



African Ministerial Summit on Biodiversity

Draft Pan-African Action Agenda on Ecosystem Restoration for Increased Resilience

1. Background

Terrestrial and marine ecosystems and their biodiversity underpin economic growth, sustainable development and human wellbeing in Africa. However, many ecosystems in the region are facing severe degradation leading to the decline or loss in biodiversity and the impairment or disruption of ecosystem functions and services, thus threatening Africa's ability to realise the African Union Agenda 2063 goals and the 2030 Agenda for Sustainable Development and its Sustainable Development Goals. Land and ecosystem degradation affect human livelihoods, the cultural identity and traditional knowledge of communities and the productive capacity of African economies as underlined in recent reports by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES, 2018). Direct causes of land and ecosystem degradation include land use change and conversion of forests, rangelands, wetlands and other natural areas for food production and urban development among others. Land and ecosystem degradation is highly accelerated by climate change, rapid population growth, unplanned urbanization, infrastructure and industrial development, pollution and waste and an increased demand for services (including water, food and energy supply).¹

The recent IPBES regional assessment of biodiversity and ecosystem services for Africa noted that investing in avoiding land and ecosystem degradation and in restoration activities makes sound economic sense. While the cost of land degradation reaches globally about US\$ 490 billion per year, they are much higher than the cost of action to prevent it (UNCCD 2013, De Groot et al 2013). The benefits, including the prevention of species loss and extinction, maintenance of key ecosystem services and of bio-cultural identities, contribute to enhancing the resilience. Land restoration contributes significantly to achieving the United Nations Sustainable Development Goals (UNCCD, 2016) and can be an effective solution for climate adaptation and mitigation by improving CO₂ sequestration and hydrological cycle (UNEP, 2015). This is particularly important in fragile ecosystems where land restoration can contribute to landslide prevention and reductions in damage from climate change and extreme events.

To implement Article 8(f) of the Convention on Biological Diversity (CBD)² and achieve Aichi Biodiversity Targets 14 and 15, there is a need for a concerted and collaborative effort to support, facilitate, upscale, finance and implement ecosystem restoration activities on the ground. The Conference of the Parties to the Convention on Biological Diversity (CBD COP), particularly through its Decisions XI/16, XII/19 and XIII/5 has urged Parties and encouraged other Governments and relevant organizations, as well as indigenous peoples and local communities, and relevant stakeholders to promote, support and take

¹ <https://undocs.org/AMCEN/SS.VII/3>

² Article 8(f) provides that each Contracting Party shall, as far as possible and as appropriate: "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".

actions on ecosystem restoration inter alia by making use, as appropriate, of the short-term action plan on ecosystem restoration as a flexible framework according to national circumstances.

In 2016, the CBD COP in its decision XIII/5 adopted a short-term action plan on ecosystem restoration, as a flexible framework and adaptable to national circumstances and legislation for immediate action towards achieving Aichi Biodiversity Targets 5, 12, 14 and 15, and Targets 4 and 8 of the Global Strategy for Plant Conservation, and other internationally agreed goals and targets, and in particular targets identified in national biodiversity strategies and action plans or other relevant strategies and plans. Four main activities of the plan include: a) Assessment of opportunities for ecosystem restoration; (b) Improving the institutional enabling environment for ecosystem restoration; (c) Planning and implementation of ecosystem restoration activities; (d) Monitoring, evaluation, feedback and disseminating results. The CBD-COP decision appreciated and welcomed the ongoing work of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem (IPBES) to conduct a thematic assessment on land degradation and restoration as one of the efforts to achieve targets related to restoration by 2020.

Africa's biodiversity is one of the key assets for the achievement of the Sustainable Development Goals and can be sustainably and equitably used to reduce inequality and poverty on the continent. The alignment of African Union Agenda 2063 goals, the Sustainable Development Goals and Aichi Biodiversity Targets, linked to the conservation of biodiversity and nature's contributions to human well-being in Africa, facilitates the development of interventions that can achieve multiple positive outcomes. Africa wants to ensure that its environment and ecosystems are healthy and protected to support climate-resilient economies and communities' livelihoods.

This Pan-African Action Agenda on Ecosystem Restoration for increased resilience proposes potential policy measures, strategic actions, cooperation mechanisms and on-the-ground actions to advance land and ecosystem restoration in Africa. The production of this document was facilitated by the Secretariat of the Convention on Biological Diversity (CBD) in cooperation with the UN Environment and various other partners and stakeholders, particularly the CBD Focal Points, other stakeholders including technical government institutions, civil society and academia. Draft elements of the Action Agenda were discussed during the expert preparatory meeting for African Ministerial Summit on Biodiversity and the meeting of the expert group for the Seventh Special Session of the African Ministerial Conference on the Environment (AMCEN) that took place on 16-17 September 2018 in Nairobi. They were endorsed by the Seventh special session of the African Ministerial Conference on the Environment (AMCEN), held on 19 September 2018. This Pan-African Ecosystem Restoration Agenda will be implemented by all African member states under the direction of the African Union and NEPAD as lead institution in facilitating, coordinating, monitoring and evaluating it and in collaboration with Regional Economic Communities (RECs) and other institutions.

2. Land and Ecosystem Degradation in Africa: Status, Challenges and Opportunities

A. Status and Trends

Africa has rich and diverse ecosystems, including deserts and drylands with unique flora and fauna; savannah grasslands with the world's greatest diversity of ungulates; moist tropical forests; mangrove forests in south Mauritania, the Saloum Delta in Senegal, the Sudan and Central African countries; tropical dry and humid forests; islands and coastal ecosystems; wetlands around freshwater bodies like rivers, lakes and estuaries; urban and semi-urban systems and agroecosystems; and marine ecosystems.

However, according to the second edition of *The State of Biodiversity in Africa*, prepared by UNEP-WCMC in 2016 as part of the mid-term review of progress towards the achievement of the Aichi

Biodiversity Target3 and the recent IPBES regional assessment report on biodiversity and ecosystem services for Africa noted that the rates of ecosystem degradation and biodiversity loss are increasing. Under business-as-usual scenarios, it is predicted that a further 11 per cent of biodiversity would be lost.

Land and ecosystem degradation has already had a pronounced impact on ecosystem functions worldwide and the African continent is seriously threatened by this phenomenon, and the rates of ecosystem degradation and biodiversity loss are increasing (UNEP-WCMC 2016, IPBES 2018).

Data from EU Joint Research Centre (see Map) indicate that the percentage of productive land in Africa (as a percentage share of vegetation land) is 21.5 per cent, just above the world average (20>3 per cent). Some of the most degraded areas include the southern margin of the Sahara Desert and a patchwork of degraded lands throughout West Africa, much of Madagascar, scattered pockets in the East African nations, and a distinct band along the west coast of southern Africa, including coastal areas of Namibia.⁴

According to WRI's Forest and Landscape Restoration (FLR) Tool on Forest Landscape Restoration Opportunities Assessment, Africa has the greatest area of FLR opportunity with 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. The magnitude of land and ecosystem degradation in Africa is significant and deserves urgent and ambitious response. The continental target for the Pan-African Ecosystem Restoration Action Agenda is to restore over 500 million ha by 2030, complementing existing initiatives such AFR100.

In Africa, ecosystems affected by degradation mainly include the following:

Wetlands and rivers: *Freshwater ecosystems are experiencing an immense threat from various human-induced factors such as climate change, unsustainable infrastructural development, urbanization, tourism, mining and many others improperly planned development activities, leading to loss of biodiversity and extensive damage to key ecosystems, eutrophication of water bodies by fertilizers, to toxic effects of pesticides on non-target species, and to erosion. A number of African rivers are under threat from large dams for hydropower and irrigation, pollution, human encroachment and invasive species. There is a need for all stakeholders to start taking proactive actions, even sacrifices, to manage, protect, conserve and restore African rivers so that their resources can be sustained for future use. Several lakes in Africa face unprecedented pressure from land-based pollution and unsustainable use impeding their natural replenishment process. The introduction of invasive species, such as the Nile Perch in Lake Victoria and the water hyacinth invasion in several lakes constitutes a major threat to many endemic species. River ecosystems are also threatened by various activities including flow alteration (e.g. damming, irrigation), pollution, poor catchment management, invasive alien species and climate change. The Mid-Boteti area in north-central Botswana, around Boteti River, is one of the most degraded areas in Botswana. In Niger, the Niger River is polluted with more than 2,200 m³ of industrial waste from tanneries, soap and oil factories, wastewater containing dyes, chemical pollutants, and heavy metals. The fisheries sector is declining sharply: in Uganda, the production declined from 39,201 tons in 2005 to about 15,417 tons in 2010 due mainly to declining catches, falling stocks, overfishing and expanses of regional markets. Wetland sites, including some Ramsar sites such as the Muni-Pomadze Ramsar site in Ghana, are threatened. Mining and poor agricultural practices represent a major pressure on wetland ecosystems. In South Africa, of the nearly 800 wetland ecosystem types, a massive 65 per cent are threatened with 48 per cent critically endangered, 12 per cent endangered and 5 per cent vulnerable.*

Forest ecosystems: *According to FAO (2016), Africa experienced the biggest forest area loss from 1990 to 2015 compared to the rest of the world, although the rate of forest loss in Africa decreased substantially from 2010 to 2015, while average per capita forest area declined from 0.8 hectares to 0.6 hectares per person. Forest degradation is largely caused human activities like; overgrazing, agricultural expansion, overexploitation, and deforestation. In particular, small-scale farming activities in the dry areas have caused the greatest impact on*

³ <https://www.eldis.org/document/A100651>

⁴ <http://documents.worldbank.org/curated/en/561091468008110938/pdf/691900ESW0P1250LIC00000Invest0Trees.pdf>

vegetation degradation. Change in forest cover has been observed in many African countries (In Equatorial Guinea, Bioko island is under severe threat from deforestation as nearly 60 per cent of its original lowland forests were cleared for cocoa and other tropical crops; In Madagascar has witnessed the destruction of an estimated 80 per cent of its indigenous forests; In Uganda, forest cover has been reduced from 50 per cent (12.1 million ha) of the total land surface in 1900 to an estimated 2.97 million ha in 2012; In Rwanda, natural forests areas have declined by 65 per cent between 1960 and 2007; In Zambia, annual deforestation rate in Zambia is in the range of 79,000 to 270,000 ha of the total forest cover largely due to an increase in the urbanization rate of 3.2 per cent per annum which is likely to compound the deforestation rates as the need to develop infrastructure in such areas such as housing, energy, transport and irrigation increases; In Sierra Leone, human impacts on the natural ecosystems and resources have been severe. Once dominated by forest (70 per cent of land area), the country now has less than 5 per cent of mature forest remaining). Grauer's gorillas have experienced a shocking 77 per cent decline in numbers over the last two decades as a result of illegal hunting, civil unrest and habitat loss from mining. Commercial bush meat hunting is now the most immediate threat to wildlife conservation in the Democratic Republic of the Congo (1 billion kg annually or roughly 897 kg per hectare of forest area per year).

Marine and coastal areas: Marine and coastal ecosystems are facing significant threat from overexploitation, habitat degradation and loss, acidification, pollution from land-based sources, alien invasive species and sea-level rise. Damage to coral reef systems is growing, mostly as the result of pollution and climate change, and this is having far-reaching implications for fisheries, food security, tourism and overall marine biodiversity. Mangroves in Africa are also particularly overexploited and becoming heavily degraded or destroyed by multiple pressures on resources and pollution. Habitats in marine ecosystems are facing serious threats due to mangrove destruction, coral destruction, dynamite fishing and illegal fishnets is one of the escalating problems. Multiple pollutants, including used water and oil, industrial and household waste, are dumped causing the degradation of biological diversity within these habitats. This degradation is not only a threat to natural resources but also local communities. The problem is aggravated by city expansion. In Angola for example, the disappearance of mangroves in the Lobito bay due to city expansion (drainage and waste discharge) has led to the disappearance of flamingos and the endangerment of fish species in the bay. In many countries, the coastline is increasingly at risk from an oil spill, a majority of the sewage goes into the sea without being treated. Coastal regions such as the Eritrean Coast Desert eco region where 4 species of marine turtles breed, the Korle Lagoon in Accra, Ghana, and The Korle Lagoon in Accra are highly threatened.

