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MINEPDED

NATIONAL BIODIVERSITY AND ECOSYSTEM SERVICES ASSESSMENT (NBESA)

SUMMARY FOR POLICYMAKERS

CITATION @
MINEPDED 2022. National biodiversity and ecosystem services assessment: Summary for policy makers. Knowledge support for policy and decision-making processes on the contribution of biodiversity and ecosystem services to economic growth and human well-being.

FOREWORD

In 2017, Cameroon undertook its first National Biodiversity and Ecosystem Services Assessment (N-BESA), under the supervision of the Ministry of Environment, Protection of Nature and Sustainable Development (MINEPDED) through the National Science-Policy Platform on Biodiversity and Ecosystem Services (NP-SPBES) with the technical and financial support of UNEP-WCMC, WWF-BIODEV 2030, UNDP BES-net and NESDA-CA.

In line with the guidelines of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), the assessment consisted of a state of the art evaluation of the contribution of biodiversity and ecosystem services (BES) to economic development and human well-being in order to inform decision making processes to reconcile the achievement of biodiversity targets and commitments with the country's development vision.

The assessment was based on an ecosystem analysis approach and covered the reference period 1988-2020. More than 1000 scientific articles, official technical reports, national and international databases and other reliable sources of information were consulted to establish (i) the status, trends, drivers of change, and governance architecture of BES, (ii) its contribution to economic growth and human well-being, and (iii) projections in line with Cameroon's development ambitions.

In Cameroon, the abundance and diversity of species and ecosystems provide an important flow of highly interdependent provisioning, regulating, supporting and cultural services that are an asset for achieving sustainable development goals.

Unfortunately, this unique and rich biodiversity has suffered significant and increasing losses over the last 30 years due to increasing human pressure, unsustainable land-use planning, climate change and other natural hazards such as droughts, floods and landslides. Prospective analysis indicates increasing trends in BES losses in all ecosystems. Under Cameroon's economic development scenarios, models and options, at least 20% of BES is expected to be lost by 2050.

The strengthening and effective operationalisation of policies, strategies, plans and programmes becomes a major challenge. The integration of the ecosystem-based approach in Cameroon's National Development Strategy 2030 (NDS30), as a strategic option for resilient sectoral growth, constitutes a new paradigm for the sustainability of Cameroon's economic and social development.

For the Government of Cameroon, this assessment, portrayed by **08 major headline messages and 23 key messages**, is a decision-making tool that provides essential information for consolidating the science-policy interface, guiding political action to reconcile economic development, biodiversity conservation, sustainable use of natural resources, as well as fair and equitable sharing of the benefits resulting from the exploitation of biological resources. It would also facilitate the national implementation of certain international instruments like the post-2020 global biodiversity framework, the Sustainable Development Goals (SDGs) and the African Union's 2063 Vision.

HELE Pierre
The Minister of Environment, Protection of Nature and Sustainable Development

ACKNOWLEDGEMENTS

On behalf of the Government of Cameroon, I would like to express my deep gratitude to all the actors who made the biodiversity and ecosystem services assessment process possible in Cameroon. Indeed, this assessment, funded by the National Ecosystem Assessment (NEA) initiative of the World Conservation Monitoring Centre (WCMC) of the United Nations Environment Programme (UNEP) and Sustainable Development in Central Africa (NESDA-CA).

I would like to acknowledge the dedication and commitment of Ms. GALEGA Prudence and Dr. HIOL HIOL François, co-chairs of the assessment, as well as the coordinating lead authors, lead authors, associate authors, editors and reviewers.

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Finally, I would like to express my special thanks to the other technical and financial partners, notably GIZ, WWF-BIODEV 2030, UNDP-BES-net and NESDA-CA, as well as to all other stakeholders for their support throughout the process.

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ABBREVIATIONS

ABS	Access and Benefit Sharing
BaU	Business as Usual
BES	Biodiversity and Ecosystem Services
BPH	Benign Prostatic Hyperplasia
CBD	Convention on Biodiversity
CFAF	Central African CFA Franc
CR	Critically Endangered
CSOs	Civil Society Organisations
EF/SD	Environmentally friendly / Sustainable Development
EG	Economic growth
EN	Endangered
FLII	Forest Landscape Integrity Index
FNEDD	National Fund for the Environment and Sustainable Development
GDP	Gross Domestic Product
GESP	Growth and Employment Strategy Paper
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH
IKI	International Climate Initiative
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
IPLCs	Indigenous People and Local Communities
LUC	Land Use Changes
MAT	Mutually Agreed Terms
MSA	Mean Species Abundance
MINEPDED	Ministry of Environment, Protection of Nature and Sustainable Development
MINFOF	Ministry of Forestry and Wildlife
MoU	Memorandum of Understanding
N-BESA	National Biodiversity and Ecosystem Services Assessment
NBSAP	National Biodiversity Strategy and Action plan
NDS30	National Development Strategy 2030
NEA	National Ecosystem Assessment
NESDA-CA	Network for Environment and Sustainable Development in Central Africa
NGO	Non-Governmental Organisations
NP-SPBES	National Science-Policy Platform on Biodiversity and Ecosystem Services
NTFPs	Non-Timber Forest Products
REDD+	Reducing Emissions from Deforestation and Forest Degradation
SDG	Sustainable Development Goals
SO	Strategic Objective
UNDP-BES-net	United Nations Development Programs' Biodiversity and Ecosystem Services Network
UNEP-WCMC	United Nations Environmental Programs' World Conservation Monitoring Centre
UNESCO	United Nations Educational Scientific and Cultural Organisation
USD	United States Dollars
VU	Vulnerable
WWF-BIODEV	World wildlife Fund 2030 Biodiversity project

FINDINGS, KEY MESSAGES AND EVIDENCES

Headline message 01

THE INFORMATION MOBILISED FROM SCIENTIFIC AND TRADITIONAL KNOWLEDGE IS ESSENTIAL TO POLICY DEVELOPMENT AND DECISION-MAKING PROCESSES

KEY MESSAGES

KEY MESSAGE 1.1

Scientific knowledge provides qualitative and quantitative information on biodiversity and ecosystem services for inclusive and integrated sectoral policy-making and informed decision-making in development processes.

