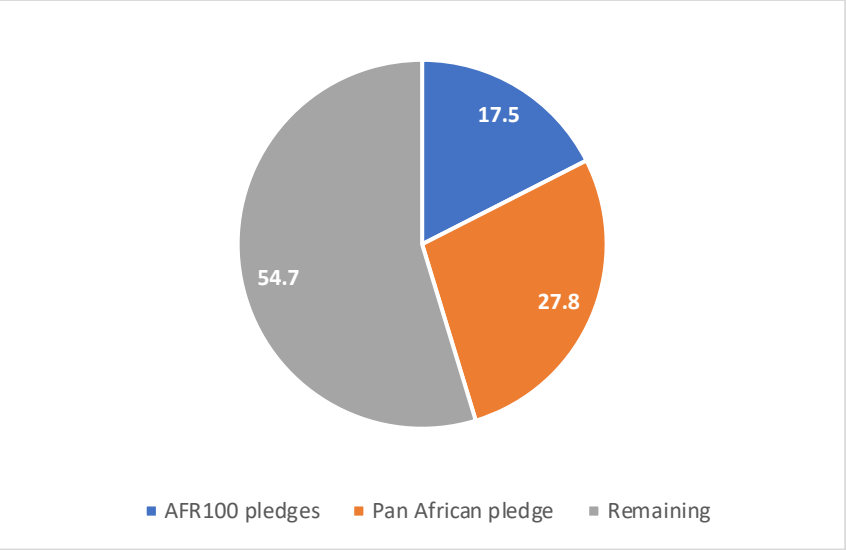
[107] The Bonn Challenge was adopted in Germany in 2011. Its overall objective is to restore 150 million hectares by 2020. The New York Declaration on Forests stretched the goal to 350 million hectares by 2030.

[108] ARLI's objective is to promote integrated landscape management for adaptation to and mitigation of climate change

[109] See https://www.iucn.org/sites/dev/files/content/documents/countries_participating_in_ldn_target_setting_project.pdf accessed on 20 August 2020: LDN Target Setting project is currently supporting 75 countries (out of the 116 countries that have committed to set the LDN targets as of March 2018), representing a diversity of socioeconomic and ecological contexts. These are, for Africa, 1. Angola 2. Benin 3. Burkina Faso 4. Burundi 5. Cameroon 6. Central African Republic 7. Côte d'Ivoire 8. Democratic Republic of Congo 9. Egypt 10. Equatorial Guinea 11. Eritrea 12. Gabon 13. Gambia 14. Ghana 15. Guinea 16. Guinea-Bissau 17. Kenya 18. Lesotho 19. Madagascar 20. Malawi 21. Mali 22. Mauritania 23. Mauritius 24. Morocco 25. Niger 26. Nigeria 27. Republic of Congo 28. Sao Tome et Principe 29. Seychelles 30. Sierra Leone 31. South Africa 32. Swaziland 33. Togo 34. Uganda

Synergy in implementing biodiversity conservation measures, climate change mitigation and adaptation and action plans for combatting desertification was considered beneficial to countries.

Figure 23: Pledges under AFR100 and the Pan-African Ecosystem Restoration Action Agenda
(in percent of the 720 million ha of degraded ecosystems reported in Africa by scientists)



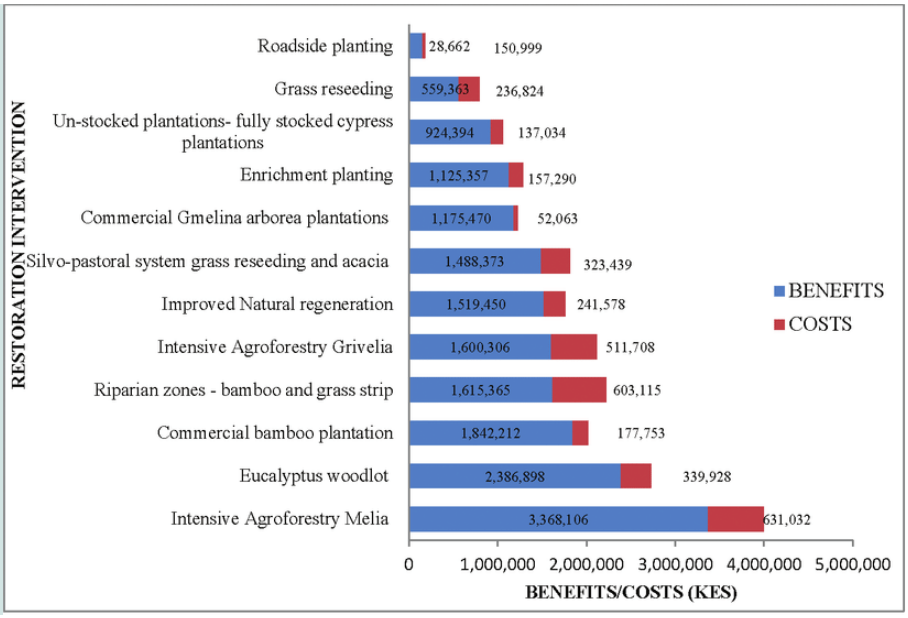
While the 6th national reports contain information on areas that are or will be under restoration, these areas were not necessarily decided on the basis of comprehensive assessments of degraded ecosystems. A few countries provided details on the sizes of areas under restoration while many countries informed on locations/sites being rehabilitated or restored without specifying the area size.

Eight[110] of the 11 countries involved in the Great Green Wall[111] initiative made reference in their 6th national reports to this "Africa's flagship initiative to combat land degradation, desertification and drought". Information provided was essentially about the agencies coordinating the work and usually not on the achievements. Kenya (Figure 24) and South Africa presented data showing that the economic benefits of restoration can outweigh costs.

[110] All except Eritrea, Ethiopia and Sudan

[111] The Great Green Wall is an African-led initiative with an ambition to grow vegetation along 8,000 km across the entire width of Africa. A decade in, roughly 15% has been achieved. The initiative is bringing life back to the degraded landscapes, providing food security, jobs and a reason to stay for the millions who live along its path (https://www.greatgreenwall.org/about-great-green-wall).

Figure 24: Discounted benefits and costs of restoration (KES)/ha at 7%



Source: This figure is reproduced from Kenya's Sixth National Report to the Convention on Biological Diversity: Figure 12 was originally published at https://www.researchgate.net/publication/332671599_Economic_Analysis_of_Forest_Landscape_Restoration_Options_in_Kenya_Economic_Analysis_of_Forest_Landscape_Restoration_Options_in_Kenya

Overall progress

The period between the time ecosystem restoration targets were adopted and the end-years ranged between 2 years (Burundi) and 9 years (Comoros) with 4 or 5 years for most countries. It is difficult to expect ecosystem restoration results within such short periods of time. In any case, the total percentage of countries on track to achieve or exceed their ecosystem restoration targets was practically the same in Africa (32%) and at the global level (30%) and represented a little less than a third of the countries. In other words, for most countries (> 66%), there was no or only insufficient progress (Figure 25).

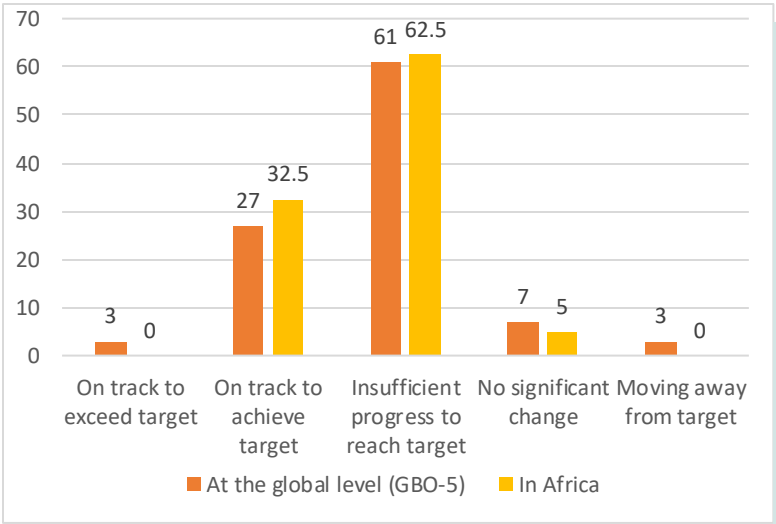


Figure 25: Level of progress towards national targets relating to the conservation and restoration of essential ecosystems at the regional and global levels (in percent of number of countries that provided an assessment of progress toward their respective national targets relating to ABT 14)

Challenges

Many countries identified the following challenges for the successful implementation of their pledges: (i) limited financial and human resources to cover the costs from the participatory and spatial planning to monitoring the status of restoration at every step over many years; (ii) lack of comprehensive sets of data including ecological/biological (fauna and flora including birds, insects) data, evolution of soil biological and physicochemical status, and socioeconomic data, starting with baseline data. National reports did not analyze in a systematic way the needs of women, and the poor and vulnerable. Seychelles devoted a section on gender dimension under the implementation of each target. Reduction of poverty was implied within each measure taken.

NATIONAL TARGETS RELATED TO ABT 15

Aichi Biodiversity Target 15:
By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.

National targets related to ABT National targets related to ABT Priority status for biodiversity in Africa

Conservation/protection of ecosystems and their restoration if/when they are degraded are important to make sure that the resilience of ecosystems particularly in the provision of their services is maintained or enhanced. This target focusses on carbon conservation service as a contribution to climate change mitigation, and other roles that biodiversity play in climate change adaptation and addressing desertification. In the face of ongoing ecosystem degradation, the target calls for the restoration of at least 15% of degraded ecosystems as a contribution to ecosystem resilience and carbon stocks.

'Ecosystem restoration' and 'Climate change and biodiversity' are listed among the 11 Africa's biodiversity priorities (Annex 1). Their importance for Africa is also highlighted in Agenda 2063 where, under the first aspiration for "a prosperous Africa based on inclusive growth and sustainable development", Africa adopted Goal 7 on Environmentally Sustainable Climate Resilient Economies and Communities with, among other priority areas, one on "Biodiversity, Conservation and Sustainable Natural Resource Management" (Annex 4) and another one on "Climate Resilience and Natural Disasters and Preparedness" (Annex 6). Within these priority areas Africa adopted specific targets and suggested strategies for achieving these targets of relevance to ABT 15. Moreover, with its 675 million hectares of forests accounting for 23% of Africa's land area and the Congo Basin forest which is second largest tropical rainforest on Earth but first in terms carbon sink, Africa's role in climate change mitigation is significant.

National targets related to ABT 15

Eighty one percent of African countries against only 50% at the global level adopted a target relating to ABT 15. Twenty nine percent of national ABT 15-related targets were the same as ABT 15, sometimes with different end-years. However, the other targets lacked one or more elements of ABT 15. Unlike at the global level where GBO-5 noted that the national targets tended to have a greater focus on the restoration

element of the ABT15, more targets in Africa contained the resilience element. The reasons for this difference were not clear.

Actions taken

Like at the global level, African countries described or just listed many projects and programmes articulated around ecosystem restoration. Without comprehensive assessments at the national level, countries could not determine the percentage of degraded ecosystems that was under restoration. Qualitatively, countries linked the planting of trees to the enhancement of biodiversity contribution to climate change mitigation and combating desertification. References were made for example to the Great Green Wall[112] in the reports of eight[113] of the 11 countries involved in that Africa's flagship initiative to combat land degradation, desertification and drought with the potential to strengthen climate and desertification resilience.

Enhancement of carbon stocks was covered mainly in the context of REDD+ programmes through which some of the 28 African countries partners in the UN-REDD Programme highlighted results of their carbon stock assessment and reduced emission in forest ecosystems with the abatement potentials in terms of carbon dioxide equivalent and [carbon] credits for the carbon market.

In their 6th national reports, African countries considered ecosystem resilience beyond climate resilience. They included desertification resilience and community resilience considering the role of communities in safeguarding ecosystems even if community resilience was not included in the target. Bearing in mind that ecosystem resilience can be defined as the capacity of an ecosystem to regain its structure, functioning and deliver its services after application of stressors or disturbances, countries described or just listed many projects where the stressors were identified in terms of direct and indirect pressures on biodiversity often including invasive alien species, pollution, habitat fragmentation or conversion due to infrastructure constructions and drought, and where the vulnerabilities of the ecosystems were pointed out. Countries described the many ways and means used to address the pressures highlighting the critical role of indigenous and local communities and the importance to address their needs at the same time. South Africa is one of the countries that provided details linking the actual or expected achievements to the ecosystem structures and functioning and the resilience of communities.

Actions taken to build resilience and promote biodiversity and conservation and carbon stocks are diverse and should be considered in a holistic manner, at the landscape/ecosystem scale rather than singling them out. South Africa referred to all these actions as ecosystem-based adaptation approaches and adopted target 16 indicating that successful implementation of ecosystem-based adaptation (EbA) will result in resilience to climate change in communities linked to pilot projects. Other terms found in national reports are ecosystem approach and ecosystem-based approaches that are widely considered today as ecosystem- or nature-based solutions. Many of these actions encompassing forestry, agriculture and other land uses and ecosystem restoration have been integrated in countries' Nationally Determined Contributions (NDCs) towards climate change mitigation and adaptation. The importance of in-depth studies including valuation studies were underscored to make the best-informed decisions in the face of dilemmas such as for example between the removal and maintenance of invasive plant species that can contribute to carbon stocks but can affect ecosystem resilience. Many countries reported they have established and were implementing their land degradation neutrality (LDN) targets in line with the 2030

[112] Burkina Faso, Djibouti, Eritrea, Ethiopia, Mali, Mauritania, Niger, Nigeria, Senegal, Sudan and Chad (the initiative extends to 156 Mha). The Great Green Wall has an ambition to grow an 8,000km natural vegetation across the entire width of Africa (https://www.greatgreenwall.org/about-great-green-wall).