African mountains: Mountains provide vital goods and services and serve as invaluable importance as water towers and engine for agriculture, energy, biodiversity hotspots, indicators of climate change and hubs of traditional indigenous knowledge, are facing multiple challenges, mainly driven by fast growing population, unsustainable natural resources use which are worsened by climate change. Deforestation and intensive agriculture in mountain areas without proper erosion control have disturbed soil integrity and compromised the water retention function of the soil upstream. In mountain areas, landslides and floods are more frequent, causing substantial damages to the infrastructure and human lives downstream. Burundi and Rwanda for example face a serious threat of land degradation, where about 76 and 71 per cent of the respective country's total area encounters very severe degradation problems (UNEP, 2006). In Madagascar, Deforestation of central highlands, plus weathering from natural geologic and soil conditions, has resulted in widespread soil erosion, which in some areas may top 400 tons/ha per year. The Ethiopian highlands¹ (especially the Tigray and Amhara regions) in the northern part of the country are one of the most degraded areas in Africa and in the world (Terefe, 2003)⁵. The Semenawi and Debubawi Bahri Green Belts located in the central highlands of Eritrea are under threat. They house some of the last remaining tropical coniferous and broad-leaved forest along the Horn of Africa.

⁵ https://www.researchgate.net/publication/233633604_Effects_of_region-wide_soil_and_water_conservation_in_semi-arid_areas_The_case_of_northern_Ethiopia.

Savannah grasslands and rangelands: *With an estimated 13 million sqkm², grasslands cover almost half of the continent and are found widely in the west, the east and the southern sub-regions. However, savannah and grasslands in many parts of Africa are vulnerable to drought and under pressure from anthropogenic activities such as expansion of agriculture and plantation forestry, spread of invasive alien species, human settlements, mining activities, and other commercial or subsistence activities. Grassland ecosystems in Africa possess significant wild animal diversity that supports tourism revenue and subsistence livelihoods (food, medicinal plants, and construction material), in addition to cultural, regulating and supporting services. However, these ecosystems are hugely threatened by the alarming levels of ecosystem degradation attributed mainly to anthropogenic activities, mainly overgrazing and tree removal as key primary causes of deterioration that result in demolition of vegetation cover, loss of surface litter, increase in erosion and run-off, loss of soil fertility and consequently reduced grassland productivity. The negative consequences of overgrazing and tree removal facilitate encroachment and/or invasion of alien species and surges in termite activity. These changes are accelerated by climate change and bush fires: In Morocco, Climate change is also expected to reduce cereal yields by 50 per cent in dry years and 10 per cent in normal years and to affect animal production. In Namibia, uncontrolled fires destroyed and damaged around 370,000 hectares of vegetation. Bush fires are also a threat to national parks such as Etosha, Namib Naukluft and those in the north-east.*

African drylands and deserts: *Drylands and desert ecosystems, including those in Sahara Desert, the Succulent Karoo, Namib Desert, Nama Karoo and the Kalahari Desert and xeric savannah are facing decline due to anthropogenic disturbances such as overgrazing, mining, illegal harvesting of succulents and alien invasive species. It is estimated that desertification affects approximately 33 per cent of the global land surface and Africa is the most exposed, with desertification affecting around 45 per cent of the Africa continent's land area, out of which 55 per cent is at high or very high risk of further degradation. It is also projected that by 2030 the number of people living in the drylands of East and West Africa is expected to increase by 65 to 80 per cent and over the same period climate change could result in an expansion of the area classified as drylands, by as much as 20 per cent under some scenarios (ADF, 2016).*

B. Opportunities and challenges

Degradation of terrestrial and marine ecosystems in Africa has reduced real wealth and assets, consumption, and income-earning potential for local land farmers, the public sector, and private businesses. However, there are lot of opportunities that are arising or could potentially arise from restoration. These include among others increased employment, increased business spending, improved gender equity, increased local investment in education and improved livelihoods of all people who depend on land and other ecosystems. Land and ecosystem restoration that increases carbon storage or avoids greenhouse gas emissions in global forests, wetlands, seas, grasslands and croplands could also provide more than one third of the most cost-effective greenhouse gas mitigation activities required by 2030 to keep global warming to below 2°C. Thus, investing in avoiding land degradation and in the restoration of degraded ecosystems makes sound economic sense; the benefits generally by far exceed the cost. Land and ecosystem restoration is about restoring ecological functionality of fragile ecosystems, it is about securing livelihoods, water, energy and food security.

However, there are several challenges hindering effective land and ecosystem restoration in Africa. These include lack of awareness, unsustainable consumption lifestyles, and unsustainable management practices. Perceptions of human-environment relationships have a strong influence on the design and implementation of land and ecosystem management policies and actions. Unfortunately, land and ecosystem degradation are still viewed by some as an unintended consequence of economic development. Also, there is a lack of credible and easily accessible information to allow decision makers, practitioners and other stakeholders to improve their approaches to land and ecosystem management and use.

Rising consumption in many of African countries combined with unsustainable practices on the ground as well as continued population growth, are also driving land and ecosystem degradation. Increases in consumption have opened-up new economic opportunities that lower the costs of land-based resources for

consumers, leading to a rise in demand and the failure of policies and institutions to incentivize sustainable practices and internalize the long-term economic costs of unsustainable production has meant that the exploitation of natural resources typically leads to greater levels of land and ecosystem degradation. Tackling land and ecosystem degradation in Africa thus requires systemic change on a macroeconomic level, including a concerted effort to improve the sustainability of both production systems and consumer lifestyles.

Rapid expansion of croplands and grazing lands is another biggest challenge to land and ecosystem restoration in Africa, and globally. Croplands and grazing lands now cover more than one third of African land surface, with recent clearance of native habitats, including forests, being concentrated in some of the most species-rich ecosystems on the planet are big challenges to the sustainable land management and restoration of ecosystems. Intensified land-management systems have greatly increased crop and livestock yields in many areas in Africa but, when inappropriately managed, can result in high levels of land degradation, including soil erosion, fertility loss, excessive ground and surface water extraction, salinization, and eutrophication of aquatic systems. Proven management practices currently exist to avoid and reduce degradation of existing croplands and grazing lands, including sustainable intensification, conservation agriculture, agroecological practices, agroforestry, grazing pressure management and silvopastoral management. However, these are not widely applied in Africa and thus challenges landscape restoration.

As noted in the recent IPBES regional assessment report on biodiversity and ecosystem services for Africa, ecosystems and landscapes will play an increasingly important role in the countries' attempts to reconcile their conservation and restoration interests with the growing demand for demand for food, consumer goods and multiple ecosystem benefits in the region. Overall, interventions should be devoted to the maintaining or restoration of an optimum health status of the all ecosystem as well as an optimum use. This will guarantee the resilience of African ecosystem against global changes.

3. Purpose and Scope of the Pan-African Action Agenda

The Pan-African Action Agenda on Ecosystem Restoration provides a framework for harmonized and coordinated action on ecosystem restoration across Africa by the African Union its member states and partners. It aims to conserve and manage sustainably African land and ecosystems and at the same time reduce, mitigate or reverse the impacts of land and ecosystem degradation, reduce and halt biodiversity loss; combat land degradation and desertification; mitigate climate change; reduce disaster-related risks, and restore ecosystem conditions and processes for increased resilience, enhanced ecosystem functions and sustainable benefits.

*UNCCD: In October 2015, UNCCD country Parties reached a breakthrough agreement on the **land degradation neutrality (LDN)** concept, developed to encourage implementation of an optimal mix of measures designed to avoid, reduce and/or reverse land degradation in order to achieve a state of no net loss of healthy and productive land. LDN aims to balance anticipated losses in land-based natural capital and associated ecosystem functions and services with measures that produce alternative gains through approaches such as land restoration and sustainable land management.*

Four building blocks form the basis of the LDN target-setting:

- 1) Leveraging LDN: LDN target setting is not a stand-alone process but provides opportunities for coordination across ministries and sectors involved in land management.*
- 2) Assessing LDN: Assessing the current state of land degradation and its drivers for informed decisions on what action to take, and tracking progress;*
- 3) Setting LDN targets and associated measures: LDN targets define a country's ambitions in terms of combatting land degradation.*
- 4) Achieving LDN: An enabling environment that makes integrating the LDN concept into national policies easier and identifying transformative LDN programmes and projects possible.*

The Action Agenda provides a strategic direction for ecosystem restoration in the region, promote continent-wide awareness raising and political support for restoration efforts, help to accelerate and upscale ecosystem restoration commitments and targets; foster synergetic and integrated action and facilitate effective monitoring of implementation and tracking of progress towards the achievement of ecosystem restoration commitments and targets at the continental and regional level. Furthermore, it seeks to facilitate resource mobilization and to leverage private sector investments in ecosystem restoration.

The Action Agenda will guide and support African countries to meet, in synergetic and integrated manner, their ecosystem restoration objectives and commitments under various international agreements and processes, including the three Rio Conventions – the Convention on Biological Diversity (CBD), the United Nations Convention to Combat Desertification (UNCCD), the United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement, – as well as the Ramsar Convention on Wetlands, the Convention on the Conservation of Migratory Species of Wild Animals, the New York Declaration on Forests, the Bonn Challenge on Forest and Landscape Restoration and the 2030 Agenda for Sustainable Development.

This Action Agenda builds on and aims to strengthen and upscale exiting initiatives on land and ecosystem restoration in Africa, including those underway or planned in line with the national biodiversity strategies and action plans to achieve Aichi Biodiversity Targets 5, 14 and 15 as outlined in annex 1. It also aims to reinforce action towards achieving the commitments made under various regional and global processes and initiatives, among them the African Resilient Landscapes Initiative, the African Forest Landscape Restoration Initiative (AFR100 - see Annex 2),⁶ the Great Green Wall for the Sahara and the Sahel Initiative,⁷ the Restoration Initiative⁸, the Forest Ecosystem Restoration Initiative (FERI)⁹, the Central African Forest Initiative,¹⁰ the African Union’s flagship programme on climate change, biodiversity and land degradation, the Integrated Lake Basin Management Initiative (LBMI)¹¹, and the Mangrove Capital Africa programme.¹²

The Action Agenda targets restoration across all types of ecosystems – terrestrial, inland water, marine and coastal, and, as appropriate, urban ecosystems. It will be implemented at various scales – national, regional, subnational, including transboundary ecosystems- and site levels using a land- and seascape perspective.

The Action Agenda covers a period of 12 years (2019-2030) and is consistent with the CBD 2050 Vision on Living in harmony with nature where “By 2050, biodiversity is valued and conserved, restored and wisely used, sustaining a healthy planet and delivering benefits essential for all people”. It is also aligned with the 2030 Agenda for Sustainable Development and the Africa 2063 Agenda.

The Action Agenda can be applied to address situations where: (a) ecosystems are already under ongoing restoration (strengthening or upscaling existing initiatives); (b) degraded and destroyed ecosystems have already been identified and considered for restoration (establishing new initiatives); and (c) degraded and destroyed ecosystems have not yet been considered for restoration (assessing new restoration opportunities).

⁶ <http://afr100.org>

⁷ <https://www.greatgreenwall.org/about-great-green-wall>

⁸ <https://www.iucn.org/theme/forests/projects/restoration-initiative-tri-scaling-support-forest-landscape-restoration>

⁹ <https://www.feri-biodiversity.org/>

¹⁰ www.cafi.org

¹¹ <https://www.ilec.or.jp/en/lbmi/>

¹² <https://www.wetlands.org/casestudy/mangrove-capital-africa/>

Vision

Degraded and destroyed ecosystems across Africa restored to an ecologically healthy, diverse and resilient condition, able to cope with natural and anthropogenic disturbances and support the region's economic, social, and cultural development objectives and well-being of its people.

Mission

To catalyse, promote and implement ambitious integrated ecosystem restoration initiatives across the region, thus positioning Africa as a world leader in ecosystem restoration.

Strategic Goals and Objectives

The overall goal of this Pan-African Action Agenda is to inspire, promote and facilitate regional and national ecosystem restoration initiatives across Africa with a view to reversing the loss of biological diversity and ecological infrastructure, combating land degradation and desertification, mitigating and adapting to the effects of climate change, enhancing resilience and improving peoples' well-being. Its main objectives include helping African Union Member States and relevant organizations and initiatives to, inter alia:

1. Promote, support and accelerate action in the planning, implementation and monitoring of ecosystem restoration activities at all levels;
2. Undertake actions to reduce, mitigate or reverse direct drivers of land ecosystem degradation
3. Mainstream land and ecosystem restoration in relevant sectoral policies, plans and programmes
4. Identify and implement specific actions to achieve agreed ecosystem restoration commitment and targets;
5. Communicate the ecosystem restoration efforts, results and benefits to increase and promote active public support and involvement.