EVIDENCES

Evidence 1.1.1
Cameroon's Adapted Conceptual Framework (see Annex), designed as an innovative tool to guide BES assessments, builds consensus among scientists, traditional knowledge holders and policy makers on six key concepts («Biodiversity and Ecosystems» [as Nature], «Biodiversity and Ecosystem Services» [as Nature's gifts], «Drivers of Change», «Anthropogenic Factors», «Governance») and their interconnections with the elements of «Human Wellbeing».
The interdependence and inter-determination of these six elements establishes the need to process and generate reliable and robust data for the design of policies that place human well-being at the center of economic growth and development in Cameroon.

Evidence 1.1.2
When science doesn't inform policy formulation and decision-making processes, it is unproductive; similarly, when policy and decision-making processes are disconnected from science, they are blind. Achieving the objectives of the NDS30 then requires a productive and proactive science-policy interface.

KEY MESSAGE 1.2

Traditional knowledge on biodiversity and ecosystem services constitutes an important information base in the fields of pharmacopoeia, food, culture, research, resilience, etc., which can be used in various sectors.

Evidence 1.2.1
There has been a strong contribution of traditional pharmacopoeia knowledge to the global response to the Covid-19 pandemic. Indeed, many African countries in general and Cameroon in particular have mitigated the effects of Covid-19 through the use of medicinal plants (COVID Elixir, Ngul be Tara). Similarly, Prunus africana bark is known to be effective in the treatment of benign prostatic hyperplasia (BPH), justifying the annual harvesting of around 3,300 tons to meet world demand.

Evidence 1.2.2.
A lot of scientific research for development in the fields of health, food, cosmetics etc. is based on assumptions drawn from traditional knowledge about BES. This research thus forms the link between anthropological knowledge and fundamental science. The signing of numerous Memoranda of Understanding (MoU) with Mutually Agreed Terms (MAT) between Cameroon and some multinational companies in the framework of the Access and Benefit Sharing (ABS) process, rightly testifies to this.

Take note of

Some products made from medicinal plants (COVID Elixir, Ngul Be Tara) have successfully contributed to the fight against COVID-19 in Cameroon.

Headline message 02

THE REPRESENTATIVENESS OF THE ECOSYSTEMS, THE ABUNDANCE AND DIVERSITY OF SPECIES AND THE FLOW OF ECOSYSTEM SERVICES MAKE CAMEROON «AFRICA IN MINIATURE».

KEY MESSAGES

KEY MESSAGE 2.1

Cameroon has 92% of the ecosystem types in Africa. In terms of flora, the country has the fourth highest floristic diversity in Africa and the second largest forest area in the Congo basin

KEY MESSAGE 2.2

Cameroon has made significant progress in conserving its biodiversity as illustrated by the creation of 02 marine protected areas and 103 terrestrial protected areas all representing 22% of the national territory, a coverage well beyond the Aichi target of 17%.

EVIDENCES

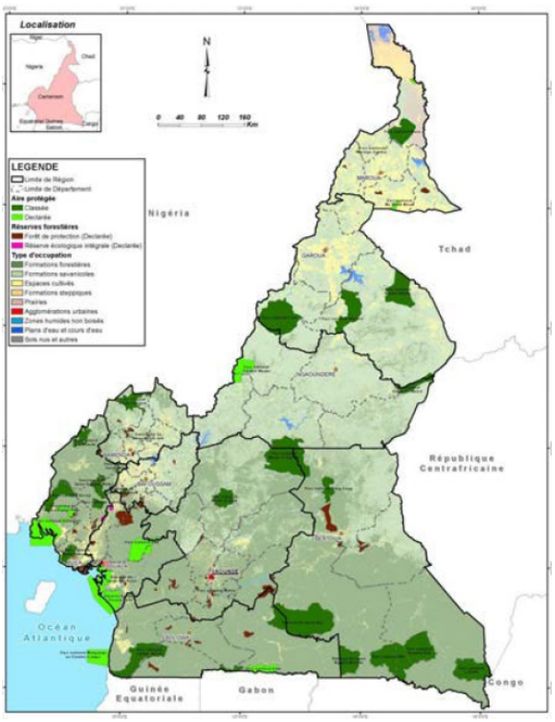
Evidence 2.1.1
Cameroon has six of Africa's seven ecosystems, including the dense humid forest ecosystem, the freshwater ecosystem, the montane ecosystem, the semi-arid ecosystem, the tropical wooded savannah ecosystem, and the marine and coastal ecosystem

Evidence 2.1.2
In terms of flora, Cameroon has over 8,500 identified plant species. In terms of fauna, it is home to 303-409 species of mammals, 903 species of birds (of which more than 700 are resident), 183-285 species of reptiles, 190-201 species of amphibians, 613 species of fish, 1000-2084 species of insects and 1150 species of fungi.

Evidence 2.1.3
Cameroon has over 271 endemic animal species and over 870 plant taxa (including orchids). Cameroon's ridge has the highest species diversity per unit area recorded in tropical Africa. For example, the Kupe-Manengouba-Bakossi area where the number of taxa per km2 is estimated at 1.01; Mount Cameroon with 0.90; Korup Forest with 0.67; and Mount Oku and the Ijim Range with 0.59.

Evidence 2.2.1
Cameroon has 103 terrestrial protected areas, including 01 mixed protected area (terrestrial and marine), which are divided into national parks (20), wildlife reserves and sanctuaries (10), botanical gardens/ zoos (3), community hunting zones (47) and community managed hunting zones (25). The surface area of these terrestrial protected areas is estimated at 9,574,668.07 ha, or 20.12% of the national territory.