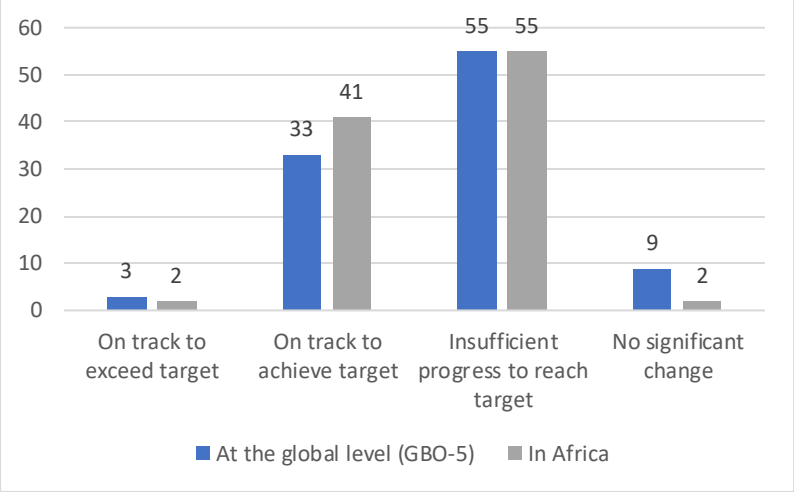
[113] All except Eritrea, Ethiopia and Sudan

Sustainable Development Agenda. Under the United Nations Convention to Combat Desertification (UNCCD), as of 23 March 2021, 52 African countries (i.e. all except Libya and Western Sahara) had made commitments to achieve LDN. The need for a synergistic implementation of the Rio conventions was recalled in some reports.

Overall progress

Based on self-evaluations, 43% African countries considered they were on track to either exceed (2%) or achieve (41%) their ABT15 related targets (Figure 26). The global average was that 36 Parties considered they were on track to exceed (3%) or on track to achieve (33%) their ABT-15 related targets. It could be said that based on country's self assessment, Africa performed slightly better than the global average. It will be useful to assess how the measures taken to address climate change mitigation and adaptation and to combat desertification to achieve national targets related to ABT 15 are contributing to the implementation of Agenda 2063.

Figure 26: Level of progress towards national targets relating to ecosystem restoration and resilience at the regional and global levels (in percent of number of countries that provided an assessment of progress toward their respective national targets relating to ABT 15)



Challenges

Challenges identified in some national reports regarding ABT 15-related national targets included the generic lack of funds, expertise and technical capacities including for spatial planning, biodiversity valuation and ecosystem/biodiversity observation, particularly at the large/landscape scale, and sustainable maintenance or long-term protection of ecosystem resilience. References to resilience were limited in the 6th national reports from Africa. Both resilience and sustainability are difficult to assess on the ground. Ecosystem resilience, the capacity of an ecosystem to resist damage and recover quickly in after perturbations and disturbances, is usually considered as positively correlated with biodiversity. However, the relationship is not that straightforward. It depends on many factors such as the types of species present in the ecosystem (and their ages and sex where applicable), their abundance and distribution.

NATIONAL TARGETS RELATED TO ABT 16

Aichi Biodiversity Target 16:

By 2015, the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization is in force and operational, consistent with national legislation.

Priority status for biodiversity in Africa

Africa is endowed with diverse biological resources underpinning the countries' economies and the well-being of the populations. There have always been some demands for these resources as well as the traditional knowledge associated with their uses for research, development or trade, both from local and foreign users. The rising demand for these resources has created many challenges such as illegal access and unsustainable harvesting of the resources, and shortfalls in export revenue of resources. The world community adopted the Nagoya Protocol *on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (ABS) to the Convention on Biological Diversity* (Nagoya Protocol on ABS) in 2010 and called for its entry into force and operationalisation at the national level by 2015.

'Access and benefit-sharing and traditional knowledge' is listed among Africa's biodiversity priorities (Annex 1). African countries, like many other developing countries, hoped to gain financial resources and enjoy a lot of non-monetary benefits including technology transfer by allowing developed countries to have access to their genetic resources and associated traditional knowledge, use the genetic resources, and generate and share benefits from the commercialisation of the genetic resources. Access and benefit sharing arrangements are not included in Agenda 2063.

National targets related to ABT 16

Many African countries (48 countries or 91% in Africa[114] against 69% of NBSAPs at the global level) adopted a target on access and benefit sharing. Some such targets refer only to the accession to or the ratification of the Nagoya Protocol (21 countries) and others only to the enactment of national legislations on ABS and their implementation. Thirteen countries adopted 2015 as end-year like ABT 16 while the other countries adopted end-years between 2016 and 2035 with the majority in 2020. All the national targets on ABS referred to the operationalisation of the Nagoya Protocol generally by putting in place legal, regulatory and administrative (e.g., a competent national authority) provisions relating to ABS. Some additional elements were mentioned. For example, Ethiopia's target 11 states that by 2020, the number of genetic materials accessed for research and development, and fair and equitable sharing of benefits arising from their use are increased by 24% and 39%, respectively. Many genetic resources that have attracted interest are supported by traditional knowledge. However, only a few targets on ABS include references to the associated traditional knowledge.

Actions taken

Relatively many African countries ratified the Nagoya Protocol by 2015. They represented 44% of all the ratifications in 2014 and 2015. All the countries with a target relating to the ratification of or accession to the Nagoya Protocol and its entry into force after 2015 have already ratified the Protocol except Somalia. Many countries benefitted from assistance to ratify and start implementing the Nagoya Protocol. The GEF-funded project titled "Support the ratification and implementation of the Nagoya Protocol in the ten member countries[115] of the Central African Forests Commission (COMIFAC)" is an example of such assistance.

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[114] Counted on the basis of national targets in the 6th national reports.

[115] Burundi, Cameroon, Chad, Central African Republic, Democratic Republic of Congo, Equatorial Guinea, Gabon, Republic of Congo, Rwanda and Sao Tome & Principe

Regarding national legislations and ABS agreements, countries have been developing national policies on the Nagoya Protocol with Prior Informed Consent and Material Transfer Agreement (MTA) procedures as well as guidelines for bioprospecting, access and benefit sharing, and associated traditional knowledge. Countries have designed National Focal Points (NFP), Competent National Authorities (CNA), Inter-Ministerial Committees on ABS to enhance cross-sectoral implementation.

Apart from Malawi that presented data showing an increase in the number of permits for the export of genetic resources and Kenya that reported to have issued 130 access permits for research and development, the impact of the entry into force of the Nagoya Protocol and ratifications of the Protocol is not clear on the trend in access to genetic resources for research and commercial utilization and in benefit sharing from the utilization of the genetic resources. Countries for which there was no or slow progress either did not adopt a target (like Cabo Verde) or had financial limitations (The Gambia) or were delayed by administrative procedures (e.g., Egypt for which draft legislation is delayed in the Parliament). There is a need to inventory the benefits from ABS so far and find out whether there are areas where these benefits can be increased. Even without specific targets on access and benefit sharing and the Nagoya Protocol, Equatorial Guinea, Sao Tome & Principe, Djibouti, Niger and South Africa ratified the Nagoya Protocol and were implementing ABS some actions required under the Protocol at the national level.

Building on subregional initiatives such as the COMIFAC, the Swakopmund Protocol[116], the African Union adopted the African Union Policy Framework for the Coordinated Implementation of the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilisation. The AU adopted a number of other documents including strategies and guidelines for the coordinated implementation of the Nagoya Protocol in the region including through awareness raising and information sharing. The AU acknowledges the potential contribution that access and benefit-sharing can make directly or as an incentive to the conservation and sustainable use of biological diversity, environmental sustainability and poverty eradication, thereby contributing to achieving Africa's sustainable development goals and Agenda 2063. The AU recognizes the importance of African Small Island Developing States as biodiversity hotspots and their vulnerability to the over-harvesting and unsustainable utilisation of their unique endemic species.

Overall progress

In general, African countries felt they were not making as good progress towards their national ABT 16-related targets as the average in the world with 36% of countries in Africa against 46% in the world considering they were on track to achieve or exceed the national targets (Figure 27). However, 56% (30 countries/54) of African countries against 34% (68/198 countries) in the world ratified the Protocol before end of 2015. In other words, as shown in Figure 28, ratifications by African countries represented 44% of all the ratifications in 2014 and 2015.

[116] The Swakopmund Protocol entered into force in 2015 and was amended in 2016. The list of ratifications/accessions is: Botswana, Malawi and Rwanda in 2012; Zimbabwe in 2013; Gambia, Namibia and Zambia in 2015; and Liberia in 2016. Only Zimbabwe and Mozambique which is not yet a Party referred to this Protocol in their 6th national reports. The reasons why the other Parties to this Protocol did not mention the Protocol are not clear. This is an indication that African countries are participating in many relevant initiatives, but they did not report on them. This raises questions about the real importance of those initiatives and the capacity of countries to deliver under each of these initiatives.

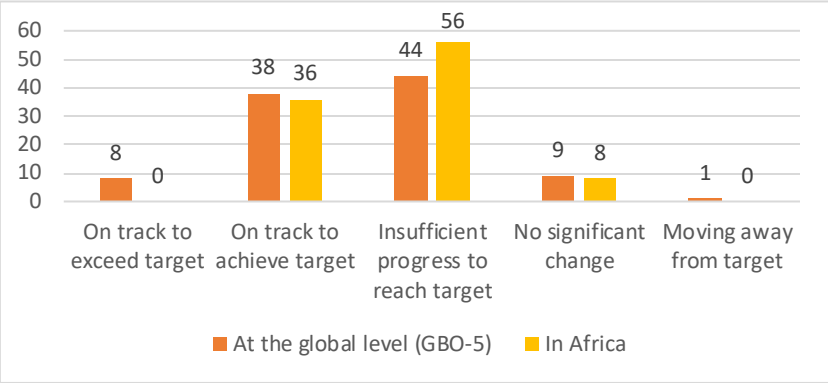
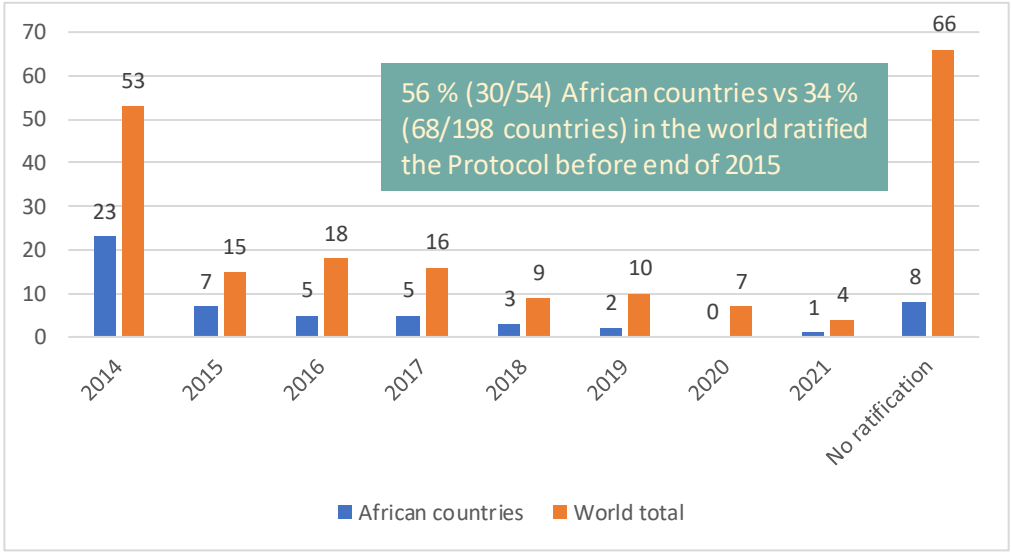


Figure 27: Level of progress towards national targets relating to access and benefit sharing (in percent of number of countries that provided an assessment of progress toward their respective national targets relating to ABT 16 on access and benefit sharing)

Figure 28: Trend in ratifications of the Nagoya Protocol in Africa and in the world (number of countries/year)



Box 4: Example of successful implementation and challenges of national targets related to ABT 16: Malawi

Malawi reported being on track to achieve its target set for 2025[117]. The country recorded an increasing trend of 113 and 352 exports permits for plant and insect genetic resources in 2017 and 2018 respectively (Figure Malawi 1). Most of these exports were for research purposes. This growing demand for biological resources has also been accompanied by the demand for traditional knowledge associated with the use of these biological resources. Economic interests linked to these resources and the challenges created by the risk to overharvest the resources have increased the urgency of securing property rights and regulating access.

Malawi ratified the Nagoya Protocol in 2014 and has been regulating access to, and benefit sharing of biological resources in accordance with existing legislation such as the Environment Management Act of 1996 revised in 2017. In 2018, Malawi developed ABS guidelines to respond to the increasing need for clarity in procedures for granting access to and sharing of benefits from genetic resources. The guidelines include, among other provisions, the detailed rights and obligations of Providers and Users; the roles and responsibilities of Designated National Authority (DNA), Competent National Authorities' (CNA's) and other relevant stakeholders.

ABS Malawi is also in the process of developing ABS Regulations under a GEF 6 funded project. The Regulations will strengthen the fact that achieving regulated access and the fair and equitable sharing of benefits arising from the use of genetic resources will be perceived as an incentive for biodiversity conservation and contribute to economic development in Malawi. The country carries out a strong ABS awareness programme aiming to ensuring that ABS frameworks in Malawi are developed and implemented in an inclusive and participatory process to achieve desired impact. The programme builds on the many of its successful Communication, Education and Public Awareness activities

The Fisheries Department reported a total of 31,397 and 36,147 live fish exported in 2015 and 2016 respectively. These exports that generated approximately USD204,765 and USD 222,280 respectively have mostly been to countries like Canada, Denmark, France, Germany, Hong Kong, Japan, South Africa, Sweden, Thailand, United Kingdom (UK), and USA, with Germany having the greatest value of exports (Figure Malawi 2).

The country noted the lack of documentation of the actual utilization of these exported species. There has not been Prior Informed Consent and Mutually Agreed Terms developed except for genetic resources exported through long-term collaborative with international partners like the Royal Botanical Gardens (KEW Gardens) for ex-situ and in-situ conservation and sustainable use of genetic resources that are indigenous to Malawi.