Strategic Actions

This Pan-African Action Agenda is closely aligned with the short-term action plan on ecosystem restoration adopted by the Conference of Parties to the Convention on Biological Diversity in decision XIII/5.¹³ The African Union Member States will implement, as appropriate, the following main groups of activities and the associated action identified in the short-term action plan, in collaboration with relevant organizations and in accordance with national legislation, circumstances and priorities:

- (a) Assessment of opportunities for ecosystem restoration;
- (b) Improving the institutional enabling environment for ecosystem restoration;
- (c) Planning and implementation of ecosystem restoration activities;
- (d) Monitoring, evaluation, feedback and disseminating results.

These activities will be implemented in an iterative manner with feedback among and within the four main groups of activities. Because of the large scope of work involved, the implementation of the Action Agenda will be done in phased manner using an adaptive management approach (see indicative timelines in Annex I).

¹³ <https://www.cbd.int/decisions/cop/?m=cop-13>

The first phase (2019-2020) will focus on supporting and consolidating the ongoing activities and initiatives proposed in the national biodiversity strategies and action plans to achieve Aichi Biodiversity Targets 5, 14 and 15. This may include, among other actions, a coordinated Pan-African awareness-raising campaign on ecosystem restoration; identification of stakeholders to be involved at various levels; further consultations about measures for implementation of the Pan-African Action Agenda at the regional, national and sub-national levels; review of existing enabling policy, legal and institutional frameworks for ecosystem restoration and identification of major gaps/ bottlenecks; identification, design and mobilization of resources for key pilot transboundary ecosystem restoration projects and programmes; support for regional, national and sub-national assessments to identify priority areas and opportunities for ecosystem restoration including their total extent and feasibility, and as appropriate, formulation of national ecosystem restoration strategies and action plans and assessment of the costs and benefits associated with different restoration options and the profitability of various restoration interventions.

During the second phase (2021-2025) the focus will be on launching and implementing a series ambitious ecosystem restoration projects and programmes in all African countries so as make tangible progress towards achieving the commitments and targets made by countries in their NBSAPs and under various initiatives such AFR100, the Great Green Wall Initiative and others. This phase will also involve further concerted efforts on awareness-raising, capacity-building support, technical and scientific cooperation and facilitation of access to relevant technologies and innovative solutions to enable stakeholders at various levels to effectively contribute to the achievement of the restoration targets.

The third phase (2026-2030) will focus on actions that result in long-term deliverables such as the establishment of a regional land and ecosystem restoration trust fund, promotion of payment for ecosystem services (PES) schemes to support land and ecosystem restoration; establish public-private sector partnership for ecosystem restoration ventures; integration of ecosystem restoration activities into wider corporate social responsibility initiatives; evaluation of restoration efforts across the region; and documentation, communication and celebration of success stories and achievements.

Targets and key milestones

It is hoped that by 2025:

- All African Union Member States would have in place national ecosystem restoration plans to operationalize the Pan-African Action Agenda
- National and sub-national ecosystem restoration coordination committees (or similar mechanisms) would have established or strengthened across the region.
- All Member States would have developed policy and legal frameworks or reformed existing ones to enable or incentivise national ecosystem restoration or create disincentives for activities and processes causing ecosystem degradation, including tenure related drivers.
- At least one large-scale major ecosystem restoration project and programme would have initiated in each Member State or upscaled with sizeable funding from national budgetary allocation and external financial and technical support from multiple sources and partners.
- IPLCs, women and youth would be proactively engaged in the development and implementation of ecosystem restoration policies, projects and programmes in all Member States.
- Relevant tools, technologies and innovative solutions developed or mobilized and made available to assist Member States and partners to effectively design, implement, monitor and report on ecosystem restoration initiatives.

It is also expected that, by 2030:

- At least 200 million ha of critically degraded ecosystems would have been restored (i.e. moved back into a condition of good ecological health, integrity and resilience) with direct benefits to livelihoods.
- Different major ecosystem types (forests, wetlands, coastal and marine, mangroves, agroecosystems, rangelands, desert and others) would be well represented among the restored ecosystems.
- All Members States would have in place the requisite capacities, policy and institutional frameworks, and knowledge management systems to support the restoration and sustainable management of ecosystems.

4. Guiding Principles

The implementation of the Pan-African Action Agenda on Ecosystem Restoration will consider, and be guided by, the following core principles, as well as those identified in the short-term action plan on ecosystem restoration adopted by the CBD COP in decision XIII/5:

- Land and ecosystem restoration should maximise multiple benefits (biodiversity, resilience to climate change and CC mitigation/ adaptation, economic and livelihood benefits). Priority should be given to sustainably managing and conserving biodiversity and preventing the degradation of natural habitats and ecosystems by reducing pressures and maintaining ecological integrity and provision of ecosystem services (CBD COP decision XIII/5).
- Healthy ecosystem is a catalyst for sustainability or sustainable development. Investing in preventative measures and restoration initiatives makes sound economic sense.
- Ecosystem restoration activities should build and be consistent with the provisions of the Convention, particularly the Ecosystem Approach, the Addis Ababa Principles and Guidelines for the Sustainable use of Biodiversity, the United Nations Declaration on the Rights of Indigenous Peoples, the Akwé: Kon guidelines, the Tkarhwaí:ri Code of Ethical Conduct, and the Plan of Action on Customary Sustainable Use of Biological Diversity.
- Ecosystem restoration activities should be planned at various scales and implemented using the best available science and traditional knowledge. The prior informed consent and full and effective participation of indigenous peoples and local communities, as well as the engagement of women and other relevant stakeholders are important considerations at all stages of the processes. Communication, education and public awareness are also important to consider at all stages so that the drivers of degradation, benefits, solutions and costs of ecosystem restoration activities are widely understood.
- Synergies among multilateral processes provide opportunities for integration of biodiversity and ecosystem restoration. The Pan-African action agenda contributes to the achievement of objectives and commitments under other conventions, including the United Nations Framework Convention on Climate Change, the United Nations Convention to Combat Desertification, the Ramsar Convention on Wetlands, the Convention on the Conservation of Migratory Species of Wild Animals, and the United Nations Forum on Forests, as well as the 2030 Agenda for Sustainable Development and the Sendai Framework for Disaster Risk Reduction 2015-2030.

5. Establishing enabling conditions for ecosystem restoration through national and regional policies and strategies

Land and ecosystem degradation is rarely, if ever, the result of a single cause and can thus only be addressed through the simultaneous and coordinated use of diverse policy instruments and responses at the institutional, governance, community and individual levels. Critical issues and drivers leading to land and ecosystem degradation such as climate change, population growth and unsustainable practices demand timely attention and involvement of different stakeholders and cross-sectoral collaboration. A development of large-scale plans is also necessary to make cost-effective large-scale solutions and to deliver synergies with all ongoing small-scale plans. Instead of working in isolation, cross-sectoral collaboration seeks to foster engagement across sectors, strengthen awareness and capacity to support outcomes of shared benefits from the restoration of ecosystem services.

The priorities for improving enabling conditions for land and ecosystem restoration are:

- Promote integrated sector planning and implementation of policies at all levels and particularly strengthen synergies between sectors to enhance sustainable outcomes of interventions, and avoid “leakage” of the “cost” of restoration at/among different levels;
- Conduct assessment of drivers of ecosystem degradation and restoration opportunities at the appropriate level and develop restoration plans;
- Develop and implement land and ecosystem management and restoration plans at national and local levels, ensuring alignment at different levels (local level plans support the achievement of national-level plans but also national-level priorities are linked to local priorities);
- Develop and implement land use plans at national and local levels both for avoiding degradation and for restoration (ensuring linkages as above);
- Promote payment for ecosystem services (PES) schemes to support the functioning of forest, rangeland and water management structures;
- Upscale restoration initiatives through new commitments and implementation of existing commitments (e.g. Bonn Challenge/AFR100, The Great Green Wall Initiative);
- Incorporate information and knowledge on natural capital analyses into national accounts, development planning and decision-making, especially through implementing the System of Environmental-Economic Accounting and futures planning among others, to improve the sustainable use of natural resources for sustainable development;
- Establish national Monitoring and Evaluation Framework for national commitments, building on existing M&E framework (e.g. UNEP-WCMC M&E Framework).

6. Integrating land and ecosystem restoration in relevant sectoral policies, plans and programmes

6.1. Environment Sector

Managing the environment sector, which is at the centre of life-support systems, livelihoods and national economy, involves investing in national environmental reporting, developing national environmental standards, guidance and guidelines for other sectors in the restoration of degraded land and ecosystems.

The priorities for the environment sector are:

- Develop national programmes for promoting integration of biodiversity and ecosystem services in other sectors (e.g. agriculture, energy, infrastructure development, tourism, livestock, fisheries, forestry, trade, etc.) with clear objectives and tools for the short term, medium term and long term, and with clear mechanisms for monitoring and evaluation to enable successful implementation;

- Apply existing practical guidelines for integration of biodiversity in other sectors (agriculture, energy, infrastructure development, tourism, fisheries, forestry, livestock, etc.) and adapt them to specific context to support implementation and to strengthen public education and awareness;
- Put in place measures to control activities affecting wetlands functionality and integrity to ensure that they continue to play their vital roles as flood barriers and short-term holding areas for excess rainwater;
- Carry out appropriate actions to enhance provision of ecosystem services and functionality in degraded ecosystems such as mountains, wetlands, drylands, rangelands and forests, marine and coastal ecosystems;
- Develop and implement national invasive species strategies as appropriate;
- Promote the ecosystem approach for holistic consideration of ecosystem functionality and multi-stakeholder needs and engagement.

6.2. Agriculture Sector

The expansion of agriculture by land conversions is one of the biggest drivers of land and ecosystem degradation and biodiversity loss. The current degraded soil amounts to about 494 million ha in Africa with Sub-Saharan Africa alone accounting for 65 per cent of agricultural land degraded. From the seven aspirations of the African Union's vision and agenda 2063, a prosperous Africa based on inclusive growth and sustainable development will rise from the modernization of agriculture. Sustainable agriculture and ecosystem restoration provide opportunity for meeting the challenge for food production and enhancing ecosystem resilience.

The priorities for the agriculture sector are:

- Develop and implement integrated agroforestry strategies and appropriate rural extension services considering landscape restoration principles, including agrobiodiversity;
- Adopt ecosystem-based adaptation and climate-resilient agricultural practices to leverage sustainable production in agriculture and livestock sector;
- Integrate biodiversity research and monitoring and avail provisions for incentivizing organic farming in agriculture strategies and plans;
- Support/promote restoration of degraded land for agriculture and livestock where there is the potential, relevant off farm initiatives to strengthen the capacity of local communities and SMEs, and boost green jobs creation to reduce needs for agricultural land expansion and degradation;
- Use available technologies to minimise the impact on biodiversity in agricultural systems;
- Facilitate the conservation and sustainable use of local species and related reproductive material (such as seeds) to increase the resilience of local ecosystems.

6.3. Forestry Sector

Forests in Africa are major providers of food, wood, energy, fibre and NTFPs on the continent, and they play a crucial role in conserving biodiversity, mitigating climate and maintaining functional ecosystems. Promoting and restoring agro-sylvopastoral/agro-forestry landscapes and increasing forest cover (including the NTFPs) should be emphasized for the protection of biodiversity as well as livelihood security of millions of Africans.

The priorities for the forestry sector are:

- Give due consideration to biodiversity, when implementing actions set out in Article 5 of the Paris Agreement;

- Make use of the United Nations forest instrument to contribute to the preparation of the 2017-2030 Strategic Plan of the international arrangement on forests, under the United Nations Forum on Forests, ensuring that due consideration is given to biodiversity;
- Promote the implementation of sustainable management of all types of forests including agroforestry systems and enhance NTFPs sustainable management and production for biodiversity conservation and sustainable livelihoods;
- Develop or enhance mechanisms of monitoring and evaluation of the impacts of policies, programmes, plans, projects and strategies relating to forest activities.