Evidence 2.2.2
Cameroon protects areas known to be home to lions (4 sites), elephant populations (111 sites), great apes (71 sites), and wetlands of global importance (7 Ramsar sites), UNESCO World Heritage sites (03 sites) as well as national and transboundary corridors and landscapes.



Map of Cameroon National Parks

Take note of

8500 identified plant species
271 endemic animal species
103 terrestrial protected areas
3 UNESCO World Heritage sites

Headline message 02

THE REPRESENTATIVENESS OF THE ECOSYSTEMS, THE ABUNDANCE AND DIVERSITY OF SPECIES AND THE FLOW OF ECOSYSTEM SERVICES MAKE CAMEROON «AFRICA IN MINIATURE».

KEY MESSAGES

KEY MESSAGE 2.3

The diversity of Cameroon's ecosystems provides a flow of provisioning, regulating, supporting and cultural services that are highly interdependent.

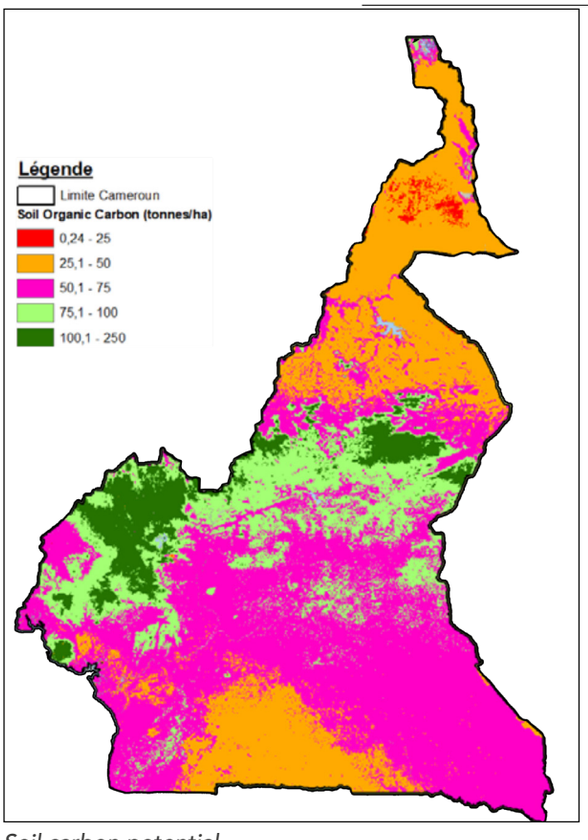
EVIDENCES

Evidence 2.3.1
Cameroon has more than a hundred Non-Timber Forest Products (NTFPs) that are exploited by the population to ensure food and health security.

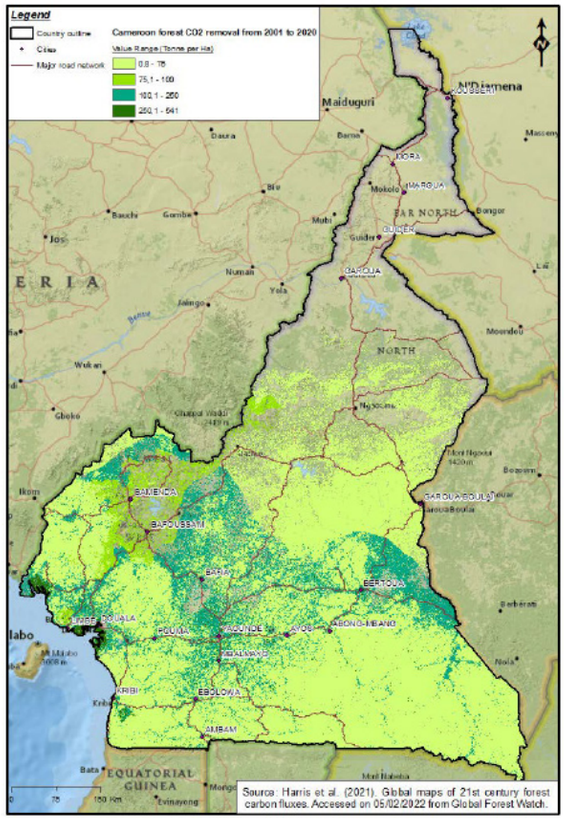
Evidence 2.3.2
Between 2001 and 2020, Cameroon's vegetation formations (more than 30% of the tree cover) absorbed an average of 115MtCO_2e/year for an estimated net flux of 69.4MtCO_2e/year when considering emissions related to land use changes (LUC).

Evidence 2.3.3
Despite the lack of consolidated data on the soil fauna and microbiology of the different ecosystems of Cameroon, it is established that soils play a role of habitat and support to agro-biodiversity in particular and biological diversity in general. Moreover, in addition to the agronomic value, soil fauna and microorganisms are known for their nutritional and medicinal values.

Evidence 2.3.4
Cameroon is home to more than 200 ethnic groups forming large cultural groups. It thus benefits from an invaluable reservoir of cultures and traditional knowledge linked to the uses of biodiversity. For example, the sacred forests established by the local ethnic groups areas of predilection for conservation. These sacred forests cover more than 1,595.5 ha in the Adamaoua and North Regions, and 1,051.79 ha in the Far North Region of Cameroon. In the coastal areas, the mangroves and coastal forests are reputed to harbour the cultural spaces of the Sawa peoples, particularly on the banks of the Wouri River.



Soil carbon potential



Soil carbon potential

Headline message 03

THE BENEFITS OF CAMEROON'S RICH BIODIVERSITY THAT COULD CONTRIBUTE TO ALLEVIATE POVERTY AND IMPROVE HUMAN WELL-BEING REMAIN UNTAPPED.

KEY MESSAGES

KEY MESSAGE 3.1

The monetary and non-monetary benefits of BES are diverse and can contribute significantly to household economies and have enormous potential to sustain growth in the development sectors that depend on them.