USA mostly has collaboration with Malawian Research Institutions and utilized the genetic resources for Research including sequencing and DNA barcoding of the biological resources. Botanical collections in the UK are attributed to the collaboration between Malawi and KEW Gardens on conservation of Malawian indigenous plant species. A few African Countries like South Africa are also top users of genetic resources mainly for medicinal purposes and propagation. Fish and Livestock resources were, however, not documented in the inventory due to lack of data in the departments

[117] Malawi Target 16: By 2025, access to genetic resources and traditional knowledge is regulated and benefits arising from utilization of the resources and associated traditional knowledge are shared in a fair and equitable manner

Figure Malawi 1: Number of export permits for genetic resources over the period of 2015 and 2018

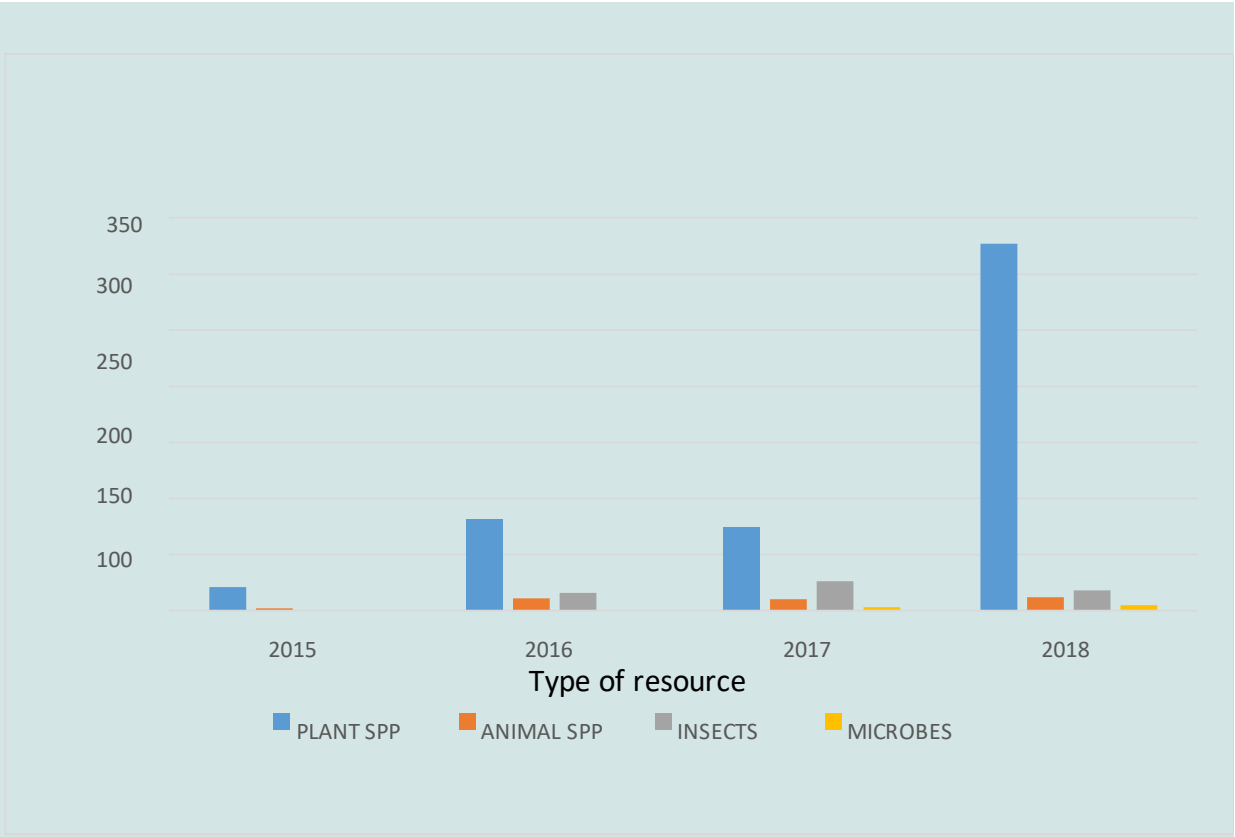
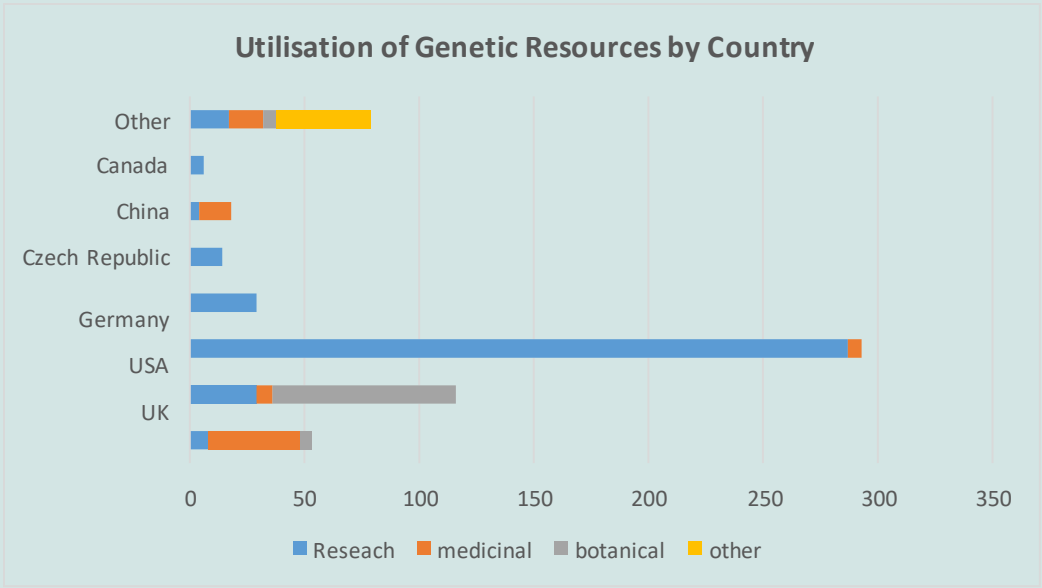


Figure Malawi 2: Utilization of Genetic Resources from Malawi



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Case study: *Jateorhiza palmata* and Thabalaba group

Jateorhiza palmata (syn. *J. columba*) is a high value medicinal plant locally known as "Thabalaba" in Malawi where it grows naturally in Matandwe Forest Reserve in Nsanje District. The species is also found in East and Central Africa. The tubers of this plant are heavily exploited by local communities. The tubers are sold to businessmen in the area who in-turn sell them to a local exporting company in Malawi. Little is known about the extent of the exports and the final utilization of the tubers in the importing countries.

The Thabalaba group has been established to form a cooperative group that would sell their product direct to the Users of the product and fetch higher price per Kilogram and develop a benefit sharing mechanism for the community with future buyers. Under the Shire Valley Transformation project, a project has been planned to develop community protocols for the community and develop better benefit sharing mechanisms with buyers.

There are still challenges before the systems can become fully operational. They include:

- Awareness regarding the Nagoya Protocol is still inadequate at all levels, and there are financial limitations to develop awareness raising materials for effective communication on ABS;
- Many users and bio-traders resist to participate in the process;
- Time and cost it takes to complete the ABS process including the negotiations of agreements are perceived as a disincentive by some people;
- International cooperation is still insufficient to halt and prevent illegal access and export of genetic resources.

Among other actions being considered by Malawi, there are the following: (i) develop and strengthen mechanisms for value addition within the countries and ensure that the revenue is shared with local communities; and (ii) establish an effective system for monitoring and tracking compliance to ABS legislation.

Malawi considers ABS as an innovative finance mechanism and has included it in its strategy for resource mobilization, with the transfer of the technology (including biotechnology) and know-how, which Africa so urgently needs, for the generation of new sources of income in order to reduce poverty and improve living conditions.

NATIONAL TARGETS RELATED TO ABT 17

Aichi Biodiversity Target 17:
By 2015 each Party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan.

National targets related to ABT 17

Twenty-eight percent of the countries adopted the same target as ABT 17, 22% adopted NBSAP targets that did not contain all the elements of ABT 17 or were stated differently, and 40% did not adopt a target related to ABT 17 but focussed their strategies on mainstreaming biodiversity in relevant economic sectors. End-years ranged between 2013 and 2025. Developing national strategies, plans or programmes for biodiversity conservation and sustainable use is an obligation enshrined in the Convention[118].

Actions taken

African countries developed their NBSAPs following the standard procedures recommended by the CBD Conference of the Parties (COP). The guidelines contained ways and means to achieve these requirements. The Global Environment Facility (GEF) made USD 84281263[119] available to eligible countries i.e., roughly an average of almost USD 600000 for each of the 141 eligible countries that applied for the funds. The CBD Secretariat provided technical support to the countries in the form of regional and sub-regional "capacity-building" workshops supported also by the Japan Biodiversity Fund and other donors. **The effectiveness of these "capacity-building" workshops is still to be assessed and tested against the needs for updating NBSAP to align them with the post-2020 Global Biodiversity Framework. Best practices on updating processes could be compiled for use when the current NBSAPs will have to be adjusted to take the post-2020 GBF into account.**

Thirty-nine African countries reported they had carried out an assessment of the implementation of their first-generation NBSAP[120] and some of them took the results into account to draft the strategic axes around which action plans were developed in their respective post-2010 NBSAPs.

ABT 17 drew attention to the importance of a participatory approach in developing or updating NBSAPs and their adoption as whole-of-government policy documents. 'Participation' was a common feature in the development or revision of NBSAPs following COP guidelines. A particular attention was paid to the participation of Indigenous Peoples and Local Communities (IPLC) and representatives of relevant government departments. If NBSAPs were adopted as policy documents, it is not clear whether the 6th national reports are of much use outside of the Ministries that were in charge of drafting the reports, which usually are the Ministries in charge of the environment. The structure as well as the contents of the 6th national reports do not generally communicate much information of direct interest for example to the Ministries in charge of planning, international trade or finances. **Clear quantitative statements of the status of different components of biodiversity and associated services, their trends and socioeconomic**

[118] CBD Article 6. Each Contracting Party shall, in accordance with its particular conditions and capabilities: (a) Develop national strategies, plans or programmes for the conservation and sustainable use of biological diversity or adapt for this purpose existing strategies, plans or programmes which shall reflect, inter alia, the measures set out in this Convention relevant to the Contracting Party concerned; and (b) Integrate, as far as possible and as appropriate, the conservation and sustainable use of biological diversity into relevant sectoral or cross-sectoral plans, programmes and policies.

[119] CBD/SBI/3/2/Add.1

[120] CBD/SBI/2/2/Add.1

values (including monetary, and in the context of food and health security through agriculture / forestry / fishery / livestock, energy production, livelihoods etc. i.e., in the context of the AfDB five priorities, and biodiversity value in addressing climate change and desertification); clear quantitative statements of the pressures and their impacts, including clear statements of the socioeconomic consequences of the loss of biodiversity components and associated services; and cost of ecosystem restoration could have conveyed biodiversity messages that can inspire and really affect human behaviours in favour of biodiversity conservation. Messages about threatened species or about the 6th mass species extinction maybe scientifically sound but their meaning will start striking people's mind when the socioeconomic consequences are linked to them. For Africa, data on value addition are critical and will be particularly useful to encourage research and to assist decision and policy-makers, in line with Agenda 2063. The 6th national reports are filled with information about processes that may distract from the outcomes of the planned actions for the conservation and sustainable use of biodiversity and the sharing of benefits from the utilization of genetic resources. **CBD reports need to be relevant to all the stakeholders who were involved in the drafting of the NBSAPs.**

In addition, there seems to be a disconnect with other processes that should rely on biodiversity reports. Preliminary observations based on 2017 - 2020 Voluntary National Reviews (VNR) on the implementation of SDGs reveal some disconnect between implementation of ABT - based national targets and equivalent SDG targets. Sometimes, information/data in the 6th national reports is not exactly the same as in the VNR. Sometimes, information/data is presented in the 6th national report but not in VNR on equivalent targets. Sometimes, VNR provides more information that should have also been presented in the 6th national reports. This is an indication that even if NBSAPs were adopted at the highest levels, they are still not used as policy documents and that more effort is needed to synergize for efficiency implementation and reporting on biodiversity.

NBSAPs

Most African countries (>60%) adopted their revised NBSAP aligned with the Strategic Plan for Biodiversity 2011-2020 in 2016 and 2017 i.e., after 2015, the year targeted in ABT 17. Fifty nine percent of countries that adopted a target on NBSAP had 2015 as target year (Figure 29). Only 25% among them did not adopt their NBSAP within the targeted time. All the other countries published their NBSAP before or in the end year of their targets. Central African Republic, Gabon, Kenya, Lesotho and Libya are yet to adopt and submit their NBSAPs. Central African Republic's updated version is under review. Kenya's draft NBSAP 2019-2030 is ready, pending its update after the adoption of the post-2020 GBF by the COP at its 15th meeting in 2022.

National Biodiversity Strategy and Action Plans

Completion of the updating of the 2010 NBSAPs took place from December 2012 (Cameroon) to February 2020 (Angola)[121]. Forty-five countries (83% of all African countries or 90% of African countries having updated NBSAPs and national targets) adopted and published their NBSAP between 2014 and 2019[122]; most countries (>60%) did that in 2016 and 2017.

It is not clear why many countries took so long to update their NBSAPs even if most countries received from GEF an average of $500000 for updating their NBSAPs and benefitted from 'capacity-building workshops' funded through the Japan Biodiversity Fund[123] and other donors. It is possible that **lack of awareness or understanding of the necessity to update NBSAPs** was the main reason for delaying the

[121] It should be noted that Central African Republic submitted its NBSAP in January 2011, but that version did not take into account the Aichi Biodiversity Targets.

[122] Libya, Mauritius, Seychelles are yet to publish their 6th national reports.

[123] https://www.cbd.int/jbf/

updating of NBSAPs. The usefulness of the so-called capacity building workshops that were organized to assist countries in mobilizing the human capacity needed for updating their NBSAPs was mentioned in the reports of those workshops but not confirmed in the reality on the ground. Kenya, Lesotho, Gabon, Central African Republic and Libya have still not yet published their NBSAPs.