6.4. Fisheries and Aquaculture Sector

The fisheries and aquaculture sector contributes significantly to Africa's overall economy. FAO (2014), estimated that in 2011, the fisheries and aquaculture sector generated more than US\$ 24 billion, representing 1.26 per cent of the gross domestic product (GDP) of all African countries. However, the sector faces enormous threats including over-exploitation, pollution, introduction of alien species, overharvesting and global climate change that need to be addressed in the context of Africa's Blue Economy agenda.

The priorities for the Fisheries and Aquaculture sector are:

- Encourage national and regional fisheries management institutions to further consider biodiversity and ecosystem restoration related matters in fisheries management, in line with the ecosystem approach;
- Enhance professionalization in aquaculture and payment for ecosystem services to sustain and restore marine ecosystems and their services;
- Enhance the protection and conservation of coastal areas and lake buffer systems to facilitate natural regeneration and reduce pollution of aquatic systems and biodiversity;
- Promote the use of sustainable and innovative fishing materials that allows breeding to occur and ensures that fish populations and other biodiversity remain at a sustainable level;
- Develop and implement national blue economy strategies to diversify economic base and catalyse socio-economic transformation.

6.5. Energy Sector

Africa faces an enormous energy challenge and its growing population and economic progress has sent energy demand soaring. About 600 million people in Africa do not have access to electricity, and approximately 730 million people rely on traditional uses of biomass (IEA, 2014). Africa 2030 for the continent's energy transition illuminates a viable path to prosperity through renewable energy development. In addition, Sustainable Development Goal 7 calls all countries to ensuring universal access to affordable electricity by 2030. Therefore, investing in clean energy sources such as solar, wind and thermal and expanding infrastructure and upgrading technology to provide clean energy in all African countries is a crucial goal that can both encourage growth and help the environment.

The priorities for the energy sector are:

- Promote clean and efficient energy technologies such as certification schemes for charcoal and wood to encourage more investment in landscape restoration and move towards a more sustainable and efficient supply chain;
- Promote the supply of clean, low-cost wind, wave and solar energy through effective regional collaboration and grid interconnection;

- To close the electricity gap sustainably and cleanly, by channelling investments in fossil fuel subsidies to renewable energy systems;
- Expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all.

6.6. Infrastructure Development Sector

The African Union Heads of State and Government have endorsed the Programme for Infrastructure Development in Africa (PIDA) as common framework for building the infrastructure necessary for more integrated transport, energy, ICT and trans-boundary water networks to boost trade, spark growth and create jobs. Consequently, a number of infrastructure projects have been initiated and others are planned. However, some of the projects have contributed or, if not designed and implemented appropriately, are likely to lead to land and ecosystem degradation by damaging and destroying natural habitats, and negatively impacting biodiversity (Laurance et al. 2017). As such, it is important to find a balanced path that is economically, socially and environmentally responsible.

The priorities for the infrastructure sector are:

- Integrate futures thinking into the design of infrastructure so that the impact of infrastructure developments on ecosystem services is minimum;
- Develop a spatial assessment that identifies the current and future physical infrastructure and correlate this to critical ecological infrastructure in order to manage the trade-off between the needs for physical infrastructure and the sustainable and more inclusive provision of ecological services;
- Conduct strategic environmental assessments (SEAs) for different sectors (e.g. physical infrastructures such as roads development) to identify potential environmental impacts and potential mitigation measures;
- Promote the use of social and environmental criteria during infrastructure planning and design;
- Integrate sustainability concerns into national and regional infrastructure development policies.
- Undertake proactive land-use planning to ensure that infrastructure development effectively integrates other land-use needs.

6.7. Mining Sector

African countries have potential wealth – mineral wealth and in addition oil and gas can contribute to the improvement of the wellbeing of its population. However, mining disturbs soil and rock in the course of constructing and maintaining roads, open pits, and waste impoundments. erosion of the exposed earth may carry substantial amounts of sediment into streams, rivers and lakes. The approach taken towards the exploitation of these resources often determines a country's ecological and economic resilience and increases the risk of state capture undermining national goals of sustainable and therefore inclusive development. Excessive sediment can clog riverbeds and smother watershed vegetation, wildlife habitat and aquatic organisms. There is a need to adopt adequate prevention and control strategies and promote sustainable mining in Africa.

The priorities for the mining sector are:

- Conduct strategic environmental assessments (SEAs) for the mining sector to minimize the negative impact on biodiversity and degradation of ecosystem services;
- Promote and support model mining to enhance biodiversity and ecosystem services conservation and restoration of mining sites;

- Enhance public private sector partnership for the operationalization of the Payment for Ecosystem Services and corporate social responsibility through sustainable land management and ecosystem restoration;
- Enforce laws and strategies for rehabilitation and restoration plans in new open sites for mining activities.

6.8. Manufacturing and industrial development Sector

Development in Africa requires economic transformation and industrialization. The 10th African Union Assembly (January 2008), adopted the Action Plan for Accelerated Industrial Development of Africa (AIDA). This plan needs to be implemented in such a way that it does not lead to land and environmental degradation, air and water pollution and affect biodiversity and the quality of human lives. In order to sustainably benefit from the manufacturing and industrial development sector, African countries need to adopt, use and adapt existing environmentally sound technologies to local conditions as well as indigenous technological innovation.

The priorities for the manufacturing and industrial development sector are:

- Promote clean and efficient technologies that support restoration of biodiversity and reduce the impact of manufacturing and industrial development on biodiversity and ecosystems;
- Strengthen adoption of sustainable waste management practices at national and local levels, especially at industrial production sites;
- Identify the business risks and opportunities associated with companies' contribution to land and ecosystem degradation and develop plan for mitigation involving employees, owners, suppliers and customers;
- Integrate business strategy and actions on land restoration with wider corporate social responsibility initiatives;
- Promote alternative technology for effluent management in marine and freshwater systems.

7. Means of Implementation

7.1. Capacity Development

Africa's constrained human resource capacity is arguably the greatest limitation to land and ecosystem restoration efforts. Capacity building efforts are instrumental to creating foundations of adaptive management and stakeholders' ability to implement the planned actions in this agenda. Many of the actions required to implement this Agenda are knowledge intensive and require new skills across sectors and management levels.

The priority capacity development actions for land and ecosystem restoration in Africa are the following, among others:

- Provide technical support to governments in developing appropriate policies that encourage sustainable land use and management, as, in several African countries, such SLM policies seeking to address the drivers of land degradation identified above do exist but are often contradictory and therefore need to be harmonized.
- Conduct training on the three priority issues that involve land use like conservation agriculture, watershed management, energy poverty;
- Develop and disseminate monitoring instruments on sustainable land and ecosystem management and restoration and other services generated by ecosystems;

- Undertake capacity development in implementing sustainable land management at the local, subregional, regional and national levels is a necessary condition for the successful restoration of land and ecosystems in Africa;
- Increase awareness of the alarming effects of land and ecosystem degradation on human well-being;
- Conduct training in sustainable land and ecosystem management and restoration techniques to farmers and other land users taking leverage of existing traditional knowledge in Africa;
- Provide training in specialized fields such as climate and hydro-climate studies, geographical information systems, environmental impact assessment, modelling, integrated coastal zone management, soil and water conservation and soil restoration;

7.2. Technology Development and Transfer

African countries have committed to take measures to ensure technology transfer, adaptation and support for innovation (Africa Agenda 2063). However, most of the technologies especially related to land and ecosystem management are poorly documented, and their efficiency and improvement potentiality are not well assessed. In addition, some of the technologies available are very expensive and there is limited capacity to adapt them.

The priorities for technology development and transfer are:

- Promote the adaptation of existing environmentally sound technologies to local conditions as well as indigenous technological innovation;
- Enhance the use of enabling technology, information and communications technology, to promote land and ecosystem restoration;
- Promote innovation, adoption and diffusion of technologies related to ecosystem restoration, in line with objectives of the African Continental Free Trade Agreement (AfCFTA);
- Strengthen South-South cooperation to facilitate access to clean and efficient technology in land and ecosystem restoration.
- Strengthen capacity of research institutions for documentation on efficiency and impact of restoration technology;
- Create conducive environment for participation of private sector in the development and adoption of technology in urban and rural areas;
- Take measures to ensure technology transfer, adaptation and support for innovation.
- Identify existing local knowledge in development of restoration related technologies and enhance sharing and wider dissemination.

7.3. Resource Mobilization

The sources of financing for the implementation of this Pan African Agenda will range from government budgetary allocations, pure commercial finance from both public and private sources, concessional loans and also other international agencies that support various initiatives on land and ecosystem restoration. Domestic Resource Mobilization (DRM) will be the pillar of all finances needed to implement this agenda in order to create greater domestic policy ownership and greater coherence with domestic needs. DRM is meant to contribute at least 70 per cent to 90 per cent of the financing of this Agenda on average per country, namely through enhanced fiscal resource mobilization, government expenditure, institutional savings, central banks and foreign exchange reserves and other innovative mechanisms.

The implementation of this Pan African Agenda will also build on commitments and investments of private sector. More and more businesses have now realized that land degradation affects business performance

and have now recognized the importance of restoring natural capital. Putting in place innovative financing mechanisms such as tax levies and tax rebates on natural resources related sector, licensing fees and user permits as well as developing and implementing projects that support biodiversity and ecosystem restoration across the continent can motivate private sector engagement in land and ecosystem restoration. Moreover, private companies will contribute to biodiversity and ecosystem restoration through payment for ecosystem services of which their business depend.

This Pan African Agenda will also be financed through external financing mechanisms including FDI, official development assistance (ODA), the Global Environment Facility and the Africa Development Bank among others. Through its Land Degradation focal area, the GEF has since 2016, been integrating land degradation neutrality into its programs. By investing more resources in land and ecosystem restoration, the GEF can help to deliver on multiple goals and benefits in a more strategic and effective manner and achieve a higher return on its investment. The African Development Bank is already committed to assisting African member countries in combatting desertification as well as land and ecosystem degradation, with several successful programmes on the continent.

7.4. Knowledge management and Experience sharing

Development and implementation of frameworks for improved collaboration and knowledge flows between member states on land and ecosystem restoration in Africa will be crucial to the successful implementation of this Pan Africa Agenda. It is proposed in this Action Agenda that an online Land and Ecosystem Restoration portal will be established to communicate, among other things, the national programs, plans and activities planned in this agenda to the public and international community, thereby raising awareness and facilitating knowledge sharing. African member States have and will have knowledge and experiences emanating from the implementation of this Pan African Agenda captured through their monitoring and evaluation systems could be shared for the benefit of all.

Some of the mechanisms and measures for sharing knowledge and experiences may include the following:

- Documentation of best practices from the monitoring and evaluation reports from member States by NEPAD or any elected committee and shared between member States through meetings, website presentation, e-network or publications.
- Organization of study tours at the regional level within and across RECs for Member States to learn first-hand from the experiences and lessons of other member States.
- Taking advantage of existing structures and initiatives, such as the African Forestry and Wildlife Commission (a regional body under FAO)¹⁴ for experience sharing;
- Creating annual forums for stakeholders to exchange ideas and perspectives on the implementation outcomes of this Action Agenda at the subregional and continental levels.

7.5. Research

Studies from Africa indicate that the cost of inaction in the face of land degradation is at least three times higher than the cost of action (IPBES, 2018). Much have been done regarding research and monitoring and targeting protected areas and areas of biodiversity hot spots. Aichi Biodiversity Targets 7 and 19 underline the need for science-based information.

The research priorities are:

¹⁴ <http://www.fao.org/3/MX460EN/mx460en.pdf>

- Conduct assessment and collect data and information to guide decision-making, including the mapping of ecological conditions, especially of critically degraded ecosystems, and the protection status across the region, using available tools (such as those developed by International Union for Conservation of Nature (IUCN), Institutional Institute for Sustainability (IIS) and World Resource Institute (WRI) and FAO among others, and the mapping of current uses of degraded areas that support other locally important uses (e.g. grazing);
- Conduct mapping of degradation risk (from different types of use) and potential for restoration for different goals (as some places may be restored to e.g. sustainable agricultural use whilst others may be better suited for forestry or conservation);
- Develop a framework for combined assessment of degradation and restoration potential at different levels that allows integration of national and local level priorities, involving all sectors and actors;
- Compile relevant experiences and good practices (including traditional knowledge) and lessons learned from various initiatives to combat land degradation and enhance ecosystem restoration;
- Establish and/or strengthen national and regional information systems on land and ecosystem restoration to enhance data management and sharing;
- Develop national accounts of biodiversity and ecosystem services, including on the cost-benefits of restoration, to inform policy and decision-making;
- Involve universities and other research institutions in finding scientific, technical and technological solutions;
- Carry out an assessment of how to integrate various biodiversity approaches and tools (e.g. information, decision-support and implementation tools) to inform development of national programmes and selection of a combination of approaches and tools.
- Support development of school syllabuses to advance academic training for Master's and Ph.D. Students in higher learning institutions
- Establish a national monitoring and evaluation framework for national commitments, with clear criteria and indicators.