KEY MESSAGE 3.2

The economic potential and non-use values of supporting and regulating ecosystem services remain undervalued and untapped.

EVIDENCES

Evidence 3.1.1
About 58% of Cameroonians are engaged in the harvesting of non-timber forest products (NTFPs). These make a considerable contribution to rural economies and are the second largest source of income after agriculture. The estimated market value of special products (ebony) and priority NTFPs (Prunus, Gnetum and Irvingia), amounts to CFAF 76.33 billion/year with a corresponding added value of CFAF 61.2 billion and an estimated self-consumption value of CFAF 14 billion. Furthermore, about 38% of NTFP species used for food could be more nutrient-rich than cultivated species.

Evidence 3.1.2
Wood energy generates an estimated annual turnover of CFAF 188.33 billion in urban areas and CFAF 77.8 billion in rural areas. It is estimated that 83% of the population depends on wood biomass as their main source of energy. With an estimated total consumption of 2.2 million metric tons for fuelwood and 356,530 metric tons for charcoal in urban areas, both products contribute an estimated USD 304 million to GDP. The activities associated with the sub-sector generate about 90,000 full-time jobs.

Evidence 3.2.1
Under the REDD+ mechanism, potential revenues from the sale of carbon stocks for the period 2013 - 2035 are estimated at CFAF 227 - 488 billion (based on a 25% reduction scenario) and CFAF 454 - 976 billion (based on a 50% reduction scenario).

Evidence 3.2.2
Beyond forests, the non-carbon benefits of soil fertility, estimated on the basis of the costs of soil degradation/restoration, amount to CFAF 512.62 billion/year (about 5% of GDP), and watershed protection to CFAF 25 billion/year. (About 5% of GDP), and the protection of watersheds at 25 billion CFA francs/year.

Evidence 3.2.3
The potential for ecotourism from aesthetic and recreational values is enormous with 826 tourist sites already registered. Trophy hunting as an important ecotourism attraction generates an annual turnover of US$ 8,368 million, but its contribution to GDP remains low.

Evidence 3.2.4
Due to the untapped energy potential of the country, only 30% of the population has access to different forms of energy (electricity, domestic gas, etc.) with 35% access to electricity for the rural population against 96% in urban areas.

Harvesting of NTFPs by IPLCs in the dense Humid Tropical Forest Ecosystem

Take note of

76,33 billion is the estimated market value of special products

512.62 billion/year, the non-carbon benefits of soil fertility

Headline message 04

THERE IS A GROWING TREND IN THE LOSS OF CAMEROON'S RICH ECOSYSTEM AND SPECIES DIVERSITY. THE GOODS AND SERVICES DERIVED FROM IT HAVE CONSEQUENTLY DECLINED OVER THE LAST THREE DECADES.

KEY MESSAGES

KEY MESSAGE 4.1

Cameroon is home to the largest number (61%) of endangered and critically endangered fauna and flora species in the Guinean forests of West Africa biodiversity hotspot.

KEY MESSAGE 4.2

The vegetation cover in Cameroon has been declining over the last two decades.

EVIDENCES

Evidence 4.1.1

The threat of extinction of species in Cameroon extends across all taxa and ecosystems. For wildlife species, there are 50 mammals, 35 bird species, 16 reptile species, 103 amphibian species and 127 fish species threatened (CR, VU, EN). As regards plant species, 894 threatened plant species have been identified in Cameroon, including 166 critically endangered (CR), 390 endangered (EN) and 338 vulnerable (VU) species.

Evidence 4.2.1

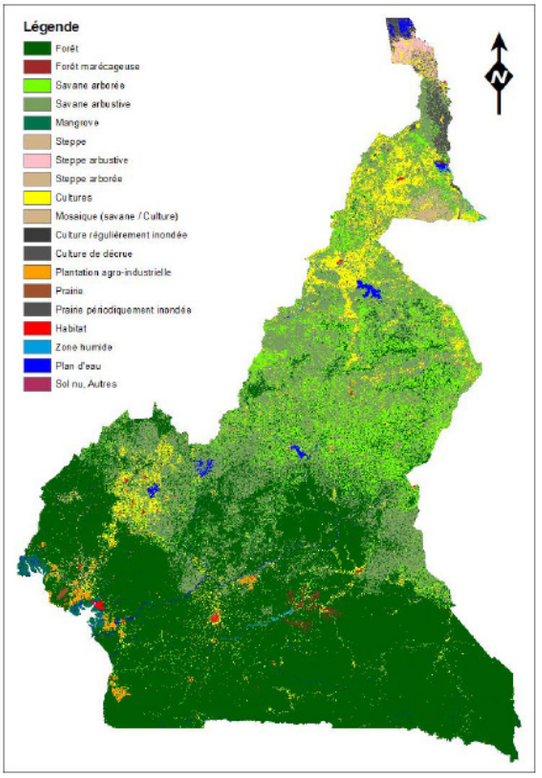
In 2000, Cameroon had an estimated forest cover of 31.5 million hectares, i.e. 68% of its surface area (0.79% of the world's forest area). Between 2001 and 2020, the country lost about 1.53 million hectares of forest cover, i.e. a 4.9% decrease compared to 2000. In 2020 alone, the loss of forest cover was estimated at 201,000 ha.