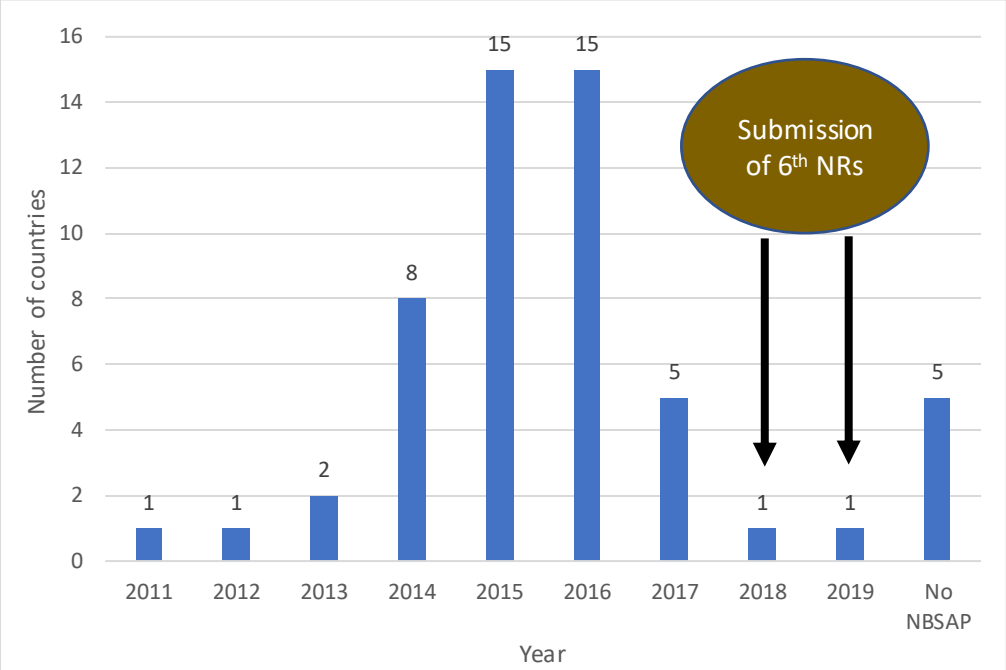
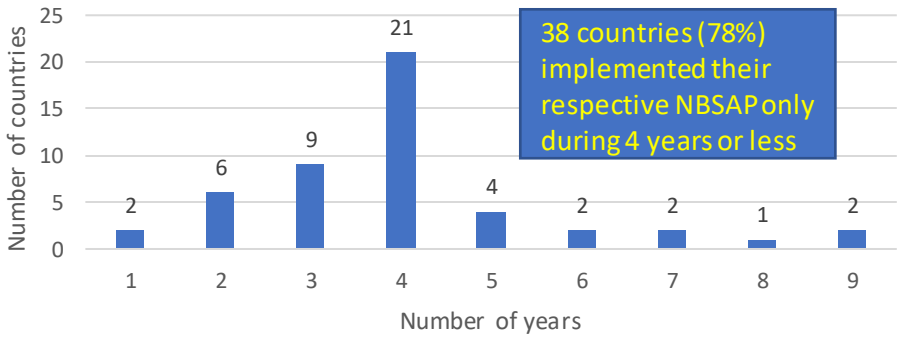


Figure 29: Trend in the publication of NBSAPs in Africa since the adoption of ABT 17 in 2010

As a consequence of late completion of the NBSAP, countries did not have much time to mobilize funds and the required human capacity to implement actions identified in their respective NBSAPs: 38 countries (78%) implemented their respective NBSAP only for 4 years or less before they submitted their 6th national reports (Figure 30). Some countries took into account the late adoption of their NBSAP and late start of many actions to set the end-years of their plans beyond 2020, e.g., 2022, 2025 and even 2030 (Figure 31).

Figure 30: Years of implementation of NBSAP (including Central African Republic that adopted ABT as national targets without having a NBSAP)



If NBSAPs have to be revised again as already foreseen by SBSTTA -24 in one of its recommendations to COP-15, it is important to have some ideas about what should be put in place or agreed now to keep the next NBSAP updating short. **If continuity in the actions already started in the past decade can be ensured, then the momentum will not be lost, and Parties will not spend too much time updating their national action plans and biodiversity targets**.

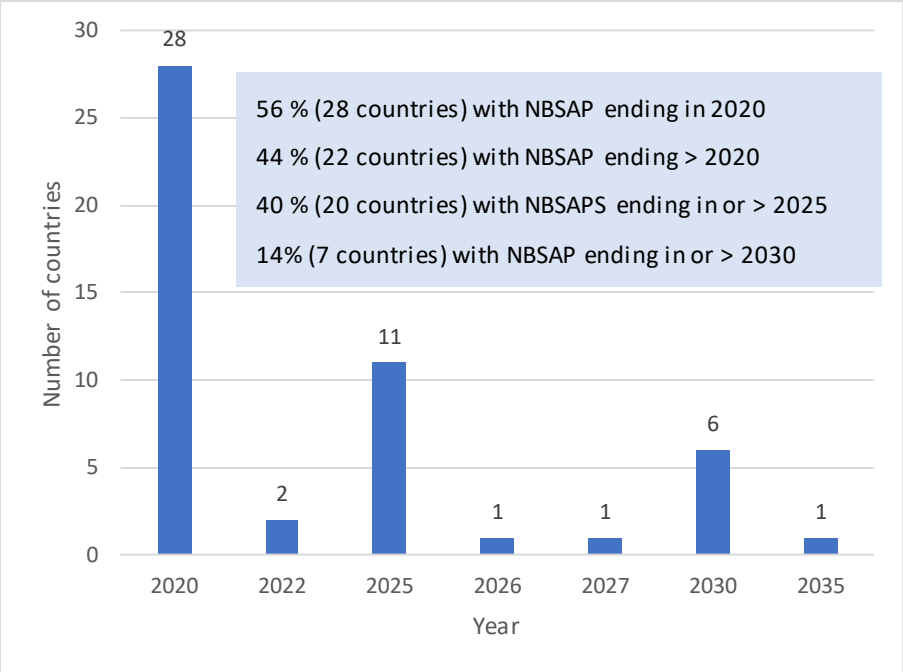


Figure 31: End year of current NBSAPs

As a consequence of late completion of the NBSAP, most countries (78%) had only 4 years or less before they submitted their 6th national reports. However, it was not possible to draw any correlation between the extent of progress and the number of years since the adoption or publication of the NBSAPs. For example, Ghana adopted its NBSAP in November 2016 for 2016-2020 and submitted its 6th national report in December 2018. Ghana considered 53% of its targets on track to be achieved. However, Burkina Faso had 8 years of NBSAP implementation before submitting the 6th national report. Progress on most (89%) of its targets was considered insufficient to achieve the targets.

Some countries, considering the late adoption of their NBSAP and late start of many actions, set end-years for their actions beyond 2020 i.e., between 2022 and 2035. Plans already made for the period beyond 2020 will have to be taken into account after the post-2020 GBF is adopted. **If continuity in the actions already started in the past decade can be ensured, then the momentum gained through these first years of implementation will not be lost, and Parties will not spend too much time updating their national action plans and biodiversity targets**.

Regarding NBSAP contents, countries followed COP recommendations in paragraph 3 (b) and (c) of Decision X/2 to update their NBSAPs, including the formulation of their national and regional targets taking into account the global targets and their national priorities and capacities. Priorities were to be identified on the basis of the status and trends of biodiversity in the respective countries, and capacities included availability of financial resources.

The NBSAP strategy section contains the biodiversity vision, mission, principles governing the strategy, strategic goals and targets. Countries usually aligned their biodiversity vision and mission with the CBD biodiversity vision in the Strategic Plan for Biodiversity 2011-2020. However, they dropped the concept of

living in harmony with nature and the terms 'maintaining ecosystem services' and 'sustaining a healthy planet' while adding the following: **contribution to socioeconomic development/prosperity and/or poverty reduction/alleviation. These are critical goals of African countries and are valid for all the countries. They are communicating better what people need to know about the importance of biodiversity and the reasons why we need to conserve/protect it, restore it and use it sustainably.**

Some countries adopted ABTs as their national targets. Others added or dropped elements to align with their situations and priorities. A few countries, such as Senegal and Djibouti, adopted targets that were different from the Aichi Targets. Cameroon adopted, in addition to its ABT-related targets, some ecosystem specific targets to address the specific challenges for each of the 6 ecosystems described in the country i.e., marine/coastal ecosystem, tropical dense humid forest ecosystem, tropical wooded savannah ecosystem, montane ecosystem, semi-arid zone ecosystem, and freshwater ecosystem. Such ecosystem specific targets are focussed and communicate better. Sao Tome and Principe and Eritrea organized their targets under coastal and marine ecosystems, inland waters ecosystems, forest ecosystems, and agricultural ecosystems, while Uganda adopted targets on new and emerging issues such as oil exploration and production, and development and use of biofuels. There is a lot to learn about experiences of these countries.

Constrained by the need to translate ABTs into national targets, African countries did not include targets addressing some of the key causes of biodiversity loss they identified such as fire, desertification/drought, natural disasters including locust invasions and pathogens, and armed conflicts. In addition, biodiversity targets adopted in the context of Agenda 2063, in particular in the document title Agenda 2063 – First Ten Year Implementation Plan 2014-2023, were not integrated in countries' biodiversity strategies and action plans. **The disconnect between Agenda 2063 and NBSAPs needs to be corrected urgently if Agenda 2063 is really Africa's blueprint and master plan for transforming Africa into the global powerhouse of the future. In Africa, the Continent's aspirations must be the primary framework for actions even under the Convention on Biological Diversity.**

Assignment of quantitative elements offers biodiversity messages that can speak to the mind of the people and that are favorable to galvanizing people to work toward clear targets and assess progress on the way. Assigning quantitative factors is easy/possible when targets are specific. Most of the South Africa's targets have quantitative elements that were determined based on baselines, past experiences, feasibility, and availability of resources. This can be considered among the reasons why South Africa's assessment of its progress toward the achievement of the targets was based on sound data and was generally very positive i.e., 35% on track to exceed the targets, 24% on track to achieve the targets. **There is much to learn from South Africa's experience**.

Only 4 of the ABT i.e., ABT 5, 11, 15 and 16 had quantitative factors. Even when they adopted ABT as their national targets, some African countries added quantitative factors to some targets whose equivalent ABTs did not have. However, quite often the apparent lack of science behind many of the quantitative elements compromises the strength of these elements.

As part of their NBSAPs, countries developed detailed action plans, and many of them costed them. Ideally, the plans of action include actions to be carried out; baselines for the various biodiversity components, and related indicators; lead agency (-ies) and other partners/actors; the timeline and budget or cost of the individual or set of actions. As recognized by some countries, **baseline data and related indicators help assess progress with confidence from a known and documented starting point**. Baselines were usually lacking in the NBSAPs. The 6th national reports or GBO-5 did not systematically provide data that can be used as baselines on the basis of which new targets can be developed, and monitoring, evaluation and reporting carried out. Generation of baselines was decided as a priority in many countries.

Action plans are the translation of the overall biodiversity objectives and related strategic orientations into real facts and measures on the ground. In some NBSAPs, some specific actions were identified for the subnational levels. **The number of actions listed are usually very large (>100), raising concerns about effectiveness in their implementation and the difficulties in monitoring and reporting on each of them.** With a few exceptions like in some countries in Northern Africa, the 6th national report did not usually report on the progress of each action. It may result that **the 6th national reports can be disconnected from the expectations of the participants in the participatory process for updating the NBSAPs**.

Lack or limited financial resources is the most frequently cited impediment to the implementation of the actions identified in the NBSAPs. Thus, estimating the resource needs and funding available for biodiversity conservation is one of the critical elements in formulating a resource mobilization plan or strategy. Success in the mobilization of financial resources greatly depends on raising awareness of the importance of biodiversity and ecosystem services in poverty reduction, the improvement of well-being and health i.e., for socioeconomic development, and on integrating in national accounts biodiversity value as well as the socioeconomic cost from the loss of biodiversity and related services. Economic assessment of biodiversity is a good basis for decision-making which enables the environmental sector (in particular in its component relating to biodiversity) to be better integrated into the priority political options for financing the sustainable development. Additional consideration on financial resources is made in the section on ABT 20.

Implementation mechanisms

Elements described in the NBSAPs to support implementation include plans or strategies for financial resource mobilization, for awareness raising and communication, and for the monitoring and evaluation of progress. Some countries added sections on human and technical capacity-building, and the promotion of stakeholder participation and cooperation as well as improvement of coordination.

Monitoring and evaluation

Most countries noted that monitoring and evaluation are to be done on a regular basis e.g., annually or biannually. Annual reports on given components of the plans of action are very useful. Synergy with other obligations (e.g., contribution to the FAO Forest Resources Assessment) and interactions with knowledge products such as IUCN Red List of Threatened Species, Integrated Biodiversity Assessment Tool (IBAT) Alliance and UN Biodiversity Lab for spatial data will make collection of data more efficient and is considered reliable. However, efforts are to be made to ensure that countries feel that they own the data produced by these organizations. Indicators will be used to gauge the success and progress made for each of the strategic initiatives.

It was recognized in some national reports that monitoring and evaluation would allow making adjustments to the plans for achieving the desired results. While it is usually easy to assess progress on processes, the state of biodiversity conservation and sustainable use as well as the positive impacts on countries' socioeconomics are the ultimate goals, which usually require more time as well as more financial, human and technical resources especially if the biodiversity component under consideration covers large areas.

Awareness and communication

A communication and outreach plan or strategy is of paramount important for the implementation of NBSAPs and mostly for making the behavioural changes needed to make real progress in the conservation and sustainable use of biodiversity and the services it provides. Successful communication and outreach programmes will raise public awareness, effect public behavior change, policy change, promotion of public participation not only in drafting and redrafting NBSAPs but also in implementation and in sharing the benefits and failures, the positive as well as the negative impacts.

Emphasis in the 6th national reports was mainly in organizing biodiversity events such as biodiversity days and biodiversity fairs; in increasing the mention of biodiversity in the media (e.g., in radio and television programmes, in newspapers and e-magazines) and scientific publications; through campaigns e.g., against poaching or destructive fishing, museum exhibitions and messages in botanical and zoological gardens. More inclusion of biodiversity information in education curriculums has also been promoted. Many countries[124] re-emphasized the importance of national clearing house mechanisms to facilitate access to and the sharing of biodiversity data and information, including data from the monitoring and evaluation processes. South Sudan, one of the most recent Parties to the CBD, adopted even target 23 to have developed by 2020 the capacity needed for a Clearing House Mechanism.