8. Stakeholder Engagement

8.1. Women and Youth

Embedding gender and youth into restoration activities offers considerable opportunities for leveraging synergies between restoration commitments, climate change action and global commitments to sustainable development. Women and youth have developed a distinctive relationship with biodiversity and they often play the predominant role as users and guardians of biodiversity as plant collectors, family gardeners, plant domesticators, herbalists and seed guardians. Decisions about what species to introduce in a degraded landscape and what areas should be prioritized for restoration should be made following inclusive participatory processes. Therefore, the implementation of this Pan African Agenda should recognize the role of women and youth in taking important decisions pertaining to land and ecosystem restoration as well as implementation of different restoration activities. Moreover, gender considerations must be meaningfully integrated throughout restoration assessment, planning and implementation processes of any matter related to this agenda.

8.2. Indigenous Peoples and Local Communities and Sustainable Community Solutions

As a source of multiple ranges of services and resources, ecosystems in Africa can contribute to sustainable future. However, a variety of diverging pressures and conflicting interests continue to degrade socio-ecological systems. Local communities are among the most impoverished, and they are highly vulnerable to external forces from globalization and natural disasters. On the other hand, these communities have gained

traditional knowledge, cultural values, languages and experience, and can offer solutions to land and ecosystem restoration. To create the enabling conditions to promote ecosystem restoration in Africa, there is a need to invest in sustainable and innovative local solutions and build resilient socio-ecological systems that learn, adjust and use multiple forms of knowledge, experience and technologies to cope with increasing challenges.

The priorities for enhancing sustainable community solutions are:

- Establish and build capacity of community structures as landscape restoration champions;
- Conduct community assessment to establish community interests and expectations, inputs and participation in ecosystem restoration;
- Support the development of participatory local restoration plans;
- Promote sustainable practices that build on traditional knowledge and local conditions;
- Promote women and youth participation in the planning, implementation and monitoring of restoration activities.

8.3. Private Sector

Unsustainable practices by the private sector often lead to the degradation of natural capital and thus reduces the capacity of the degraded land and ecosystems to produce a constant and sustainable flow of ecosystem goods and services, both in the current period as well as for future generations UNEP (2007). Responsible companies have moral obligation to restore degraded natural capital by incorporating environment sustainability in their plans.

The priorities for private sector engagement are:

- Promote public-private partnerships to integrate landscape restoration in business operations and value chains as part of a long-term business strategy;
- Encourage private sector to take advantage of increasing new technologies and management practices especially in energy (hydro, solar, energy) and mining sectors as an opportunity to generate high benefits and at the same time contribute to national landscape restoration commitments;
- Promote sustainable utilization of biodiversity as an imperative of socio-economic development of Africa.

8.4. International and Technical Cooperation

This Action Agenda will be implemented by the member States in collaboration with relevant regional and international organizations and development partners, that have the technical expertise, tools and resources to support the implementation of the Action Agenda. Such cooperation will, among other things, facilitate capacity-building, and access to and transfer of knowledge, expertise and technologies to support different actions set out in this Action Agenda. It will also support the development and use of monitoring and evaluation tools for tracking the implementation status of land and ecosystem restoration across the region. Furthermore, international cooperation will be needed in resource and finance mobilization to complement domestic resource mobilization for the successful implementation of the actions planned in this Action Agenda.

Member States will cooperate with various United Nations agencies, intergovernmental organizations, research networks and not-for-profit organizations. These include, but not limited to:

Intergovernmental organizations and initiatives:

- Intergovernmental organizations supporting projects and programs that aim at conserving the environment, climate change mitigations and combating land degradation in Africa are, among others, the United Nations Environment (e.g. through the AfriMontane for Life Programme), the United Nations Development Programme (through its Global Policy Centre on Resilient Ecosystems and Desertification), the United Nations Economic Commission for Africa, the United Nations Educational, Scientific and Cultural Organization (e.g. through its Man and Biosphere programme), the United Nations Industrial Development Organization, the Food and Agriculture Organization of the United Nations, the International Fund for Agricultural Development (IFAD) and the World Bank.

The United Nations Collaborative Programme on Reducing Emissions from Deforestation and forest Degradation in developing countries (UN-REDD+),¹⁵ could build on the convening role and technical expertise of FAO, UNDP and UNEP, the organizations that support the implementation of this programme, to support the Action Agenda through implementation of planned nationally led REDD+ processes and actions which include the action points highlighted in this agenda.

Bilateral and multilateral development cooperation partners:

- The following bilateral development cooperation partners, among others, will be approached to support the support the implementation of this Action Agenda: Australia Development Cooperation, Austrian Development Agency, Belgian Development Agency, Global Affairs Canada and the International Development Research Centre (IDRC), China International Development Cooperation Agency, Danish International Development Agency (DANIDA), European Union, Finnish Department for International Development Cooperation (FINNIDA), French Department for International Cooperation and French Development Agency (Afd), Germany Federal Ministry for Economic Cooperation and Development (BMZ) and German Agency for International Cooperation (GIZ), Irish Aid, Israel's Agency for International Development Cooperation (MASHAV), Italian Development Cooperation Programme, Japan International Cooperation Agency (JICA), Korea International Cooperation Agency (KOICA), Kuwait Fund for Arab Economic Development, Netherlands Development Cooperation (Ministry of Development Cooperation), New Zealand Agency for International Development (NZAid), Norwegian Agency for Development Cooperation (NORAD), Saudi Fund for Development (SFD), Spanish Agency for International Development Cooperation (AECID), Swedish International Development Cooperation Agency (Sida), Swiss Agency for Development and Cooperation (SDC), Turkish Cooperation and Coordination Agency, United Kingdom - Department for International Development (DFID), and United States Agency for International Development (USAID).

International organizations, non-profits and networks:

The following regional and international organizations and initiatives will be actively involved the implementation of the Action Agenda: Intergovernmental Authority on Development in Eastern Africa (IGAD), Permanent Interstate Committee for Drought Control in the Sahel (CILSS), Sahara and Sahel Observatory (OSS).

Not-for-profit organizations that will contribute to the Action Agenda include: African Wildlife Fund (AWF), BirdLife International, Conservation International (CI), Center for International Forestry Research (CIFOR), Eco-Agriculture Partner, International Union for Conservation of Nature (IUCN), International

¹⁵ <https://www.unredd.net/>

Union of Forest Research Organizations (IUFRO), Wetlands International, World Wide Fund for Nature (WWF) and World Resources Institute (WRI).

Member States will also leverage various platforms and networks, such as Global Landscapes Forum (GLF) and the Society for Ecological Restoration (SER) to communicate, network and share information, knowledge and experiences on ecosystem restoration

- *International Union for Conservation of Nature (IUCN)* has taken lead in the development and implementation of many landscape restoration initiatives such as the Bonn Challenge. IUCN coordinates the Global Partnership on Forest Landscape Restoration (GPFLR), a network of leading organizations and individuals that was established to support the Bonn Challenge through gathering knowledge on restoration, facilitating restoration assessments, building capacity on landscape restoration, and providing a collaboration framework for pursuing Bonn Challenge commitments.
- *World Resources Institute (WRI)* is supporting land restoration in Africa, for example, through providing various tools and methods, such as the Restoration Opportunities Assessment Methodology (ROAM) which culminated in the establishment of the Atlas of Forest Landscape Restoration Opportunities.
- *UN Environment World Conservation Monitoring Centre (UNEP-WCMC)* could support the Pan-African Action Agenda, through its broad network with scientists and policymakers worldwide, building on its considerable expertise in developing ecosystem accounts within the SEEA framework, the development of M & E frameworks as Secretariat of the Biodiversity Indicators Partnership, and support to the African Leadership Group on biodiversity mainstreaming approach.
- *World Agroforestry Centre (ICRAF)*, a centre of scientific excellence that harnesses the benefits of trees for people and the environment, could support the implementation of this Pan-African Agenda by building the capacities of governments and farmers to utilize the power of trees to make farming and livelihoods more environmentally, socially and economically sustainable at scales and thus contribute to land and ecosystem restoration.
- *The Center for International Forestry Research (CIFOR)*, a non-profit, scientific institution that conducts research on the most pressing challenges of forest and landscape management around the world, will support this Pan-African Action Agenda through conducting innovative research, develop partners' capacity in forest and landscape management, and actively engage in dialogue with all stakeholders to inform policies and practices that affect forests and people in Africa.
- *International Union of Forest Research Organizations (IUFRO)*, a non-governmental international network of forest scientists that promotes global cooperation in forest-related research and understanding of the ecological, economic and social aspects of forests and trees, will support this Action Agenda building on its expertise in disseminates scientific knowledge to stakeholders and decision makers and its contribution to forest policy and on-the-ground forest management.
- *World Wide Fund for Nature (WWF)*, an international not-for-profit organization supporting the conservation and sustainable of biodiversity worldwide, will support the implementation of the Action Agenda building on its various ongoing programmes across many countries in Africa.
- *Wetlands International* is currently supporting a number of wetlands restoration projects and programs in Africa, such as the Mangrove Capital Africa, a ten-year programme funded by DOB Ecology, which aims to safeguard and restore 1 million hectares of African mangrove ecosystems for the benefit of people and nature by 2027.¹⁶

¹⁶ <https://www.wetlands.org/?s=restoration>

- *Eco-Agriculture Partner*, a non-profit champion of integrated landscape management to help communities and organizations grow healthy and resilient places from the grassroots up, could help the implementation of this Action Agenda by providing capacity-building support to communities in managing their landscapes and enhance rural livelihoods, and conserving and sustainably using biodiversity and ecosystem services.
- *Global Landscapes Forum (GLF)*, the world's largest knowledge-led platform on sustainable land use, dedicated to achieving the Sustainable Development Goals and Paris Climate Agreement, will be a useful mechanism for supporting the Action Agenda. The forum has connected 3,900 organizations with over 231.5 million participants from more than 148 countries. Particularly, the forum supports in greening Africa through the AFR100 and resource mobilization. GLF could support the Pan-African Action Agenda in the overall implementation of AFR100 planned activities and support countries in developing innovative finance mechanisms to invest in sustainable farming and supply chains with the Land Degradation Neutrality.
- *The Society for Ecological Restoration (SER)*, a global community of professionals actively engaged in the ecologically sensitive repair and recovery of degraded ecosystems utilizing a broad array of experiences, knowledge sets, and cultural perspectives, will support this Action Agenda through facilitating communication and networking, sharing information and knowledge on ecological restoration and finally in advancing policies related to ecological restoration.

9. Implementation Arrangements

9.1. Governance: Strategic Direction and Oversight

The Action Agenda will be implemented by all African Member States in collaboration with partner organizations and under the overall policy direction and oversight of the African Union and the African Ministerial Conference on the Environment (AMCEN). The New Partnership for Africa's Development Planning and Coordinating Agency (NEPAD Agency) will provide the Secretariat for coordinating the Action Agenda implementation. The roles and responsibilities for the governance, implementation and coordination of the Action Agenda are described below.

The Assembly of the African Union, as the highest governing body and decision-making organ of the African Union, will provide the legal, policy and financial frameworks for implementing commitments of their respective countries toward landscape and ecosystem restoration and facilitate the Public Private Partnership for Infrastructure financing.

The African Ministerial Conference on the Environment (AMCEN), with the support of its Secretariat, will also provide strategic and policy guidance and continent-wide leadership and oversight to ensure the effective implementation of the Action Agenda. Among other things, AMCEN will review and monitor progress with the implementation of the Action Agenda, develop consensus and champion new policies, strategies and programmes to combat land degradation and enhance ecosystem restoration in the region.