Take note of

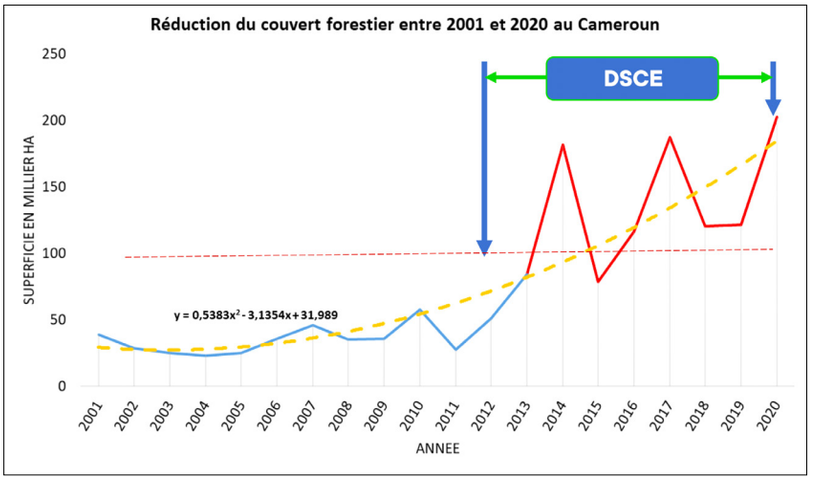
894 threatened plant species

166 critically endangered species

1.53 million ha of forest cover lost in 19 years



Natural vegetation land cover map



Trend in tree cover loss between 2001 and 2020 in Cameroon

Headline message 05

THE LOSS OF BIODIVERSITY AND ECOSYSTEM SERVICES AND THEIR IMPACTS ON HUMAN WELL-BEING RESULT FROM A COMBINATION OF ANTHROPOGENIC AND NATURAL FACTORS.

KEY MESSAGES

KEY MESSAGE 5.1

Climate change and other natural hazards are accelerating the loss of biodiversity and ecosystem services.

EVIDENCES

Evidence 5.1.1
The increase in temperature between 2004 and 2006 from 27.5°C to 28.8°C in Limbe, from 27.4°C to 29.2°C in the Wouri estuary, from 27.2°C to 28.6°C in Kribi and from 27.2°C to 28.4°C in Campo affected fish reproduction conditions and plankton abundance.

Evidence 5.1.2
Between 1994 and 2015 Cameroon recorded at least one major flood per year resulting in the loss of biodiversity, access to water supply services and loss of life in the semi-arid, montane, dense humid forest and the marine and coastal ecosystems.

Evidence 5.1.3
The second half of the 20th century was marked by a reduction in species richness and density as well as the loss of vegetation cover due to the effects of the drought of the 1970s and 1980s. Indeed, droughts considerably affects the regeneration of species, the proliferation and extent of bush fires, the availability of water resources in quality and quantity, and the scarcity of sylvo-agro-pastoral areas.

Highlights of major flood events in the semi-arid ecosystem in Cameroon

Headline message 05

THE LOSS OF BIODIVERSITY AND ECOSYSTEM SERVICES AND THEIR IMPACTS ON HUMAN WELL-BEING RESULT FROM A COMBINATION OF ANTHROPOGENIC AND NATURAL FACTORS.

KEY MESSAGES

KEY MESSAGE 5.2

Land degradation affects provisioning, regulating and supporting services.

KEY MESSAGE 5.3

The decline in the surface area and integrity of Cameroon's ecosystems is the result of the effect of anthropogenic drivers of BES erosion.

KEY MESSAGE 5.4

The impacts of the combined effects of climate change and anthropogenic activities significantly affect human well-being.

EVIDENCES

Evidence 5.2.1
The decline in soil fertility in Cameroon leads to a loss of productivity. These losses are of the order of 50% and more in the far north, north and north-west regions, which are part of semi-arid and montane ecosystems respectively

Evidence 5.2.2
The area of degraded land is estimated at 12 million hectares in Cameroon, much of which is agricultural land, affecting the production capacity of the population

Evidence 5.3.1
Of 21 identified drivers of change, 07 have a major and cross-cutting effect on BES in the six ecosystems of Cameroon. These are subsistence or shifting agriculture, agro-industries, population growth, infrastructure development, urbanisation, mining and NTFP exploitation. The combined effect of all these factors on BES will be significant in increasing order in the: (i) dense humid forest, (ii) coastal and marine, (iii) tropical wooded savannah, (iv) montane, (v) semi-arid, and (vi) freshwater ecosystems. According to development projections, subsistence agriculture will be the main driver of BES loss (about 80%), followed by infrastructure development.

Evidence 5.3.2
The marine and coastal ecosystem, like the mangroves, is declining due to intense wood harvesting by the population for firewood (52.6%), fish smoking (27.6%), various constructions (13.2%), charcoal production (2.6%) and accessories (5.3%).

Evidence 5.4.1
Climate change is the major cause of the reduction of more than 70% of the surface area of Lake Chad, which has led to the loss of the lake's ecosystem services. This effect coupled with population growth and the increasing need for space for agro-sylvo-pastoral practices has exacerbated poverty and conflicts over resources.

Evidence 5.4.2
About 80% of the rural population depend on BES for their food and health (pharmacopoeia). BES degradation has an impact on the emergence and re-emergence of zoonotic diseases due to interactions between wildlife, domestic animals and humans.

Take note of

12 million hectares of land degraded by erosion

+70% of Lake Chad reduced due to climate change.

Degraded land in the tropical wooded savannah ecosystem in Cameroon

Headline message 06

IN THE PROJECTED DEVELOPMENT PATHWAY, CAMEROONS UNIQUE BIODIVERSITY AND ECOSYSTEM SERVICES WILL FURTHER DECLINE IN ALL ECOSYSTEMS BY 2050 AND MAY JEOPARDIZE ITS POTENTIAL TO SUSTAINABLY CONTRIBUTE TO HUMAN WELL-BEING.

KEY MESSAGES

KEY MESSAGE 6.1

Whatever the scenarios and models of BES evolution for each development option, a loss of at least 20% of biodiversity intactness is inevitable by 2050.

EVIDENCES

Evidence 6.1.1
In 2015, the weighted mean species abundance of biodiversity on the national territory was still acceptable (MSA ≥ 0.58). By 2050, whatever the conventional development model (BaU or EG), this abundance will decrease by about 27.59% at the national level, with significant declines in the coastal and marine, tropical wooded savannah and in montane ecosystems. Under the assumption of a sustainable development model, biodiversity intactness will still be relatively acceptable (MSA = 0.51) in 2050, despite a predicted decrease of about 12%.