However, as it was also concluded in the GBO-5, awareness of biodiversity and its values remains generally low. Various reasons are given e.g., in GBO-5, "the difficulties in reaching all people, including those residing in remote or distant communities, a general lack of knowledge of how to conserve biodiversity, and a lack of understanding of the links between biodiversity and other societal challenges, including the need to address climate change." Biodiversity messages have not been able to transform the behaviors in ways and to an extent that would lead to a visible improvement in biodiversity conservation. Indicators used are mainly on numbers of visitors to national parks and other biodiversity sites, numbers of participants in biodiversity events etc. **There is an urgent need to assess the effectiveness of current communication and outreach initiatives in changing people's behavior in favor of biodiversity conservation and sustainable use. There is also an urgent need to work with communication specialists to develop/craft the messages that will touch the minds and hearts of people and affect positively the way they interact with biodiversity. Seeing the youth use biodiversity messages on sign boards during demonstrations could be a litmus test for the relevance and power of the messages.**

The following are among the most-frequently-referred-to biodiversity messages: (i) millions of species are threatened of extinction; (ii) 30 % protection of the planet will significantly reduce the threat and put the planet on a path to recovery; (iii) a healthy planet with healthy ecosystems will prevent the occurrence of pandemics live COVID-19; (iv) A healthy planet is critical for achieving the Sustainable Development Goals; (v)(following the pledges to stop deforestation), forests absorb a great deal of the carbon from greenhouse gas emission. Therefore, stopping deforestation will save the world from climate change. IPBES and CBD documents contains many other biodiversity messages only known to and used by the people who are associated directly with the convention or the platform such as "biodiversity provides many goods and services essential to life on earth". Each of the biodiversity targets should be considered as a biodiversity message to the world. It is important as a test to see if any of these messages can be on the sign board of the youth demonstrating in the margins of G7 or G20 meetings.

Challenges include the fact that the scope of biodiversity is a very wide. Messages can be crafted for individual ecosystems like some countries felt the need to develop ecosystem specific biodiversity targets or specific themes like international trade or tourism. Scientists chose to create confusion with the use of nature instead of biodiversity or ecosystem in the terms (i) biodiversity and ecosystem services, with recent encouragements to use "nature's contributions to people" or (ii) ecosystem-based approaches with the use of nature-based solutions, at a time when most people have integrated biodiversity in their common languages and thoughts. Biodiversity is part of many sectors of life. **When references are made for example to agriculture or aquaculture within CBD, it is the need to make agriculture or aquaculture sustainable that comes to the mind. However, the first elements should have been food, feeding people to address hunger and malnutrition in the world with the diverse possibilities offered by nature/biodiversity.** Similarly, references to wildlife are primarily about saving keystone species like gorillas with no explanations why that is so critical at a time when so many people are suffering and even

[124] e.g., DR Congo, Uganda, Tanzania and many more e.g., Togo, Tunisia, Rwanda, Guinea Bissau, Sudan

dying from hunger; or local communities are not given convincing explanations or alternative livelihoods when they are asked to stop cutting trees for producing charcoal.

The objectives stated in many NBSAPs (e.g., Chad: Preserve the multiple functions of biological diversity and its components for their sustainable use to *improve the living conditions of households*) are a clear indication that **the purpose of NBSAPs is not just for the protection of biodiversity and not just an environmental matter but for the improvement of the lives of the peoples, their wellbeing, and livelihoods**. In order to make this a reality on the ground, **there is an urgent need to invest in initiatives that will develop biodiversity messages that lead to positive change of mentality and attitude in favor of biodiversity.**

Capacity building

References to the needs for capacity building are numerous in NBSAPs and in the 6th national reports. There are no clear indications of any improvement in human capacities since the National Capacity Self-Assessments (NCSA) which started in 1998. The CBD Secretariat carried out a number of "capacity-building" workshops with very specific objectives e.g., training on the updating of NBSAPs. These workshops were organized in an ad hoc manner and their effectiveness and efficiency need to be assessed. From personal interactions with some trainees, the benefits were low even if satisfaction was usually expressed by participants at the meetings to please the organizers. Many of the trainees did not participate throughout the updating of the NBSAPs in their respective countries and may not participate in similar activities in the future. However, it is hoped that some of the trainees will participate in the forthcoming revision of the NBSAPs to align them with the post-2020 GBF.

For sustainability and long-lasting impacts/benefits, capacity-building in the field of biodiversity needs to be integrated into the school curriculums. Training on very specific biodiversity needs or issues will be better delivered in the framework of national education or research institutions.

Challenges

Commonly (including in GBO-5) reported challenges in implementing NBSAPs in Africa include: limited human, financial and technical resources; the fact that many NBSAPs were only recently adopted; the lack of indicators to monitor the use of the NBSAP as a policy instrument; insufficient coordination of the planning and implementation of actions; insufficient coordination among different government departments and sectors dealing with biodiversity; and weak monitoring and evaluation institutions [125]. **A key constraint, particularly emphasized by Tunisia, is the limited individual capacities referring to the processes of change in mentalities and behaviors of individual stakeholders.**

Overall progress

In Africa, 51% of countries considered they were on track to achieve (33%) or exceed (18%) their targets related to ABT 17 against 55% at the global level (Figure 32). Overall, half of African countries were making good progress while the other half made no or insufficient progress.

[125] A more comprehensive list of obstacles to the implementation of the CBD is given in the Annex to COP decision VIII/8

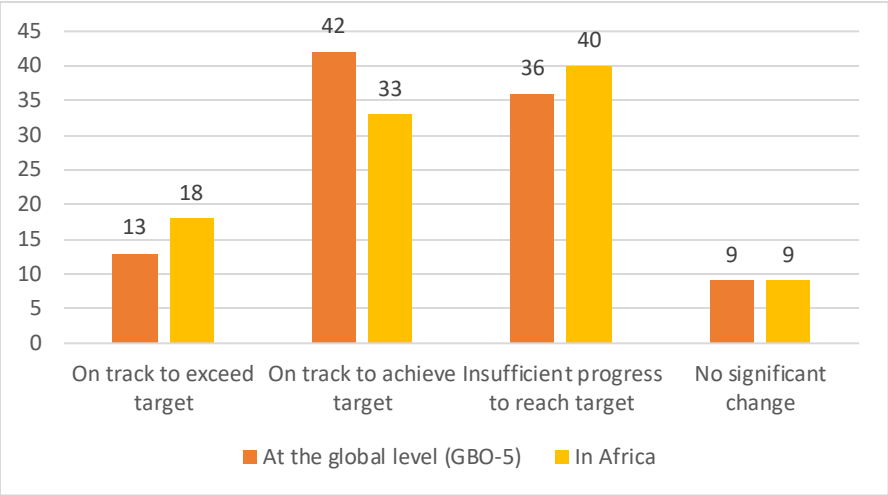


Figure 32: Level of progress towards national targets relating to biodiversity strategies and action plans at the regional and global levels (in percent of number of countries that provided an assessment of progress toward their respective national targets relating to ABT 17)

NATIONAL TARGETS RELATED TO ABT 18

Aichi Biodiversity Target 18:
By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels

Priority status for biodiversity in Africa

Traditional knowledge is not listed among Africa's biodiversity (Annex 1) and Agenda 2063 mentions traditional knowledge only in the context of climate change where there is a strategic recommendation to "adopt/adapt indigenous knowledge for climate adaptation strategies". However, in Africa, with more that 60% living in rural areas, there is still a lot of dependency on traditional knowledge and a need for local communities and indigenous peoples to be involved in many decisions impacting biodiversity and its associated services. The success of many biodiversity programmes relies directly on the support, buy-in and co-operation of local communities and indigenous peoples.

National targets related to ABT 18

ABT 18 consists of three elements: (i) respect of the traditional knowledge of indigenous peoples and local communities (IPLCs) and their customary use of biological resources, (ii) integration of IPLCs knowledge in the implementation of the Convention, and (iii) the participation of IPLCs. Only 24 African countries adopted a target equivalent to ABT 18, ten of which had targets similar to ABT 18 or containing the three elements. The Gambia retained only "respect" and Uganda only integration. The other countries added to either "respect" or "integration" the following actions: protect, document, assess, recognize or promote. DR Congo's target is for the identification and valorisation of IPLCs' traditional knowledge, innovations and practices. Botswana referred only to indigenous knowledge. The end years of the target also ranged from 2016 (Burundi) to 2025 (Central Africa Republic, Madagascar, Botswana and South Africa) and 2030 (Comoros E2).

Seventy-six percent of countries adopted a target related to ABT 18.

Actions taken

The national reports emphasize that the wide range of local communities and indigenous people's knowledge and know-how constitutes an invaluable asset for the conservation of Africa's unique biodiversity, the sustainable use of its components and the valuation of biological resources for consideration in access and benefit sharing schemes. Some countries pointed out that traditional chiefdoms played a significant role in protecting this knowledge and know-how through a set of decision-making and spiritual powers entrusted in them.

Regarding the respect of the traditional knowledge, innovations and practices relating to the conservation and sustainable use of biodiversity, the first steps countries took were to document them. Some countries relied on specialized scientific institutions and decided to put the documentation and protection work under the Access and Benefits Sharing initiatives. Botswana for example counted on the Centre for Scientific Research, Indigenous Knowledge and Innovation (CesrIKi) to document traditional knowledge and wisdom relating to the conservation and use of biodiversity and identify biodiversity components with the associated traditional knowledge that could be considered in the national implementation of the Nagoya Protocol. Ethnobotanical studies have been reported providing numbers and sometimes lists of wild plants traditionally used as food or for medicinal purposes. Some of these plants have gained value in the pharmaceutical industry and are now grown commercially while others continue to be harvested and processed by traditional healers. The many reports on biodiversity conservation initiatives where success relied directly on the know-how of local communities were a convincing way to call for the respect of IPLCs' traditional knowledge, innovations and practices for the conservation and sustainable use of biodiversity. Some countries highlighted traditional knowledge relating to climate change and community-based approaches to natural disaster preparedness. Although these practices may not always succeed completely, there is a lot to learn from them.

Few countries presented the results of their efforts to ensure the respect of traditional knowledge. For example, traditional medicine has been legally recognized as one of the components of the national health system in Burkina Faso. The expected achievements mentioned included: documents on biodiversity-related traditional knowledge; increased respect of sacred species and landscape; increased traditional knowledge awareness programme; gradual integration of IPLCs knowledge and know-how into science for purposes of research; enactment of legislations on traditional knowledge and the recognition of the rights of indigenous peoples and local communities on genetic resources.

As for the integration of the traditional knowledge, innovations and practices relating to the conservation and sustainable use of biodiversity, many national reports indicated that documentation and valorisation of traditional knowledge and know-how have been encouraged and channelled toward the ABS schemes with all the legislations that will ensure that traditional knowledge holders derive the deserved benefits from the use of their knowledge and know-how. In addition, various initiatives were developed to integrate products from traditional knowledge and know-how into trade and health system. There have been instances when modern agricultural practices and biodiversity conservation initiatives had to integrate some traditional know-how for effectiveness. Research and awareness programmes accompany these initiatives to catalyze their success. Some national reports have also demonstrated that traditional and indigenous knowledge, know-how, innovations and practices have for long been an integral part of ways and means for maintaining and strengthening sustainable livelihood in rural communities. Traditional and indigenous knowledge is socio-economically acceptable, affordable and usually environmentally sustainable. It involves minimum risk to local farmers and producers, and it has

contributed to the conservation of natural resources, agricultural production and productivity and livelihoods.

In some countries, existing laws and policies such as the National Culture Policy (2006) in Uganda are facilitating the integration of traditional knowledge and practices of indigenous peoples and local communities into biodiversity conservation and sustainable use. The following constraints were mentioned: cumbersomeness in the product approval procedure; insufficient promotion of approved products; insufficient funds for supportive research, and training/information in traditional products homologation procedures.

About the participation of IPLC in the implementation of the Convention, all the countries reported that they used a participatory approach involving IPLCs in the development and implementation of the NBSAPs (see section on ABT 17 and equivalent national targets), even countries that did not adopt a target on IPLCs or did not include the participation of IPLCs in their targets. Some countries listed examples of IPLCs participation in the implementation of each of their national targets. **A key question is how effective that participation has been; in other words, whether IPLCs participation was not just a formality but it produced the desired results.** In addition, IPLCs not only participated in the implementation, but they also had, as Zimbabwe noted, "their own ecological understandings, conservation practices and resource management goals which have important implications that must be factored in when making decisions for conservation of biodiversity".

Overall progress

Based on countries self-evaluation, Africa considered that, as a group, its progress towards the achievement of ABT 18-related national targets was at a slower pace than the global average (Figure 33). Thirty-four percent of countries in Africa considered they were on track to achieve (30%) or exceed (4%) their ABT 18-related targets against 40% at the global level.

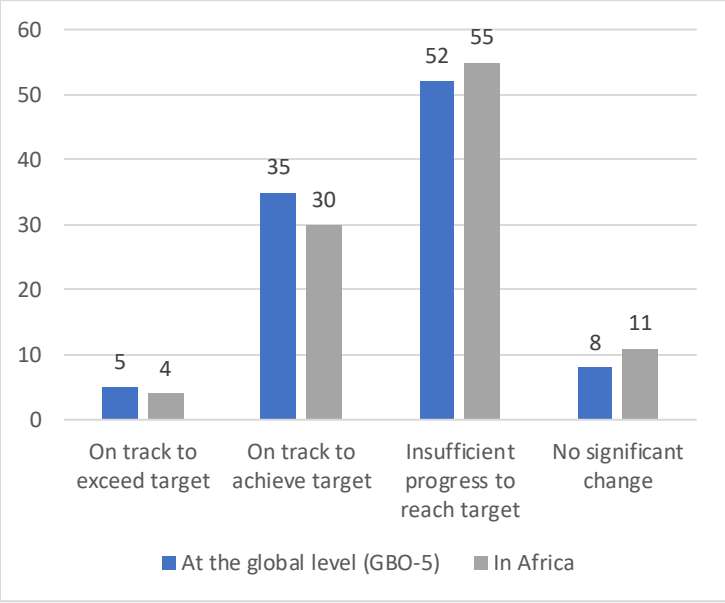


Figure 33: Level of progress towards national targets relating to traditional knowledge at the regional and global levels (in percent of number of countries that provided an assessment of progress toward their respective national targets relating to ABT 18)

NATIONAL TARGETS RELATED TO ABT 19

Aichi Biodiversity Target 19:
By 2020, knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied

Priority status for biodiversity in Africa

Quality information, including traditional knowledge, is necessary to decision-making and the public for the effective management of biodiversity. Such information is part of our current knowledge and is generated through scientific research and citizen observations. It covers the status and trend of components of biodiversity, their associated services and pressures affecting them. Decision-makers are particularly interested in the socioeconomic value of biodiversity and the cost following biodiversity loss. 'Enabling mechanisms for the implementation of biodiversity objectives' is among Africa's biodiversity priorities (Annex 1). One of the elements of these mechanisms is 'Education, awareness-raising and knowledge management' as means to ensure that quality information, including traditional knowledge, is available to decision-makers and the public for the effective management of biodiversity.