A High-Level Steering Committee for the Pan-African Ecosystem Restoration Action Agenda comprising ministers, senior officials and experts from Member States representing the sectors of the environment, climate change, natural resources and land management sectors will be established by the African Union Executive Council to provide advice and guidance on the implementation of the Action Agenda. The Committee will be serviced by the NEPAD Agency and will work very closely with the relevant Commission departments and the Regional Economic Communities (RECs) to ensure the proper coordination and harmonization of ecosystem restoration policies, plans and programmes across the region.

The reports of the Committee will be submitted to the AMCEN and other relevant Specialized Technical Committees.

Future African ministerial summits on biodiversity will be convened to review progress with the implementation of the Action Agenda and provide further policy directions, as appropriate.

9.2. Implementation Support and Coordination Mechanism

The New Partnership for Africa Development (NEPAD) Agency in collaboration with the African Union Commission (AUC) and the Regional Economic Communities (RECs) will provide overall technical oversight and coordination of the Action Agenda implementation. The NEPAD Agency will lead and coordinate the planning and implementation of the continental level restoration initiatives and promote stakeholder engagement and coordination through the Africa member States and the RECs at the subregional level.

The African Development Bank (AfDB) will mobilize strategic investments and facilitate access to financing for ecosystem restoration projects and ventures by both government institutions, private sector, SME finance/banking and micro-finance at the regional and national levels.

At the national level, implementation of the Action Agenda will be spearheaded by designated national entities in accordance with the respective laws and regulations of the country. Government institutions are encouraged to partner with scientific, academic and civil society institutions to promote and support ecosystem restoration projects and activities at the local and subnational levels as well as facilitate capacity-building, training and technology transfer to improve the planning, implementation and monitoring of ecosystem restoration programmes using a bottom up approach to ensure local ownership and sustainability of those programmes. Academic institutions are encouraged to partner with relevant civil society organizations and development partners to promote and integrate ecosystem restoration into formal and informal education systems and environmental awareness-raising programmes across the continent. They should develop and provide tailored training course to develop the knowledge, skills and know-how, as described in the section 2 above (opportunities of landscape restoration in Africa).

The NEPAD Agency in partnership with AfDB and development partners will setup an online restoration portal to be used by member States to submit and access information about ecosystem restoration across Africa to facilitate knowledge sharing and awareness-raising. The information shared through the online portal could include national and sub-national assessment reports on the status and trends of land and ecosystem degradation at the national and local levels; national ecosystem restoration policies, strategies and plans; national assessments of restoration opportunities, learning and guidance materials, capacity-building and resource mobilization opportunities as well as reports on progress made by various African countries towards achieving their ecosystem restoration commitments and targets.

10. Monitoring and Evaluation

The NEPAD Agency will be responsible for monitoring and reporting on the performance of the ecosystem restoration programmes across the region and the overall progress being made towards achievement of the pledged commitments and targets.

Measuring restoration process requires a monitoring system that is based on a long-term time horizon. Furthermore, restoration involves not only tree cover but also much small components of vegetation cover, and as such, monitor restoration requires high- to very high-resolution satellite to detect these small,

dispersed, and subtle changes in the landscape. The M&E will take advantage of the GGWSSI¹⁷ result framework and tools such as the Collect Earth and the Tree Cover Mapping Tool exist, which are based on a sampling approach that utilizes freely available imagery from Google Earth, thus providing a solution to some of the issues associated with cost and time constraints

Setting the targets and monitoring system for this Pan African Action Agenda will be based on commitments made mainly at the national scale and other levels such as landscape scale or transboundary levels. In general, the development of a monitoring system should (1) engage different sectors and stakeholders at all scales; (2) consider trade-offs and finding the right balance between costs/effort, particularly for a long-term, sustainable monitoring system; and (3) develop a communications strategy to effectively communicate the results and lessons from the monitoring to the stakeholders to enable adaptive management.

A holistic monitoring system should include indicators that draw on the following (AFR100):

- Socioeconomic: to assess the health and well-being of people within the context of restoration goals
- Political: to assess the political will and favourable policy conditions—in the form of new or modified laws that enable restoration or simply visible support from politicians
- Financial: to understand the flow and/or sum of investments in restoration activities and financing of restoration initiatives
- Biophysical: to assess the physical change in land use and land cover over time.

The actions and indicative milestones along the period 2019-2030 presented in Annex 1 will be used to monitor the progress in the implementation of this Pan African Action Agenda.

¹⁷ GGWSSI = Great Green Wall for Sahara and the Sahel Initiative: <http://www.fao.org/3/a-i6476e.pdf>

Annex I

Implementation Plan for the Pan-African Action Agenda on Ecosystem Restoration 2019-2030

Main Group of Action	Short-term actions (2019-2020)	Medium-term actions (2021-2025)	Long-term actions (2016-2030)
1. Assessment of opportunities for ecosystem restoration	<ul style="list-style-type: none"> • Consolidate activities and initiatives towards achieving Aichi targets as proposed in the NBSAPs • Compile and make available to Member States the various available tools for assessing ecosystem restoration opportunities • Assess the extent, type, degree and location of degraded ecosystems at regional, national, and local scales and the potential costs and multiple benefits of ecosystem 	<ul style="list-style-type: none"> • Conduct assessments of opportunities for ecosystem restoration in at least 80 per cent of African countries • Share completed assessments of ecosystem restoration opportunities through an online restoration portal established at NEPAD 	<ul style="list-style-type: none"> • Share completed assessments of ecosystem restoration opportunities through an online restoration portal established at NEPAD;
2. Establishing enabling conditions for ecosystem restoration through national and regional policies and strategies	<ul style="list-style-type: none"> • Assess the existing policy, legal and institutional frameworks for implementing ecosystem restoration and identify any gaps • Develop and implement land and ecosystem restoration plans at national and local levels, ensuring alignment at different levels • Conduct integrated sector planning and strengthen synergies between sectors to enhance sustainable outcomes of interventions 	<ul style="list-style-type: none"> • Incorporate information and knowledge on natural capital analyses into national accounts, development planning and decision-making, • Establish a regional trust fund to support land and ecosystem restoration in Africa. 	<ul style="list-style-type: none"> • Promote payment for ecosystem services (PES) schemes to support the functioning forest and water management structures; land and ecosystem restoration
3. Integrating ecosystem restoration into relevant sectoral policies, plans and programmes	<ul style="list-style-type: none"> • Develop national sectoral restoration policies and strategies for promoting integration of land and ecosystem • Conduct strategic environmental assessments (SEAs) for different sectors (e.g. roads development) to identify potential environmental impacts and potential mitigation measures; • Enforce laws and strategies for rehabilitation and restoration plans in 	<ul style="list-style-type: none"> • Carry out appropriate actions to enhance provision of ecosystem services and functionality in degraded ecosystems such as mountains, and forest ecosystems; • Develop and implement integrated agroforestry strategies and appropriate rural extension services considering landscape restoration principles, including agrobiodiversity; 	<ul style="list-style-type: none"> • Promote the ecosystem approach for holistic consideration of ecosystem functionality and multi-stakeholder needs and engagement. • Adopt ecosystem-based adaptation and climate-resilient agricultural practices to leverage sustainable production in agriculture sector; • Establish public private sector partnership for the

Main Group of Action	Short-term actions (2019-2020)	Medium-term actions (2021-2025)	Long-term actions (2016-2030)
	<p>new open sites for mining activities.</p> <ul style="list-style-type: none"> • Put in place measures to promote sustainable practices, clean and efficient technologies that reduce land and ecosystem degradation • Undertake proactive land-use planning to ensure that infrastructure development effectively integrates other land-use needs; • Develop and implement national blue economy strategies to diversify economic base and catalyse socioeconomic transformation 	<ul style="list-style-type: none"> • Enhance the protection and conservation of coastal areas and lake buffer systems to facilitate natural regeneration and reduce pollution of aquatic systems and biodiversity; 	<p>operationalization of the Payment for Ecosystem Services and corporate social responsibility for sustainable land and ecosystem restoration;</p> <ul style="list-style-type: none"> • Integrate business strategy and actions on biodiversity and ecosystem services with wider corporate social responsibility initiatives.
<p>4. Planning and implementation of ecosystem restoration activities, projects and programmes</p>	<ul style="list-style-type: none"> • Put in place measures to control activities leading to ecosystem degradation and address drivers of biodiversity loss • Upscale restoration initiatives through new commitments and implementation of existing commitments • Identify existing local knowledge in development of restoration related technologies and enhance sharing and wider dissemination. • Establish and operationalise a regional private sector and climate change adaptation platform and raise its awareness on green technologies that reduce pollution and degradation of ecosystems • Organize annual forums for stakeholders to exchange ideas and perspectives on the implementation outcomes of this Action Agenda at the sub regional and continental levels. • Compile relevant experiences and good practices (including traditional knowledge) and lessons learned from various initiatives to combat land degradation and enhance ecosystem restoration; 	<ul style="list-style-type: none"> • Conduct training (both on-job and academic), on issues related to land and ecosystem restoration such as sustainable agriculture, watershed management, forest landscape restoration, geographical information systems, environmental impact assessment, and integrated coastal management at the local, national sub-regional and regional level • Strengthen south-south cooperation and enable research institutions to transfer knowledge on clean technology development adapted to land and ecosystem restoration • Adopt and support modern innovative technologies as well as indigenous knowledge related to ecosystem restoration and facilitate affordability to local people within Africa; • Establish and/or strengthen national and regional biodiversity information systems to enhance data management and repatriation; • Conduct an annual assessment of the integration of various approaches and tools related to ecosystem restoration 	<ul style="list-style-type: none"> • Establish/enhance mechanisms for knowledge management and sharing • Document the best practices from the monitoring and evaluation reports for sharing between member states through various channels; • Organise study tours at the regional level within and across RECs for experience and lesson sharing among Member States; • Encourage private sector to take advantage of investing in land and ecosystem restoration initiatives such as carbon market and green mining and contribute to national landscape restoration commitments;

Main Group of Action	Short-term actions (2019-2020)	Medium-term actions (2021-2025)	Long-term actions (2016-2030)
	<ul style="list-style-type: none"> • Conduct community capacity needs assessment to document community interests and expectations, inputs and participation in ecosystem restoration; • Establish and build capacity of community structures as landscape restoration champions and enhance women and youth participation in the planning, implementation and monitoring of ecosystem restoration activities. 	<p>(e.g. information, decision-support and implementation tools) into the development of local, national and regional development programmes;</p> <ul style="list-style-type: none"> • Carry out appropriate actions to enhance provision of ecosystem services and sustainable production 	
5. Implementation of Supporting Actions (means of implementation)	<ul style="list-style-type: none"> • Organise Pan-Africa public awareness on land and ecosystem degradation and restoration opportunities; • Facilitate consultations on defining measures for land and ecosystem restoration at different levels of implementation; • Setup an online restoration portal to be used by member states to submit and access information about ecosystem restoration across Africa • Establish a High-Level Steering Committee for the Pan-African Ecosystem Restoration Action Agenda • Conduct assessment of financing opportunities / engagement of budgets (public, private and other financing mechanisms • Develop strategy for resource mobilisation 	<ul style="list-style-type: none"> • Enhance capacity and participation of different stakeholders, including academia, private sector and civil society; • Promote adaptation of existing and innovation of sound technologies related to ecosystem restoration; • Establish and/or strengthen national information system and best practices on ecosystem restoration; • Identify and secure resources for restoration. • Establish technical and scientific cooperation to facilitate access to relevant technologies and innovative to achieve restoration targets. 	<ul style="list-style-type: none"> • Develop and disseminate monitoring instruments on sustainable land management and restoration and other services generated by the ecosystems; • Establish a regional land and ecosystem restoration trust fund
6. Monitoring and evaluation, reporting, and communication of results	<ul style="list-style-type: none"> • Develop and disseminate monitoring instruments on sustainable land and ecosystem management and restoration • Enhance the capacity of technical teams at National level for Monitoring, evaluation and Reporting 	<ul style="list-style-type: none"> • Develop or enhance mechanisms of monitoring and evaluation of the impacts of policies, programmes, and plans. 	<ul style="list-style-type: none"> • Implement the monitoring system, report on national commitments and restoration activities and share results and lessons learned to guide future restoration efforts.