Evidence 6.1.2
Analyses of the spatial variation in mean species abundance of biodiversity between 2015 and 2050 according to development models indicate: (i) the loss of at least 20% of biodiversity intactness over about 60-90% of the national territory; (ii) losses in all ecosystems, especially in the montane, tropical wooded savannah and coastal forest ecosystems; (iii) greater biodiversity losses (up to 50-70%) under the BaU and economic growth models.

Evidence 6.1.3
The Forest Landscape Integrity Index assessed in 2020 (FLII) indicates that 64.47% of the national territory still has an acceptable integrity, greater than or equal to 6 (on a scale of 1 to 10). Unfortunately, 35.53% of the national territory has low forest integrity (0 ≥ FLII < 6). The critical sites extend over the semi-arid ecosystem (100%) as well as part of the montane (49.21%) and the tropical wooded savannah (40.98%) ecosystems. Only 25.53% of the national territory has high integrity (9.6 ≥FLII≤ 10) (i.e. areas weakly impacted by agriculture, infrastructure, forest loss/deforestation and their induced effects). These sites are particularly located in the protected areas.

Evidence 6.1.4
Analysis of past trends shows that the implementation of the 2010-2020 Growth and Employment Strategy (GESP) in Cameroon has led to a threefold increase in the loss of BES compared to the previous decade, and the projected development paradigm will further accelerate losses in all ecosystems across the country.

Take note of

64,47 % of the national territory had an acceptable integrity in 2020

20% of biodiversity intactness predicted to be lost on about 60-90% of the national territory by 2050

Headline message 06

IN THE PROJECTED DEVELOPMENT PATHWAY, CAMEROONS UNIQUE BIODIVERSITY AND ECOSYSTEM SERVICES WILL FURTHER DECLINE IN ALL ECOSYSTEMS BY 2050 AND MAY JEOPARDIZE ITS POTENTIAL TO SUSTAINABLY CONTRIBUTE TO HUMAN WELL-BEING.

KEY MESSAGES

KEY MESSAGE 6.2

Cameroon's strategic development pathway will have a significant impact on the well-being of indigenous peoples and local communities whose livelihoods are intrinsically dependent on BES, in a context where rurality will still be between 30-35% by 2030.

KEY MESSAGE 6.3

Sustainable spatial planning of development initiatives, sustainable production and consumption of food and energy, and effective implementation of environmental safeguards and conservation measures are three (03) key options to reconcile the conservation of BES with the country's development needs and increase their contribution to human well-being by 2030.

EVIDENCES

Evidence 6.2.1
The contribution of BES to human well-being is assessed from the availability (quantity) and diversity of natural resources, human dependence on these resources (food, medicine, handicrafts, energy, etc.), population density and growth, and average rurality in the ecosystem.
At present, BES contribute at an acceptable level to human well-being in almost all ecosystems, with the exception of the semi-arid area, where availability in terms of quantity and diversity of resources is very low, and where human dependence is highest (high rurality, immigration, high level of poverty).
In the projected development vision, the contribution of BES to human well-being could significantly decrease in all ecosystems, except in the dense humid forest, where population density could still be low and resource availability could still be acceptable.

Evidence 6.3.1
Prediction models of biodiversity intactness by 2050 coupled with forest landscape integrity indicators (FLII) reveal that, whatever development model is implemented, with particular emphasis on BaU and economic growth models, protected areas will be the strongholds of biodiversity preservation in the national territory. The location of these protected areas, their size, their connectivity with other key biodiversity areas, their proximity and compatibility with development activities, and the robustness of conservation and management actions will determine their ability to ensure long-term biodiversity conservation and enhance sustainable development.

Evidence 6.3.2
The advanced degradation of small, isolated and highly threatened protected areas demonstrates the need to ensure some biological connectivity between protected areas. Robust and integrated spatial planning for development should consider interconnecting protected areas as much as possible by valuing unprotected biodiversity-rich areas within a landscape approach.

Evidence 6.3.3
Increasing local production, improving energy supply and providing access to water for all are among the state's priorities for the next ten years.

Evidence 6.3.4
The analyses alerts on the potential losses of biodiversity intactness/integrity across the national territory that may result from the implementation of Cameroon's strategic development orientations, and to this regards, portrays the need to integrate biodiversity and urgently operationalise environmental considerations in these latter.

Take note of

Interconnect protected areas within the framework of a landscape approach

Headline message 07

STRENGTHENING THE GOVERNANCE OF BIODIVERSITY AND ECOSYSTEM SERVICES IS A KEY OPTION FOR THE IMPLEMENTATION OF THE NATIONAL DEVELOPMENT STRATEGY

KEY MESSAGES

KEY MESSAGE 7.1

Notwithstanding the richness of the governance architecture on BES, the operationalisation of the governance tools developed in Cameroon over the last three decades remains a challenge

EVIDENCES

Evidence 7.1.1
The construction and reforms of the country's BES governance regime in line with international obligations provide a basis for promoting healthy and productive ecosystems necessary for economic growth and human well-being. Cameroon is a signatory or party to about 27 conventions, treaties, protocols and declarations related to BES, which have been translated into institutional, legal and regulatory reforms as well as the development of about 15 dedicated national strategies, plans and programmes.

Evidence 7.1.2
The structuring of some policy instruments and laws contains thematic gaps and consequently does not sufficiently integrate BES management and governance concerns. Furthermore, many provisions contained in existing instruments are obsolete and have become unfit to changes in the national and international context. Finally, the poor integration of BES into sectoral policies and the lack of alignment between them are detrimental to the sustainable management of Cameroon's rich potential.