National targets related to ABT 19

Ninety one percent of African countries adopted targets related to ABT 19 on the generation and dissemination of data on the values of biodiversity, its status and trends, and the consequences of its loss. Among these, 34 targets were the same as ABT 19, and 14 targets were different. End-years of the national targets ranged between 2015 and 2035.

Actions taken

Some conclusions in GBO-5 do not seem to be representative of the situation in Africa. Here are some examples:

- GBO-5 concluded that significant progress had been made since 2010 in the generation, sharing and assessment of knowledge and data on biodiversity, with big-data aggregation, advances in modelling and artificial intelligence opening up new opportunities for improved understanding of the biosphere, increased number of indicators for monitoring changes relating to biodiversity at varying spatial and temporal scales brought together under the Biodiversity Indicators Partnership (BIP). African countries did not report on their use of artificial intelligence for improved understanding of the biosphere. They also did not use many of the BIP indicators and the few they quoted from BIP were just listed without being integrated in the discussions of their findings. Countries like South Africa are exceptions; they have already integrated many of the BIP indicators in their information systems
- GBO-5 noted the use of emerging technologies such as environmental DNA (eDNA), metagenomic sampling, artificial intelligence for real-time monitoring of wildlife through images captured by camera traps, and bioacoustic monitoring and satellite-based animal tracking to explain the significant progress in assessing the status and trend in biodiversity. Apart from camera traps mentioned in a few countries such as Angola, Central Africa Republic, DR Congo, Sierra Leone and South Sudan, and hydroacoustic technology mentioned in Kenya and Tanzania, African countries did not refer in their national reports to these emerging technologies.
- No African country indicated they used the Bioland Tool developed by the CBD Secretariat to help

Parties establish or improve their national CHMs.

Progress on ABT 19 was considered to have been supported by:

- The development of Essential Biodiversity Variables (EBVs) through the Group on Earth Observations Biodiversity Observation Network (GEO BON) that helped to define the components of biodiversity that must be monitored and measured. However, GBO-5 noted that Biodiversity Observation Networks were being established in the Asia-Pacific region, the Arctic, Europe and throughout the Americas, but not in Africa. In addition, only Zimbabwe referred to GEO-BON and none of the African countries mentioned any development of EBVs.

GBO-5 recognized that, while availability of data and information on biodiversity was growing in the world, most diverse ecosystems, especially in the tropics, including a large part of Africa, were still greatly under-represented.

Many countries reported that they increased the amount and quality of information on the value of their biodiversity through scientific research programmes and publications; documentation of traditional knowledge; identification and inventories of species and key biodiversity areas, marine ecologically and biologically significant areas as well as community and private conservation areas; identification of areas to classify as protected areas; and compilation of biodiversity information in biodiversity databases and national clearing-house mechanisms. However, GBO-5 recognized that the majority of actions appeared to be related to the documentation and generation of knowledge on biodiversity in terrestrial ecosystems, with relatively fewer information on marine and inland-water environments, and fewer initiatives for sharing information and applying it in decision-making. This observation reflects well the situation in Africa, including the specific gaps in information relating to the consequences of biodiversity loss for people and the limited information on biodiversity value.

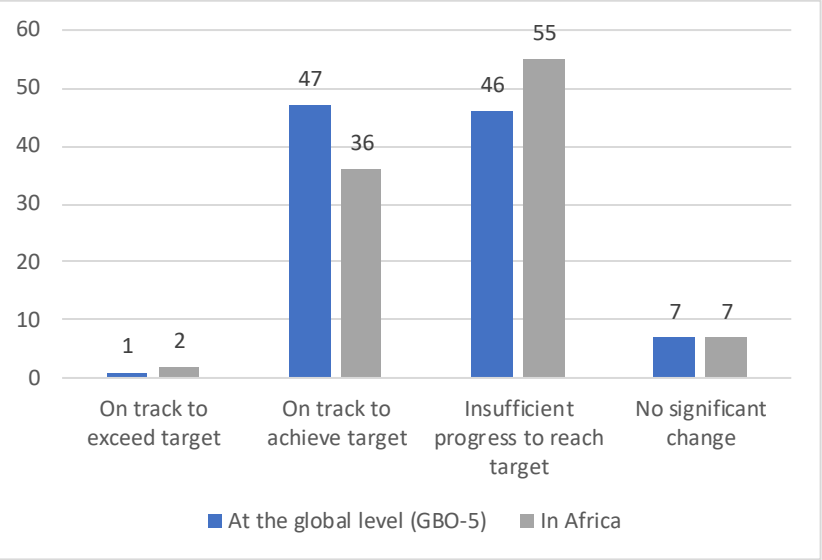
What is missing in the 6th national reports and was not stressed enough in the technical guidance for drafting national reports was the provision of clear statements of the status of components of biodiversity at the end of the period of the Strategic Plan i.e., provision of baseline data in 2018 or 2019 or 2020 on components of biodiversity. The post 2020 GBF needs to build on these baselines, and they will be used in the assessment of progress during the period covered by the post 2020 GBF.

Information on status of biodiversity and trends of its components may not have much significance for or impact on policy and decision-makers if their values are not known and described in a language that makes sense to decision and policy makers, usually in social and economic / commercial terms. Africa needs to increase its capacity to generate data/information on socio economic value of biodiversity and ecosystems services. Once the value of biodiversity is understood and internalized, decision-makers will be able to decide on the means that will ensure that reliable data are collected and shared with decision-makers in a timely manner in the future.

Overall progress

Based on countries self evaluation (Figure 34), only 38% of Africa countries considered that their progress was on track to achieve or exceed the target against 48% at the global level. This suggests that Africa needs to do more to generate and make widely accessible reliable and quality data as well as appropriate technologies, including from the practices and know-how of local communities and indigenous peoples, needed for the conservation of biodiversity, the sustainable use of its components and the sharing of benefits from the utilization of genetic resources. Africa also needs to make sure that this information is utilized.

Figure 34: Level of progress towards national targets relating to the generation and dissemination of data on the values of biodiversity, its status and trends, and the consequences of its loss at the national and global levels (in percent of number of countries that provided an assessment of progress toward their respective national targets relating to ABT 19)



Outlook

Recognizing that scientific findings shared with decision-makers can catalyse the required transformative shift toward sustainable development and poverty eradication, some countries, such as South Africa and Cameroon (See Box 5) reported they were in the process of establishing national IPBES-like science-policy interfaces. In fact, some NBSAs included targets for the establishment of such organs.

Box 5: Cameroon's Operational National Platform to strengthen the Science-Policy interface on Biodiversity and Ecosystem Services (NP-SPBES)

Driven by global and national broad stakeholder dialogues, a major process emerged in Cameroon culminating in the institutionalization of an innovative National Platform for Science-Policy Interface on Biodiversity and Ecosystem Services (NP BES). Coordinated by the National Biodiversity Committee and supervised by the Ministry in charge of the Environment, NP BES is charged with all BES assessments and dissemination of its findings to inform development policies. NP BES is made up of thirty members representing biodiversity stakeholders from the scientific community and policy-making institutions. A principal research organ of NP BES is the BES Authors team which includes research fellows.

Major achievements and outcomes from this innovative assessment process include the following:

- Signing of DECISION No. 0184/D/MINEPDED/NBSAB of 9 November, 2017 relating to the establishment, organization and functioning of the National Platform on Science-Policy Interface for Biodiversity and Ecosystem Services (NP-SPBES).
- National Installation of members of the NP SPBES and Launching of the BES Assessment in November 2017
- Regular Meetings of the Platform and validation of the National Platform's 2018 Work Plan;
- Capacity Building Workshop organized for Platform members under UN BES Net Trialogue;

- An ongoing National BES Assessment. The Scoping Report has been validated; the first order draft is about to be circulated for peer review;
- Experiential learning from this assessment has been widely carried out regionally and globally and continues as Cameroon's Expert sits on the Global Multi Stakeholder Expert Panel for IPBES, representing the Africa Region.

Major challenges in this process include sustaining the momentum of its achievements thus far into a factor of improvement of the well-being of the people; filling data gap and accessibility of existing documentation to produce a robust evaluation; building expertise in developing BES scenarios and modelling; sustaining the high volunteerism approach in this process and addressing cross-border issues.

NATIONAL TARGETS RELATED TO ABT 20

Aichi Biodiversity Target 20:
By 2020, at the latest, the mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources, and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization, should increase substantially from the current levels. This target will be subject to changes contingent to resource needs assessments to be developed and reported by Parties.

Priority status for biodiversity in Africa

'Limited financial resources' is commonly mentioned in the NBSAPs and the 6th national reports as one of the critical obstacles to the implementation of the objectives of the CBD in Africa. Current estimates by scientists indicate that Africa has the largest financial gap for the conservation of biodiversity in the world and that conservation needs of Africa are being satisfied only to the level of less than 10 %. Thus, mobilization of sufficient financial resources is on the list of Africa's biodiversity priorities. Agenda 2063 contains 2023 targets towards a financially self-reliant Africa and financially empowered women and Youth. In addition, among areas requiring urgent financial resources, Agenda 2063 identified some biodiversity objectives in the field of agriculture, nutrition, health, value addition manufacturing blue economy, ecotourism, and sustainable communities, production systems andconsumption patterns.

National targets related to ABT 20

Most (94% including those that targeted only the development of strategies or establishment of financing/financial mechanisms and international partnership) African countries had a target on resource mobilization in their NBSAP updated following a recommendation of the 10th meeting of the CBD Conference of the Parties. A few countries like Djibouti, Sao Tome, Cote d'Ivoire, Senegal and Togo did not include a specific target for resource mobilization; while South Africa, Benin, Burundi, Mozambique, Malawi and Morocco targeted only the development of strategies or establishment of financing/financial mechanisms and international partnership. In South Africa for example the target was to adjust sector policies and institutional structures to facilitate sustainable financial flow.

Actions taken

GBO-5 noted that 'financial resources available for biodiversity through international flows and official development assistance roughly doubled'. However, doubling financial resources from international sources is not enough to address the biodiversity financial deficit in Africa. In addition, the increase in international flows and official development assistance did not double the resources allocated by GEF to African countries. The average (for the 39 countries considered) increase in STAR 6 (2014-2018) relative to STAR 5 (2010-2014) was 17 %, and the average increase in STAR 7 (2018-2022) relative to STAR 6 was 20%. In some countries, allocations increased from one STAR to another but not in other countries. GEF allocations to African countries for 2014 to 2022 (i.e., both STAR 6 and STAR 7) always represent less than 20% of the NBSAP budgets except for Sao Tome and Principe and, to a lesser extent, Madagascar and Comoros. It is also important to note that GEF financial resources allocations to African countries is generally lower than allocations to countries in other regions in particular Latin America. It is necessary to find out why and identify ways through which African countries could be allocated more resources.

There is currently a momentum among donors to increase funds for biodiversity worldwide and for assisting developing countries to protect biodiversity. The funds are usually allocated to areas of interest to the donors and, for example in the case of the Legacy Landscapes Fund (LLF)[126] for safeguarding outstanding biodiversity areas, may represent just a small portion of the needs. The LLF amounts of funds promised to the 4 selected African countries are in general less than 1 to 10% of the needs.

GBO 5 noted that most biodiversity funding is from domestic sources. This affirmation does not represent the situation in Africa. In DR Congo, for example, 85% of the cost of managing protected areas is covered by international partners. In their 6th national reports, many African countries did not specify the amount of financial resources from domestic and international sources. Many countries reported that they were exploring or using funds from multilateral funding bodies, including the Green Climate Fund, initiatives such as the Bonn Challenge, FERI, and bilateral funding sources for most of their biodiversity programmes. Many African countries, especially countries participating in the BIOFIN initiative, reported in their sixth national reports efforts to increase domestic biodiversity financing. While countries participating in the BIOFIN initiative seem to be better organized in assessing their financial needs and developing their financial solutions, that advantage was not necessarily translated into progress in implementing their target on mobilization of financial resources. Only South Africa and Malawi considered that progress towards their targets on financial resources mobilization was on track.

In the face of the fact that budgets allocated to biodiversity lag behind the needs, African countries are considering various tools for their solutions to close the biodiversity financial gaps. The solutions include taxes, environmental levies on a number of products such as plastic bags and electronics; ecolabeling; green finance; environmental lottery; biodiversity offsetting; bonds; revenues from international trade and tourism; funds from bioprospecting; Trust Funds; and Payment for Ecosystem Services; and REDD+ (see section on Contribution to ABT 3 above). A study is needed to describe the measures that have been used and/or are being used, describe their efficiency and effectiveness, and disseminate them for wide use. Trust Funds were particularly found appropriate to ensure some independency in biodiversity decisions rather than relying on projects funded by partners. **REDD+ is a win for the planet and should be a win for countries carrying out REDD+ projects**. The national reports made references to many bilateral cooperation agreements and multilateral sources of funding for biodiversity.

[126] https://legacylandscapes.org/

Figure 35presents GEF STAR 5 (2010-2014), STAR 6 (2014-2018) and STAR 7 (2018-2022) allocations to the biodiversity focal area. The average (for the 39 countries considered) increase in STAR 6 relative to STAR 5 was 17 %, and the average increase in STAR 7 relative to STAR 6 was 20%. In some countries, allocations increased from one STAR to another but not in other countries.