Annex II

Examples of national targets or similar commitments related to Aichi Biodiversity Target 15¹⁸ (Based on information in the national biodiversity strategies and action plans)¹⁹

Country ²⁰	National targets or similar commitments ²¹
Algeria*	Objective 12: Protect, conserve and restore ecosystems in order to maintain their balance, ensure their sustainability and guarantee the sustainable production of ecosystem services, by aiming at the conservation of at least 20 per cent of land areas, 5 per cent of marine and coastal areas and the restoration of natural ecosystems over an area of at least 5 million hectares. Objective 17: Integrate approaches to adaptation to climate change (ecosystem resilience, restoration of degraded ecosystems, combating desertification) and prevention of natural risks and disasters into ecosystem management.
Benin*	Strategic objective 16: Restore and safeguard ecosystems that provide essential services to basic communities, poor and vulnerable populations and contribute to carbon stocks.
Botswana	National Target 15: By 2025, ecosystem integrity in all Botswana's ecoregions will be conserved through the adoption of ecosystem-level management approaches built around key ecological processes, so that they contribute to climate change mitigation and to combating desertification.
Cabo Verde	National Target 9: By 2025, Cabo Verde will have strengthened protection, improved connectivity and recovered key ecosystems so that they will continue to provide essential services to the economy and the welfare of the population. National Target 10: By 2018, all approved national conservation strategies and plans will integrate elements of resilience and adaptation to climate change.
Cameroon	Target 9: By 2020 degraded ecosystems/habitats should be rehabilitated to re-establish and/or recover lost species and maintained at a level of conservation that ensures long-term sustainability. E-Target 9: By 2020 at least 25 per cent of sites degraded by droughts or floods are rehabilitated within the semi-arid ecosystem.
Comoros*	Objective B2: By 2030, the rate of loss of all natural habitats, including forests, is reduced by at least half and if possible to near zero, and habitat degradation and fragmentation are significantly reduced. Objective C2: By 2030, degraded ecosystems will be restored, at least 50 per cent of extinct species will be restored and maintained at a sustainable, long-term conservation level. Goal D1: By 2030, ecosystem resilience and the contribution of biodiversity to carbon stocks are improved through conservation and restoration

¹⁸ 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.

¹⁹ Accessible at: <https://www.cbd.int/nbsap/>

²⁰ Countries denoted with an * indicate countries which provided a national biodiversity strategy and action plan in a language other than English. To facilitate readability these national targets or commitments have been translated into English.

²¹ This is based on information contained in the National Biodiversity Strategies and Action Plans made available to the Secretariat of the Convention on Biological Diversity and accessible at: <https://www.cbd.int/nbsap/default.shtml>.

Country ²⁰	National targets or similar commitments ²¹
	measures, including the restoration of at least 15 per cent of degraded ecosystems.
Congo*	Goal 15: By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks are enhanced through conservation and restoration measures, including the restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and combating desertification.
Egypt	National Target 13: By 2030, Research and implement measures and strategies to strengthen local-level biodiversity resilience to desertification. National Target 14: By 2025, investigate and monitor all the effects of climate change on biodiversity and ecosystem services.
Eritrea	Target 15: By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and combating desertification. Readdressing these challenges, ecosystem resilience and the contribution of biodiversity to carbon stocks have been enhanced through conservation and restoration with effective implementation of the National Adaptation Program of Action and National Action Programmes to combat desertification and mitigate the effects of drought in Eritrea. Eritrea participates in global efforts to restore at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification. Target 5: By 2020 at least 25 per cent of catchment sites and degraded lands of high biodiversity hotspots are rehabilitated within the terrestrial ecosystem. By 2020, the loss of natural habitats, degradation and fragmentation of ecosystems has been significantly reduced
Ethiopia	Target 10: By 2020, contribution of biodiversity for ecological services, including climate change adaptation and mitigation is improved through increasing forest cover from 12 per cent to 14 per cent; increased designation of wetlands from 4.5 per cent to 9.0 per cent and doubling restoration of degraded areas. Rehabilitate 22 million hectares (15+7) of degraded forests and lands by 2030. Between 2016 and 2020 the target is to plant nearly 4.56 million ha of forests (nearly one mill ha of forests annually) using 21.35 billion seedlings (4.27 billion seedlings per annum)
Gambia	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 50 per cent of degraded ecosystems
Ghana	Action Plan 15: Enhancing ecosystem resilience and restoration to promote the contribution of biodiversity conservation to carbon stocks and ensure restoration of at least 15 per cent of degraded ecosystems restoration.
Guinea*	Goal 15: From 2011 to 2020 at the latest, ecosystem resilience and the contribution of biological diversity to carbon stocks are enhanced through conservation and restoration measures, including the restoration of at least 15 per cent of degraded ecosystems, thus contributing to climate change mitigation and adaptation, and to combating desertification.
Guinea-Bissau	National goal 15: By the year 2020, the resilience of ecosystems and the contribution of the biodiversity for reservations of carbon will have been increased through conservation actions and recovery, through the recovery of at least 15 per cent of the most sensitive and degraded forest ecosystems, thus contributing to the mitigation and adaptation to the climate change and to combat the desertification
Equatorial Guinea	Target 10: By 2020, studies on verification and reporting mechanisms for current levels of carbon stock stored in forest ecosystems (through the ongoing REDD+ process) will be completed.
Liberia	Target 4.2: By 2018, ecosystem resilience and the contribution of biodiversity to carbon stocks will be enhanced through the protection of additional forest ecosystems which Liberia's current REDD+ project will create, in addition to the project's enhancement of the mitigation of

Country ²⁰	National targets or similar commitments ²¹
	climate change and restoration of degraded grasslands through reforestation by 2023.
Madagascar*	Strategic Objective 15: By 2025, the adaptive capacity of ecosystems and the contribution of terrestrial, freshwater and marine biodiversity to mitigation and adaptation to climate change will be enhanced, adaptation to climate change are strengthened, including the restoration of at least 15 per cent of degraded ecosystems and the fight against desertification.
Malawi	Target 6: By 2025 at least 50 per cent of the degraded terrestrial habitats are restored and protected Target 15: By 2025, the supply of important ecosystem services is safeguarded and restored
Mali*	Goal 14: By 2020, ecosystem resilience is improved through climate change mitigation and adaptation and desertification control measures.
Morocco*	C2: Take necessary measures to increase ecosystem resilience and the contribution of biodiversity to carbon stocks, including through conservation and restoration, climate change mitigation and adaptation measures, and synergy with actions under other Rio conventions (climate change and combating desertification)
Mozambique	Target 12: By 2035, rehabilitate at least 15 per cent of the degraded ecosystems /habitats, restoring their biodiversity and ensuring its sustainability, with a view to mitigating the effects of climate change and combating desertification. Target 15: By 2025, knowing and strengthen the contribution of biodiversity to increase the stock of carbon to mitigate and adapt to climate change.
Namibia	Target 4.1 By 2022, ecosystems that provide essential services and contribute to health, livelihoods and well-being are safeguarded, and restoration programmes have been initiated for degraded ecosystems covering at least 15 per cent of the priority areas.
Nigeria	Target 4: By 2020, up to 15 per cent of the areas of degraded ecosystems in Nigeria are under programmes for restoration and sustainable management.
Rwanda	Target 5: (P.64) By 2020, natural ecosystems, especially identified “Alliance for Zero Extinction (AZE)” sites are safeguarded, their degradation and fragmentation reduced Target 14: By 2020, 30 per cent of the country is covered by forests hence increasing carbon stocks and contributing to climate change mitigation and adaptation.
Seychelles	Project 19: Calculate the Carbon stored and captured annually in Seychelles ecosystems. Project 20: Identify the key threats posed to Seychelles biodiversity by projected Climate Change and initiate mitigation measures. Project 21: Current primary Biodiversity threats of Climate Change are addressed. Project 31: The NBSAP is administered, coordinated, effectively implemented and integrated into the broader environment governance framework.
Somalia	Strategic Target 15: By 2030, 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
South Africa	Outcome 1.4: Biodiversity conservation supports the land reform agenda and socioeconomic opportunities for communal land holders; Outcome 2.2: Ecosystem-based adaptation (EbA) is shown to achieve multiple benefits in the context of sustainable development Outcome 3.6: Biodiversity considerations are integrated into the development and implementation of policy, legislative and other tools

Country ²⁰	National targets or similar commitments ²¹
	<p>Outcome 5.1: Macro-level conditions enabled for skills planning, development and evaluation of the sector as a whole</p> <p>Outcome 5.2: An improved skills development system incorporates the needs of the biodiversity sector</p> <p>Outcome 5.3: Partnerships are developed and institutions are capacitated to deliver on their mandates towards improved service delivery</p>
South Sudan	By 2021, studies on the rate of habitat loss furnished towards promoting implementation of land use policy and enforcement of relevant legislation on conservation of natural habitats.
Sudan	<p>Component Target: To conserve, develop and manage the area under forests to enhance environmental protection, minimize soil degradation and preserving biological diversity.</p> <p>Component Target: 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.</p> <p>Component Target: Maximize resilience of ecosystem which has high biodiversity and greatest capacity to buffer climate change impacts.</p>
Eswatini	Target 15: By 2022, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced in Eswatini, 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.
Tunisia*	<p>Strategic Objective 4.3: Mitigate/prevent environmental threats to ecosystems</p> <p>Strategic Objective 5.1: Protect and restore biodiversity</p> <p>Strategic Objective 5.2: Improve ecosystem resilience and maintain/strengthen ecosystem services</p>
Uganda	National target: 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
United Republic of Tanzania	Target 15: By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, thereby contributing to climate change mitigation and adaptation and to combating desertification.
Zimbabwe	Target 13: By 2020, combat desertification, and enhance ecosystem resilience through conservation and restoration of degraded ecosystems.

Annex III

Country commitments under the African Forest Landscape Restoration Initiative (AFR100)

(Source: AFR100 website: <http://afr100.org/content/countries>)

Country	Commitment (million ha) by 2030	Year committed	Priority interventions
1. Benin	0.5	2016	<ul style="list-style-type: none"> • Reforestation • Restocking and improved management of existing plantations
2. Burundi	2	2015	<ul style="list-style-type: none"> • Establishment and sustainable management of tree plantations • Protection, natural regeneration and fire protection of parks and natural reserves • Agroforestry development: from mixed tree-cop systems to woodlots • Erosion and flood control through progressive terracing with grasses/trees/shrubs • Ecological agriculture • River banks protection and gullies restoration
3. Burkina Faso	5	2018	<ul style="list-style-type: none"> • Development and implementation a cross-border program between Burkina Faso and Niger for the restoration of natural capital and the resilience of local communities. • Promotion best practices for SLM and climate change adaptation • Improvement of food and nutrition security, as well as incomes of producers through the promotion of revenue-generating activities • Establishing environmental education and training programmes on the fight against land degradation
4. Cameroon	12	2017	<ul style="list-style-type: none"> • Establishment and sustainable management of tree plantations • Protection, natural regeneration and fire protection of parks and natural reserves • Agroforestry development: from mixed tree-cop systems to woodlots • Erosion and flood control through progressive terracing with grasses/trees/shrubs • Ecological agriculture • River banks protection and gullies restoration
5. Central African Republic	3.5	2016	<ul style="list-style-type: none"> • Undertaking inventory of degraded lands and analysis of drivers of deforestation • Supporting workshops and institutional arrangements to implement AFR100 in CAR
6. Chad	1.4	2017	*To be determined through the restoration opportunity assessment
7. Côte d'Ivoire	5	2016	<ul style="list-style-type: none"> • Reforestation and natural regeneration of production forests • Protection and natural regeneration, including enrichment planting of parks • Protection, natural regeneration and enrichments planting of coastal forest, riparian forests, wetlands • Enrichment planting of indigenous trees in cocoa agroforests, other tree crop systems and development of tree plantations