Take note of

27 conventions, treaties, protocols and declarations related to BES signed by Cameroon

Headline message 07

STRENGTHENING THE GOVERNANCE OF BIODIVERSITY AND ECOSYSTEM SERVICES IS A KEY OPTION FOR THE IMPLEMENTATION OF THE NATIONAL DEVELOPMENT STRATEGY

KEY MESSAGES

KEY MESSAGE 7.2

Elements of governance such as policies and laws, institutions and coordination mechanisms, public participation, transparency and accountability, devolution and co-management, equity in access and benefit sharing, and financing are factors that can influence the sustainable management of BES.

EVIDENCES

Evidence 7.2.1
In Cameroon, only the framework law on environmental management, the law governing forests, wildlife and fisheries and the law governing access to genetic resources, their derivatives, associated traditional knowledge and the fair and equitable sharing of benefits arising from their use deal specifically with BES. Unfortunately, the other legal and regulatory provisions governing other sectors of activity that have an impact on BES (infrastructure, mining, urban development, etc.) do not sufficiently integrate it as a relevant element to be taken into account.

Evidence 7.2.2
Cameroon has put in place a number of institutions and mechanisms for the coordination of BES. Indeed, in addition to government action, there are inter-ministerial committees (NBSAP, Biosafety, ABS etc.), platforms (IPBES) and working groups in charge of ensuring interactions and collaboration on global or specific BES issues. These mechanisms allow for the intervention and consideration of development partners, civil society organisations and local communities and indigenous peoples. However, many dysfunctions and overlaps of attributions and competences persist and make actions less effective.

Evidence 7.2.3
Public participation in policy is very often at the center of decision-making. However, it is poorly translated into facts and practices. Indeed, there is a constant confusion between the more commonly used notions of information, consultation, dialogue on the one hand and inclusive decision-making on the other, which is the most accomplished form of public participation likely to generate positive changes in the governance of BES and in its contribution to human well-being.

Headline message 07

STRENGTHENING THE GOVERNANCE OF BIODIVERSITY AND ECOSYSTEM SERVICES IS A KEY OPTION FOR THE IMPLEMENTATION OF THE NATIONAL DEVELOPMENT STRATEGY

KEY MESSAGES

KEY MESSAGE 7.2

Elements of governance such as policies and laws, institutions and coordination mechanisms, public participation, transparency and accountability, devolution and co-management, equity in access and benefit sharing, and financing are factors that can influence the sustainable management of BES.

EVIDENCES

Evidence 7.2.4
Cameroon has made transparency and accountability a priority in the management and governance of the BES, notably through numerous provisions dedicated to the fight against corruption and impunity. For example, sanctions against forestry and environmental infractions are regularly applied and officially published. For example, 42 out of 59 reports of cases of illegal exploitation transmitted to MINFOF between 2015 and 2019 were confirmed and sanctioned. Also, the list of forestry infractions/violations published in the fourth quarter of 2016 indicates that 496 sanctions were taken against forestry companies in previous years.

Evidence 7.2.5
The changes initiated by the 1994 forestry law led to the transfer of BES management responsibilities to local actors. Devolution and co-management supported by cooperation programmes and NGOs in some areas of Cameroon have been accompanied by proven results in sustainable and integrated BES management through the establishment of village forest management committees and local platforms. Unfortunately, due to lack of support, these initiatives are not yes generalised and fully operational across the national territory.

Evidence 7.2.6
Many policies enshrine mechanisms for access through the user rights recognised to IPLCs, as well as the sharing and redistribution of benefits from BES such as the forestry royalties, the water royalties and the ABS process. The equalisation mechanism put in place for the sharing of the annual forestry royalties between 'forest' and 'non-forest' councils is an indicator of equity and national solidarity. Despite these undeniable advances, the sharing of financial benefits from the exploitation of BES continues to raise questions, particularly regarding the asymmetry that exists between the efforts made to participate in BES conservation management and the share of the allocations paid to the population. For example, the share of the annual forestry royalty allocated to local communities has fallen from 10% to 6.75%.

Evidence 7.2.7
Social justice, gender mainstreaming and gender parity issues are slow in becoming part of the governance principles of BES.

Evidence 7.2.8
Available data on the BES financing indicate that it remains weak and dependent on external contributions (donors, technical and financial partners), although self-financing efforts are visible. Indeed, the financing of protected areas was estimated at 10.8 million US dollars in 2010, i.e. about 1.3 dollars/ha/year, of which 28% came from public funds, 65% from international cooperation and 7% from self-generated income. In view of the national and international challenges, adequate mobilisation of internal and external resources can be a powerful lever for enhanced BES governance.

Take note of **6,75%** **of the annual forestry royalty allocated to local communities**

Headline message 07

STRENGTHENING THE GOVERNANCE OF BIODIVERSITY AND ECOSYSTEM SERVICES IS A KEY OPTION FOR THE IMPLEMENTATION OF THE NATIONAL DEVELOPMENT STRATEGY

KEY MESSAGES

KEY MESSAGE 7.3

The integration of BES into the strategic options of the NDS30 is a major challenge for resilient sectoral growth and the establishment of a new paradigm of sustainable economic development and contribution to human well-being.

EVIDENCES

Evidence 7.3.1
The consequences of past development patterns on biodiversity justify the need to integrate the ecosystem approach into the NDS30 as a paradigm shift.

Evidence 7.3.2
Some pillars of the NDS30 may have a significant footprint on BES. Indeed, the implementation of the first pillar concerning the structural transformation of the economy for the next decade through industrialisation and the improvement of productivity and agricultural production will necessarily lead to the more or less accentuated conversion of the natural environment and the exploitation of other resources as industrial inputs. The definition of strategic choices will determine compatibility with the objectives of preserving BES.

Evidence 7.3.3
Strategic objective 3 of the NDS30 aims to «strengthen adaptation to and mitigation of the effects of climate change and ensure environmental management for sustainable and inclusive economic growth and social development». However, the specific issue on integrating BES into sectoral policy development are not clarified. Also, the efforts made in the document to integrate a cross-cutting, climate and ecosystems adaptive approach within pillar 3.6 reveal a weak recognition of the various values of BES and exacerbate the lack of clarity and uncertainty in the orientation of sectoral or decentralised processes in the implementation of the NDS30.