Figure 35: Trends in GEF STAR 5, 6 and 7 allocations to biodiversity focal area in Africa

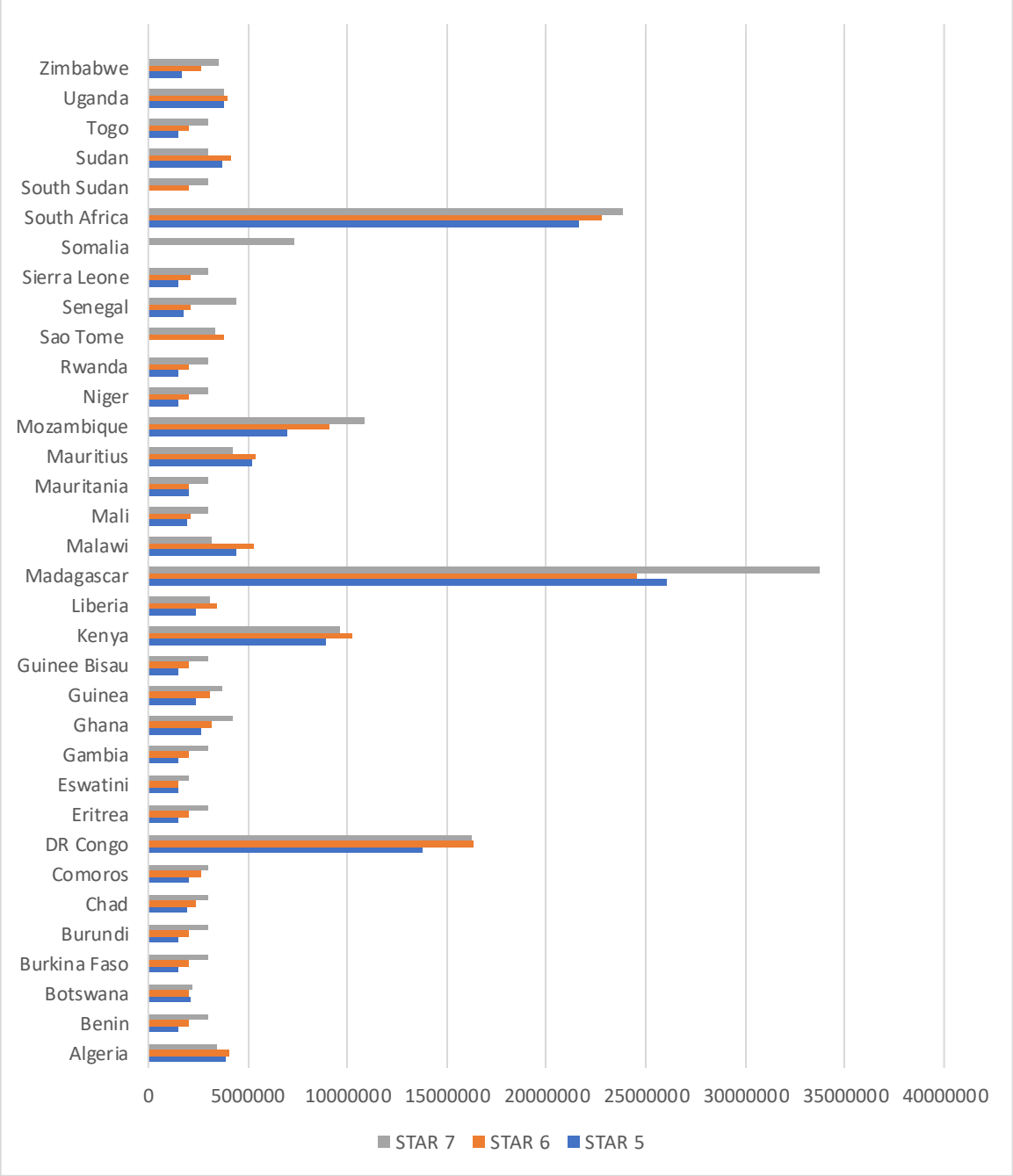
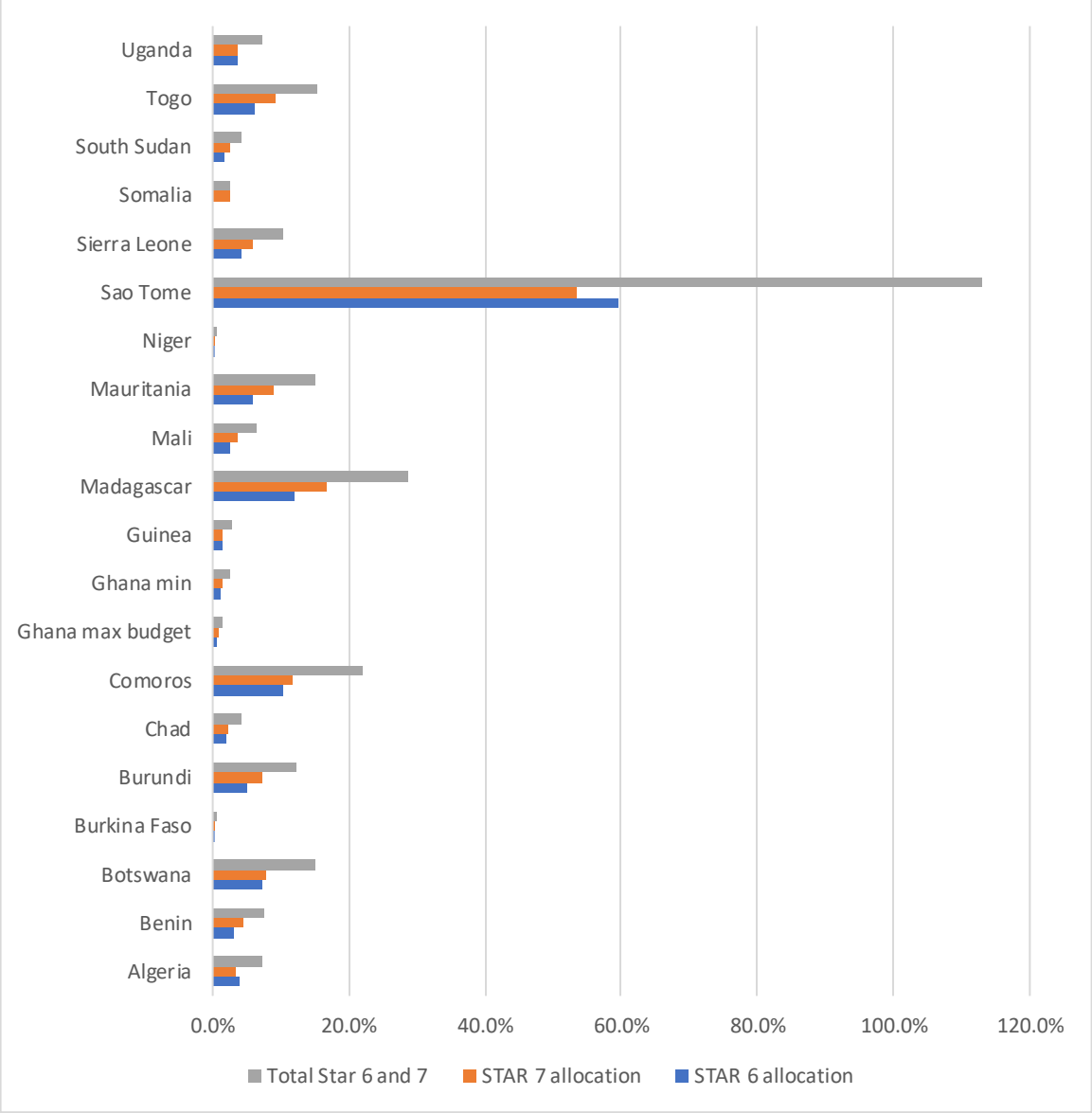


Figure 36 indicates that GEF allocations to African countries for 2014 to 2022 (i.e., both STAR 6 and STAR 7) always represent less than 20% of the NBSAP budgets except for Sao Tome and Principe and, to a lesser extent, Madagascar and Comoros.

Figure 36: **GEF STAR 6 and STAR 7 allocations as percent of respective NBSAPs budgets**

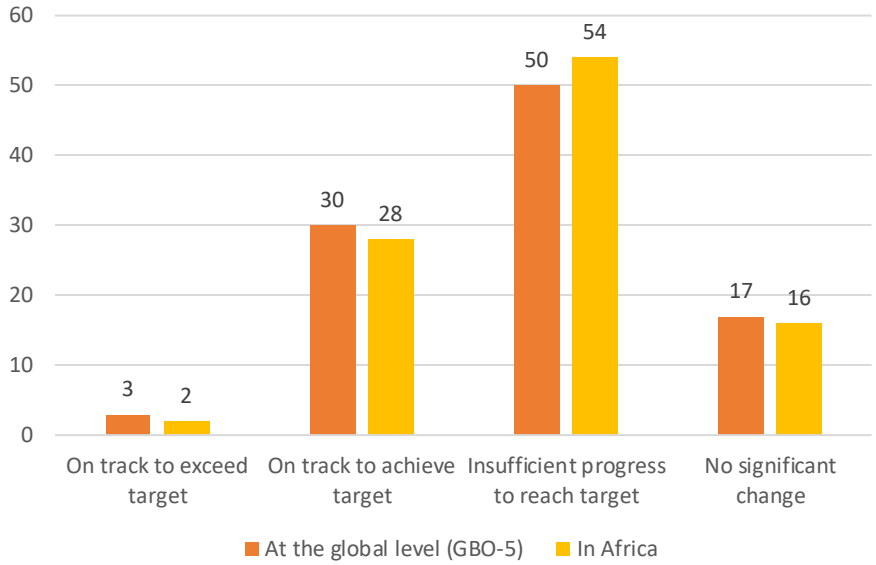


Overall progress

Progress in implementing the respective national targets on financial resource mobilization indicates a similar trend in Africa and at the global (see GBO-5) level with 30% of countries in Africa and 33% at the global level that self-evaluated being on track to achieve or exceed their respective target (**Figure 37**). A close consideration of the case of Chad that evaluated its progress as on track to exceed the target, it was

concluded that **the self-assessment of progress in the implementation of national targets should be considered with caution partly because all the needed details were not provided.** Chad estimated the cost of its NBSAP at a bit more than US$ 125 millions. Through STAR 5, 6 and 7 GEF allocated to Chad US$ 7.29 millions or about 5.7% of the cost of Chad's NBSAP.

Figure 37: Level of progress towards national targets relating to the mobilization of financial resources at the regional and global levels (in percent of number of countries that provided an assessment of progress toward their respective national targets relating to ABT 20)



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ANNEX 1: AFRICA'S BIODIVERSITY PRIORITIES

Annex 1: Africa'sbiodiversity priorities
(Ministerial Summit, Sharm El Sheik, 2018)

- Ecosystem restoration
- Coastal and marine biodiversity and the blue economy
- Invasive alien species
- Access and benefit-sharing and traditional knowledge
- Strategic environmental assessment
- Climate change and biodiversity
- Mainstreaming biodiversity into relevant sectors
- Natural capital accounting
- Biosafety
- Poaching and illegal wildlife trade
- Enabling mechanisms for implementation:
    - Education, awareness-raising and knowledge management
    - Capacity-building
    - Technology transfer
    - Resource mobilization
    - Gender mainstreaming and youth engagement
    - Compliance and enforcement of environmental regulations

Source: https://www.cbd.int/doc/c/6bb9/5a41/15ffae8b69e4484b0102f376/cop-14-afr-hls-03-final-en.pdf

ANNEX 2: AGENDA 2063 GOAL 5 OF ASPIRATION 1

Goal 5: Modern Agriculture for increased productivity and production

Priority Area (1): Agricultural productivity and production

2023 Targets for national level

1. Allocate a minimum of 10% annual public expenditure to agriculture and grow the sector by at least 6% per annum
2. Double agricultural total factor productivity
3. Increase youth and women participation in integrated agricultural value chains by at least 30%
4. Reduce post-harvest losses by 50%
5. Increase the proportion of farm, pastoral and fisher households are resilient to climate and weather
6. related risks to 30%
7. At least 10% of agricultural GDP is produced by commercial farmers
8. At least 10% of small-scale farmers graduate into small-scale commercial farming and those graduating at least 30% should be women
9. Triple intra African Trade of agricultural commodities and services
10. End Hunger in Africa
11. Elimination of Child under nutrition with a view to bring down stunting to 10% and underweight to 5%

Indicative strategies to achieve the above targets

National

1. Implement the Malabo Declaration Implementation Strategy and Roadmap
2. Implement the Malabo Declaration Programme of Work
3. Conduct the Biennial review Cycle based on the CAADP Results Framework for 2025.
4. Promote policies that contribute to value addition in agriculture through investments in agro-processing and infrastructure (irrigation / access roads).
5. Effectively leverage the emergence and flourishing of a vibrant sector of small, medium and large scale joint venture agro-processing and agri-businesses which attract a core of young and skilled women entrepreneurs in those value chains.
6. Capacitate and fully implement the Science Agenda for Agriculture and generate and disseminate the knowledge and technologies required to double agricultural total factor productivity.
7. Promote policies that will ensure better functioning of agriculture and food markets including lowering the cost of market participation and increase access to regional/continental and global markets.
8. Facilitate the funding availability for investment and working capital need of commercial farmers/agribusinesses.
9. Develop/implement policies to build the capacities of women for their effective participation in agro-businesses and agro-value chains
10. Develop / implement policies to increase energy productivity of the agricultural sector
11. Develop / implement policies and programmes for the creation of SMMEs based on agricultural value chains for the youth and women
12. Obtain and use access to FAOs' Global Online Research in Agriculture to supplement national agricultural research
13. Implement AU Land Policy Initiative.