Country	Commitment (million ha) by 2030	Year committed	Priority interventions
8. Democratic Republic of the Congo	8	2016	<ul style="list-style-type: none"> • Restoration of deforested and degraded ecosystems • Improvement of economic activities and food security • Resilience and adaptive capacity of population to climate change • Landscape restoration in sustainable development projects, climate financing opportunities, as well as viable long-term restoration projects • National documents which integrate restoration of degraded landscape components
9. Ethiopia	15	2016	<ul style="list-style-type: none"> • Supporting Ethiopia to fulfil the Climate Resilient Green Economy (CRGE) goal of achieving middle-income status by 2025 while transitioning to a climate-resilient green economy • Increasing the scientific foundation in decision-making processes for planning and implementing tree-based landscape restoration • Support the sustainable generation of benefits from restored forest landscapes and restoration processes for the local population and the national economy • Identifying and addressing enabling conditions (policy and legal frameworks, incentives, value chains and market conditions) necessary for long-term, tree-based restoration at scale.
10. Ghana	2	2015	<ul style="list-style-type: none"> • Restore Ghana's northern savannah ecological zone which has rich biodiversity, but is threatened by the loss of important ecosystems and habitats • Restore transitional and forest zones of Ghana being threatened by mining, charcoal production and unsustainable agricultural activities
11. Guinea	2	2016	*To be determined during the restoration opportunity assessment
12. Kenya	5.1	2016	<ul style="list-style-type: none"> • Afforestation and reforestation of natural forests through tree planting and assisted natural regeneration. • Rehabilitation of degraded natural forests through tree planting and assisted natural regeneration. • Use of trees on farm land, as the primary crop or intercropped (agroforestry) • Establishing tree plantations for commercial use in appropriate places. • Establishment of tree buffers along the boundaries of streams, rivers, lakes, wetlands and reservoirs, roadways and railways through direct tree planting or assisted natural regeneration. • Rangeland restoration and management: improved management and regeneration of rangelands for both wildlife use and pastoral grazing.
13. Liberia	1	2015	<ul style="list-style-type: none"> • Supporting sustainable management of natural resources through increased vegetation cover to improve ecosystem services in degraded areas, increase rural income, and improve biodiversity richness. • Improving data and information sharing on land-use to help inform land-use planning. • Contributing to the REDD+ program through the restoration of degraded lands and supporting local livelihoods at the community level.
14. Madagascar	4	2015	<ul style="list-style-type: none"> • Transforming large areas of deforested and degraded lands into resilient and multifunctional ecosystems with the aim of improving local and national economy • Improvement of security and water supply • Protection of biodiversity in forest ecosystems

Country	Commitment (million ha) by 2030	Year committed	Priority interventions
15. Malawi	4.5	2016	<ul style="list-style-type: none"> • Promotion of agricultural technologies (conservation agriculture, farmer-managed natural regeneration, and agroforestry): 3,730,790 ha • Community forests and communal/private woodlots: 753,471 ha • Natural forest management and plantation management: 3,401,279 ha • Soil and water conservation: 1,043,768 ha • River and stream-bank restoration: 36,478 ha
16. Mozambique	1	2015	<ul style="list-style-type: none"> • Mapping of degraded forest land • Establishment of forest nurseries • Restoration of degraded forest land • Community forest management • Biodiversity offsets • Sustainable charcoal production
17. Niger	3.2	2015	<ul style="list-style-type: none"> • Targeted land rehabilitation and protection of upstream watersheds and development of irrigated agriculture in lowlands • Bilateral programs to restore resilience in rural communities in 400-600 mm rainfall zone and to "regreen" degraded landscapes • Scale up farmer-managed natural regeneration (FMNR) in association with agricultural development and food security initiatives • Provide grants and business development services to scale up private sector led business models linked to restoration and improved NRM • TerrAfrica, Great Green Wall, GEF regional program to Build a Foundation for Scaling up Restoration and AFR100 partnership
18. Nigeria	4	2017	<ul style="list-style-type: none"> • Restoration of the ecological productivity of land, water and agriculture for sustainable livelihoods. • Strengthening regional collaboration, expand opportunities for funding, research and capacity development of stakeholders to achieve restoration on the ground. • Improvement of livelihoods of households in the drylands where excessive land degradation threatens the ability to cope with climate change effects. • Elimination of natural resource-based conflicts arising from land degradation, especially due to over-grazing and other unsustainable land management practices. • Acceleration of economic diversification and industrialization through re-awakening forest-based industries for employment, poverty reduction and wealth creation. • Exploration of wider opportunities for engagement with the private sector
19. Republic of the Congo	2	2016	<ul style="list-style-type: none"> • Establishment and sustainable management of tree plantations • Protection, sustainable forest management and certification of natural forests • Commodity tree-crop systems development and agroforestry

Country	Commitment (million ha) by 2030	Year committed	Priority interventions
20. Sudan	14.6	2017	<ul style="list-style-type: none"> • Assessment of the benefits of restoration for local communities • Organization of workshops to set a hectare target to be restored • Establishment of a council to assess the national restoration opportunity and develop a plan for implementation
21. Rwanda	2	2011	<ul style="list-style-type: none"> • Supporting achievement of Vision 2020 and Economic Development and Poverty Reduction targets through scaling up tree-based forest and landscape restoration (FLR) to improve crop and livestock practices, food security, and farmer incomes. • Improvement of scientific evidence-based feedback loop for planning and implementing tree-based FLR, including capacity building on cost-effective methods for measuring change. • Expansion of opportunities for investment in tree-based FLR over the long term by creating enabling conditions for social enterprises, donors and investors.
22. Senegal	Preparing Commitment	2016	<ul style="list-style-type: none"> • Mobilizing key stakeholders and restoration partners and strengthening platforms to promote information exchange and coordination of interventions • Assessing restoration opportunities and formulating strategies to scale up restoration • Reinforcing efforts to scale up FMNR and EverGreen Agriculture in the degraded areas of the Peanut Basin • Taking stock of efforts to promote conservation farming (reduced tillage), FMNR and agroforestry and other climate smart agricultural (CSA) practices • Organizing exchange visits and supporting peer to peer learning and training • Analysing business models and leveraging private sector investments in restoration • Developing monitoring systems to track progress in implementing restoration at scale
23. South Africa	3.6	2017	<ul style="list-style-type: none"> • Water retention and landscape stability (erosion, combating desertification) • Clearing sparse and dense stands of invasive plants and bush encroachment • Re-vegetation • Soil and donga rehabilitation and restoration • Additional interventions to be determined through restoration opportunity assessments
24. Eswatini	0.5	2017	*Still formulating the interventions
25. United Republic of Tanzania	5.2	2018	<ul style="list-style-type: none"> • Convene key stakeholders and restoration partners, and strengthening of platforms for information exchange and collaboration on restoration • Stock taking and scaling of up successful restoration, diagnostic of key success factors and enabling conditions, and assessment of restoration opportunities • Organizing exchange visits and support for peer to peer learning and training • Analysing business models and leveraging private sector investments • Facilitating access to additional financing as needed, including GCF and others • Developing a monitoring framework to track progress in implementation restoration

Country	Commitment (million ha) by 2030	Year committed	Priority interventions
26. Togo	1.4	2015	<ul style="list-style-type: none"> • Restoring deforested and degraded ecosystems • Improving economic activities and food security • Increasing resilience and adaptive capacity of population to climate change
27. Uganda	2.5	2014	<ul style="list-style-type: none"> • Promoting agroforestry and woodlots • Facilitating natural regeneration
TOTAL	110		

References

- Afr100. Guiding Principles for Measuring and Monitoring Progress on Forest and Landscape Restoration in Africa. AFR100 Working Paper Series.
- Africa Development Forum (2016). *Confronting Drought in Africa's Drylands, Opportunities for Enhancing Resilience*.
- AGRA. (2017). Africa Agriculture Status Report: The Business of Smallholder Agriculture in Sub-Saharan Africa (Issue 5). Nairobi, Kenya: Alliance for a Green Revolution in Africa (AGRA). Issue No. 5.
- Bonn Challenge Barometer of Progress: Spotlight Report. IUCN (2017).
- De Groot, R.S., j. Blignaut, S. Van der Ploeg, J. Aronson, T. Elmqvist and J. FARLEY (2013). *Benefits of Investing in Ecosystem Restoration*. Conservation Biology, 2013, Vol.27(6), pp.1286-1293.
- Economics of Land Degradation (ELD) Initiative. 2013. The rewards of investing in sustainable land management. Interim Report for the ELD Initiative: A global strategy for sustainable land management. http://www.eld-initiative.org/fileadmin/pdf/ELD-Interim_Report_web.pdf
- Elmqvist, T, T, H Setaˆla, S,N Handel, S van der Ploeg, J Aronson, JN Blignaut, E Gomez-Baggethun, DJ Nowa, J Kronenberg and R de Groot (2015). Benefits of restoring ecosystem services in urban areas. Current Opinion in Environmental Sustainability 14:101–108.
- Global Environmental Facility (GEF) and United Nations Convention to Combat Desertification (UNCCD) secretariats. 2011. Land for Life: Securing our Common Future. <https://www.thegef.org/gef/sites/thegef.org/files/publication/SLM-english-1.pdf>
- FAO (2002) Land Degradation Assessment in Drylands (LADA) Project: Meeting Report, 23-25 January 2002 (World Soil Resources Reports).
- FAO (2011). The state of the world's land and water resources for food and agriculture (SOLAW): Managing systems at risk. FAO, Rome and Earthscan, London. <http://www.fao.org/docrep/015/i1688e/i1688e00.pdf>
- FAO (2014). The State of World Fisheries and Aquaculture. Opportunities and challenges. FAO, Rome.
- FAO (2016). Global Forest Assessment 2015. How are the world's forests changing? Second edition. FAO, Rome (<http://www.fao.org/3/a-i4793e.pdf>).
- IEA (International Energy Agency), 2014a. Africa Energy Outlook, Paris: OECD/IEA.
- IPBES (2018): Summary for policymakers of the regional assessment report on biodiversity and ecosystem services for Africa of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. E. Archer, L. E. Dziba, K. J. Mulongoy, M. A. Maoela, M. Walters, R. Biggs, M-C. Cormier-Salem, F. DeClerck, M. C. Diaw, A. E. Dunham, P. Failler, C. Gordon, K. A. Harhash, R. Kasisi, F. Kizito, W. D. Nyingi, N. Oguge, B. Osman-Elasha, L. C. Stringer, L. Tito de Morais, A. Assogbadjo, B. N. Egoh, M. W. Halmy, K. Heubach, A. Mensah, L. Pereira and N. Sitas (eds.). IPBES secretariat, Bonn, Germany.
- IPBES (2018): Summary for policymakers of the assessment report on land degradation and restoration of the Intergovernmental Science- Policy Platform on Biodiversity and Ecosystem Services. R. Scholes, L. Montanarella, A. Brainich, N. Barger, B. ten Brink, M. Cantele, B. Erasmus, J. Fisher, T. Gardner, T. G. Holland, F. Kohler, J. S. Kotiaho, G. Von Maltitz, G. Nangendo, R. Pandit, J. Parrotta, M. D. Potts, S. Prince, M. Sankaran and L. Willemsen (eds.). IPBES secretariat, Bonn, Germany. 44 pages.

- Kirui, O. K., and Mirzabaev, A. (2014). Economics of land degradation in Eastern Africa (No. 128). ZEF Working Paper Series. Center for Development Research (ZEF), University of Bonn, Germany.
- Laurance, W. F., Mahmoud, M. I., and Kleinschroth, F. (eds.). (2017). “Infrastructure expansion and the fate of Central African forests,” in *Central African Forests Forever* (Berlin: Central African Forests Commission (COMIFAC) and German Development Bank, KfW), 88–95.
- UNCCD (2013). The Economics of Desertification, Land Degradation and Drought: Methodologies and Analysis for Decision-Making. Background document. UNCCD 2nd Scientific Conference.
http://2sc.unccd.int/fileadmin/unccd/upload/documents/Background_documents/Background_Document_web3.pdf
- UNCCD (2016) *A Natural Fix, A Joined-Up Approach to Delivering the Global Goals for Sustainable Development*, Bonn.
- UNEP (2007). *Global Environment Outlook: Environment for Development (GEO4)*. Nairobi, Kenya: UNEP. Retrieved from https://na.unep.net/atlas/datlas/sites/default/files/GEO-4_Report_Full_en.pdf
- UNEP (2015) *The Emissions Gap Report 2015*. United Nations Environment Programme (UNEP), Nairobi.
- UNEP-WCMC (2016) *The State of Biodiversity in Africa: A mid-term review of progress towards the Aichi Biodiversity Targets*. UNEP-WCMC, Cambridge, United Kingdom.
-

Compiled by Dr Sam Kanyamibwa
Submitted to CBD Secretariat
UNEP CONV CBD IS CD
October 2018