Aspiration 1 is "A Prosperous Africa Based on Inclusive Growth and Sustainable Development"
***Source**: African Union Commission 2015. Agenda 2063 - The Africa We Want: First Ten-Year Implementation Plan 2013-2023*

ANNEX 3: AGENDA 2063 GOAL 6 OF ASPIRATION 1

Goal 6: Blue/ ocean economy for accelerated economic growth

Priority Area (1) Marine resources and Energy

2023 Targets at national level

1. At least 50% increase in value addition in the fishery sector in realterm is attained by 2023
2. Build at least one Giant Aquacultureshowpiece
3. Marine bio-technology contribution toGDP is increased in real terms by at least 50% from the 2013 levels
4. At least 10% of renewable energysources is from wave energy.
5. Commission and complete prospection of seabed for mineralsand hydrocarbon potentials by 2023

2023 continental targets

1. Member States Maritime Laws harmonized at the Regional level

Indicative Strategies to achieve the above targets

1. Implement the African Integrated Maritime Strategy.
2. Develop/implement policies and programmes for sustainable utilization of marine resources to increase their contribution to GDP
3. Put in place policies and programmes in place to avoid the over exploitation and plundering of fishing beds including advocacy and compensation measures against illegal fishing revenue loses
4. Put in place policies and programmes for the protection of marine resources
5. For African Island States: Provide policies / incentives and positive regulatory environment for the creation new businesses with platforms based on: (i) deep ocean water applications (ii) marine hydrocarbon and mineral exploration and exploitation (iv) marine biotechnology and off (vi) aqua- culture development
6. Develop/implement R&D policies in support of the growth of marine resources business
7. Develop skills and technological platforms for blue economy businesses
8. Develop/implement policies and programmes to increase research and development for the monitoring of the High Seas, particularly where ecosystem components straddle between areas of national jurisdiction and the High Seas.
9. Develop / implement policies for reduction pollution of the ocean environment from both land and sea-based sources
10. Conduct economic valuation of natural blue capital and potential for growth or value addition
11. Develop/ implement polices to support the application of marine spatial planning and integrated adaptive oceans policy/governance for Exclusive Economic Zones (EEZs)
12. Develop / implement policies for marine spatial planning for sustainable development
13. Build valuation of blue / ocean capital into national accounting system
14. Develop / implement programmes for the growth of marine energy businesses
15. Build capacities including technology platforms for marine businesses
16. Conduct research in support of the growth of marine businesses

Aspiration 1 is "A Prosperous Africa Based on Inclusive Growth andSustainable Development"
***Source**: African Union Commission 2015. Agenda 2063 - The Africa We Want: First Ten-Year Implementation Plan2013-2023*

ANNEX 4: AGENDA 2063 PRIORITY AREA 1 UNDER GOAL 7 OF ASPIRATION 1

Goal 7: Environmentally sustainable climate resilient economies and communities

Priority Area (1): Biodiversity, conservation and sustainable naturalresource management

2023 national targets

1. At least 30% of agricultural land isplaced under sustainable land management practice
2. At least 17% of terrestrial and inland water and 10% of coastaland marine areas are preserved
3. All national parks and protected areas are well managed on the basis master and national plans
4. Genetic diversity of cultivated plantsand farmed and domesticated animals and of wild relatives including other socio-economically as well as cultural valuables speciesare maintained

2023 regional/continental targets

1. Harmonized and binding agreements and regulatory frameworks on fair, equitable and sustainable management and exploitation of trans-boundary natural resources (water, parks, wildlife and oceans) in place
2. Sustainable use and management of trans boundary (shared) water, wild life and other natural resourcesare used as a basis for regional cooperation and are treated as natural capital of beneficiary countries
3. The ratification of the African Convention of nature and natural resources (ACCNNR) is completed

Indicative strategies to achieve the above targets at the national level

1. Implement fully the AU Framework Guidelines on Land Policy in Africa as well as Guiding Principles on Large Scale Land Based Investments in Africa.
2. Develop policies / regulatory frameworks that (i) promote the generation / conservation of bio-diversity, re-afforestation, marine eco-system and (ii) that reduce dependence of the population on threatened species and eco-systems.
3. Build effective capacities for the conservation of bio-diversity including management of national parks and protected areas and forests.
4. Enact strict and punitive legislation for wildlife crimes, including poaching and trafficking and enforce such legislation without any kind of bias (political, economic, social and ethnic)
5. Reduce dependence of the population on threatened species and ecosystems and eliminate all forms oftrade in endangered species
6. Build strong natural resources governance systems at the community, national levels, including revitalizing commons management and promotion of bio-diversity rights.
7. Put in place sustainable land management practices including sound property rights and institutions to ensure security of tenure.
8. Promote the sustainable use and management of coastal zones and marine resources to build climateresilient and sustainable communities
9. Establish Bank of genetic marine resources to restore threatened species and degraded eco-systems
10. Ratify and implement the African Convention on the Conservation of Nature and Natural Resources
11. Develop/implement strategies to align national programmes to UNCCD Ten Year Strategy
12. For Island States
    - ✓ Create representative marine protected areas for resilience, sustainability and conservation ofaquatic biodiversity
    - ✓ Establish bank of genetic marine resources to restore degraded eco-systems and vulnerable /threatened species

Indicative strategies to achieve the above targets at the regional/continental level

1. Implementation of Great Green Wall for the Sahara and Sahel Initiative
2. Implement the AU Decision to include Biological Diversity Amongst the Priorities of the African Union
3. Develop / facilitate the implementation of Africa Quality Standards for air and other forms of pollution
4. Facilitate the signing of the Cartagena and Nagoya Protocols of the UNCBD by all member states
5. Promote the domestication of the CCNNR , Framework Guidelines on Land Policy in Africa as well as the Guiding Principles on Large Scale Land Investments in Africa.
6. Develop / facilitate the adoption of model agreements by member states
7. Develop / implement a programme to facilitate the execution of binding agreements between memberstates

Aspiration 1 is “A Prosperous Africa Based on Inclusive Growth andSustainable Development”
***Source**: African Union Commission 2015. Agenda 2063 - The Africa We Want: First Ten-Year Implementation Plan2013-2023*

ANNEX 5: AGENDA 2063 PRIORITY AREA 2 UNDER GOAL 7 OF ASPIRATION 1

Goal 7: Environmentally sustainable climate resilient economies and communities
Priority Area (2): Water Security
2023 target at the national level 1. Increase 2013 levels of water demand satisfaction by 25% 2. Increase 2013 levels of water productivity from rain-fed agricultureand irrigation by 60% 3. At least 10% of rain water isharvested for productive use 4. At least 10% of waste water isrecycled for agricultural and industrial use
Indicative strategies to achieve the above targets 1. Implement the "Africa Water Vision for 2025". 2. Develop/promote national frameworks within the context of IWRM for effective water harvesting, distribution and use. 3. Promote and support development and implementation of frameworks for regional watershed/natural resources management. 4. Adopt/promote new technologies to enhance efficient use of water. 5. Reform water resources institutions (including human and systems capacity for data collection, analysis and use) for effective and integrated management of water in national and trans-boundary water basins including management at the lowest appropriate level. 6. Develop/implement strategies for addressing natural and man-made problems affecting water resources, including those inducing climate variability and change.

Aspiration 1 is "A Prosperous Africa Based on Inclusive Growth andSustainable Development"
***Source**: African Union Commission 2015. Agenda 2063 - The Africa We Want: First Ten-Year Implementation Plan2013-2023*

ANNEX 6: AGENDA 2063 PRIORITY AREA 3 UNDER GOAL 7 OF ASPIRATION 1

Goal 7: Environmentally sustainable climate resilient economies and communities

Priority Area (3): Climate Resilience and Natural Disasters and preparedness

2023 national targets

1. At least 30% of farmers, pastoralistand fisher folks practice climate resilient production systems
2. Reduce to 2013 levels emissions arising from agriculture bio-diversityloss, land use, and deforestation
3. Reduce deaths and property loss from natural and man-made disasters and climate extreme events by at least 30%
4. Reduce proportion of fossil fuel in total energy production by at least20%
5. All Cities meet the WHO's AmbientAir Quality Standards (AAQS) by 2025

2023 targets at the continental level

1. African Climate Fund is fully operational

Indicative Strategies

To achieve the above targets, the following indicative strategies will have to be considered National

1. Develop policies/regulations for a green/ climate and weather resilient economy/ low carbon production systems
2. Mainstream/integrate climate and weather policies resilience in planning, budgeting and monitoring in development outcomes and processes
3. Adopt/adapt indigenous knowledge for climate adaptation strategies
4. Develop/implement framework for mitigating and adapting to the effects of climate change on all sectorsof the economy and levels of governance
5. Promote social and economic measures in climate change responses to support sustainable human development.
6. Promote climate change action plans, strategies and policies on research, development and technology transfer
7. Design / implement programmes to provide for incentives relating to matters of climate change including incentives for reduced emissions from deforestation and degradation
8. Develop /implement climate change education programmes and creation of awareness, including integration in the educational curricula
9. Implement Africa Regional Strategy for Disaster Risk Reduction
10. Conduct country wide sensitization campaigns and popularize climate education, particularly in schoolcurricula.
11. Conduct climate change research including detection and attribution.
12. Establish bank of genetic marine resources to restore threatened species and degraded eco systems
13. Promote/support climate-smart agriculture, pastoral and fisheries systems including those under CAADP.
14. Develop / promote the adoption of green energy and energy efficient technologies
15. Promote climate resilience practices in integrated coastal and marine ecosystem management systems.
16. Promote development of energy efficient, low carbon mass transit systems in the food value chain.
17. Strengthen capacities to collect, analyze and evaluate climate related data and meteo- information
18. Promote/support disaster risk reduction, emergency response and climate resilient policies and programmes.
19. Domesticate United Nations Framework Conventions on Climate Change, Biodiversity and Desertification.
20. Develop/implement policies and strategies for early warning and response.
21. Support capacity enhancement of the RECs on disaster risk reduction.

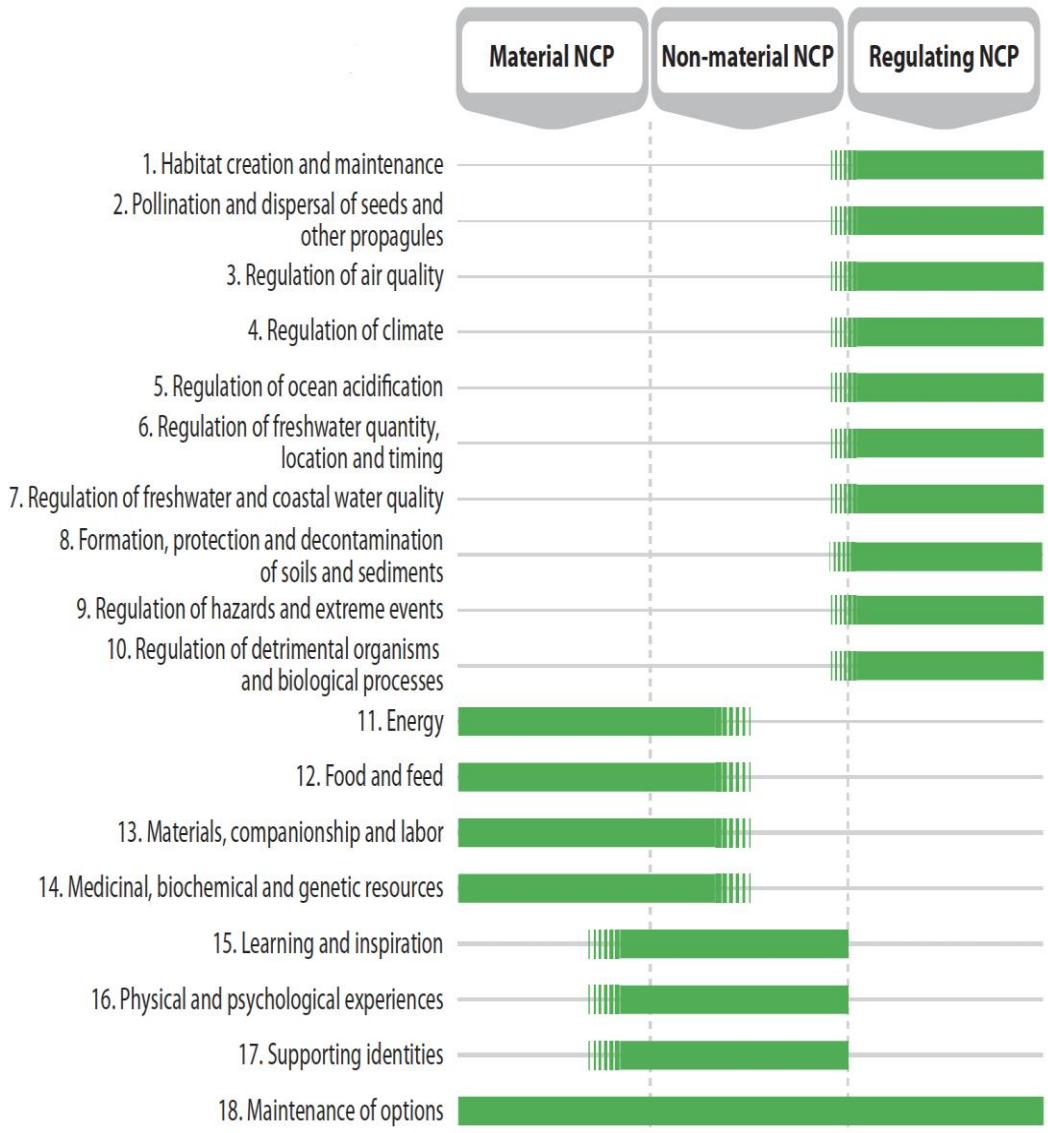
Regional / Continental

1. Strengthen capacities to collect, analyze and evaluate climate related data and meteo- information.
2. Strengthen inter-continental cooperation to deal with slow onset events related to climate change such as sea level rise and desertification.
3. Develop/promote the use of Vulnerability Index for Disaster management in Africa

Aspiration 1 is "A Prosperous Africa Based on Inclusive Growth andSustainable Development"
***Source**: African Union Commission 2015. Agenda 2063 - The Africa We Want: First Ten-Year Implementation Plan2013-2023*

ANNEX 7. IPBES LIST OF NATURE'S CONTRIBUTIONS TO PEOPLE

Ecosystem services or more broadly, to include both positive and negative, nature's contributions to people (NCP) are all the contribution of living nature (i.e. diversity of organisms, ecosystems, and their associated ecological and evolutionary processes) to the quality of life for people[127].



[127] https://ipbes.net/glossary/natures-contributions-people#:~:text=Nature's%20contributions%20to%20people%20(NCP,quality%20of%20life%20for%20people.

Figure is from Díaz *et al.* (2018) Assessing nature's contributions to people. Science 359:270–272

ANNEX 8: AFRICAN COUNTRIES' COMMITMENTS UNDER AFR100

Source: https://afr100.org/ accessed on 24 April 2021