Evidence 7.3.4
Aligning the NDS30 indicators with the SDGs is an essential step to inform the development of the national indicator framework. However, limiting NDS30 Strategic Objective 3 to three SDG indicators (13, 14 and 15) also presents a significant gap in guiding the revision of the second National Biodiversity Strategy and Action Plan (NBSAP-II).

Take note of

The revision of the National Biodiversity Strategy and Action Plan will have to be based on a 2030 NDS with enhanced consideration for biodiversity

Headline message 08

CAMEROON HAS OPPORTUNITIES AND OPTIONS TO CAPITALIZE IN ORDER TO FILL THE POLICY, FINANCE AND KNOWLEDGE GAPS FOR THE EFFICIENT CONTRIBUTION OF BES TO GROWTH AND HUMAN WELL-BEING.

KEY MESSAGES

KEY MESSAGE 8.1

The current context opens up timely opportunities for the effective integration of BES into sectoral and decentralised policy and decision-making processes in the implementation of the NDS30 over the next decade.

KEY MESSAGE 8.2

The Adapted National Conceptual Framework for BES assessment provides a viable methodological framework for understanding and addressing gaps in the design of the pillars of the global objective 3 of the NDS30.

EVIDENCES

Evidence 8.1.1
The revision of the NBSAP-II is an opportunity to broaden the recognition of the multiple values of BES and their importance for human well-being. The aim will be to clearly define BES values, priority actions and impact monitoring indicators to guide the expected sectoral reforms and reverse the observed trends of BES erosion.

Evidence 8.1.2
The NDS30 implementation process provides for regular updates in response to contextual changes. This openness could facilitate the integration of cross-sectoral reforms and greener investment options to align the targets and indicators defined by the NDS30 not only with Cameroon's national and international commitments on biodiversity, climate change and land degradation neutrality, but also for the valorisation of new and additional financing opportunities offered by mechanisms for the protection and sustainable management of BES.

Evidence 8.1.3
The decentralisation process represents a favourable framework for a better integration of local considerations related to BES and people's well-being in the decision making process.

Evidence 8.2.1
The implementation of the actions foreseen in Strategic Objective 3 (SO3) of the NDS 30 can be based on the methodological approach defined by the national IPBES conceptual framework. Indeed, by taking into account interdependence, interactions and temporality, a more objective and integrated prioritisation of interventions is possible. This will make it possible to reduce the footprint on biological and ecosystem components while optimising the related services, through better control of the degradation factors and the socio-cultural and economic context. Similarly, the establishment of a governance framework adapted to current environmental issues is a definite asset to lead to a positive change towards sustainable human well-being.

Evidence 8.2.2
The implementation of SO3 on the basis of the national IPBES conceptual framework will allow the definition of qualitative and quantitative indicators for monitoring the resilience of ecosystems and their contribution to BES dependent sectors. It will also facilitate the extension of the scope of SO3 to nine SDGs (1, 2, 3, 6, 7, 12, 13, 14, and 15).

Take note of

A BES database is essential for Cameroon

There are opportunities for new and additional funding to be valued in the context of BES

Headline message 08

CAMEROON HAS OPPORTUNITIES AND OPTIONS TO CAPITALIZE IN ORDER TO FILL THE POLICY, FINANCE AND KNOWLEDGE GAPS FOR THE EFFICIENT CONTRIBUTION OF BES TO GROWTH AND HUMAN WELL-BEING.

KEY MESSAGES

KEY MESSAGE 8.3

Although the assessment has mobilised sufficient information to make an acceptable contribution to policy and decision-making processes, there are still data gaps on BES and the valorisation of some traditional knowledge.

KEY MESSAGE 8.4

The structuring of BES finance mechanisms is essential for an adequate mobilisation of internal and external resources for enhanced contribution of BES to sustainable development and human well-being.

EVIDENCES

Evidence 8.3.1
Very few community-based bio-cultural protocols have been conducted to map traditional knowledge in Cameroon. To fill these gaps, it is important that this knowledge coexists or is recognised in scientific research, and that the benefits of using this knowledge contribute to improving the livelihoods of its holders. Furthermore, the promotion of the development of these protocols in the communities becomes an issue for the protection, sustainability and capitalisation of this knowledge.

Evidence 8.3.2
The lack of mechanisms for sharing and capitalising on data makes it difficult to access much of the information available in the databases of state institutions, the private sector and development partners. The establishment of a formal framework for the exchange and sharing of BES data will be a challenge to address.

Evidence 8.3.3
Some of the data collected on BES is patchy, fragmented and does not cover all ecosystems. There is very little data available on certain aspects of BES. This information deficit particularly concerns insects, mosses and lichens, soil microbiology, the monetary value of ecosystem services, certain anthropogenic aspects, etc.

Evidence 8.3.4
Cameroon has never conducted a national baseline inventory of BES. Furthermore, the inventories conducted on fauna and flora are very often limited to protected areas, their surroundings and other areas of interest for research. These do not follow an established periodicity and a harmonised methodological approach.

Evidence 8.4.1
Cameroon does not have a mechanism for monitoring funding and funding opportunities on BES. This situation makes it difficult to assess the impact of internal and external resources mobilised by Cameroon on the country's development through the government, research institutions, NGOs and CSOs as well as private partners.

Evidence 8.4.2
The National Fund for the Environment and Sustainable Development (FNEDD) is not sufficiently resourced and does not have a window dedicated to biodiversity. Furthermore, it is possible to set up a taxation system to finance biodiversity.

Take note of FNEDD should provide a specific window dedicated to biodiversity

APPENDICES

Adapted National Conceptual Framework for BES Assessments

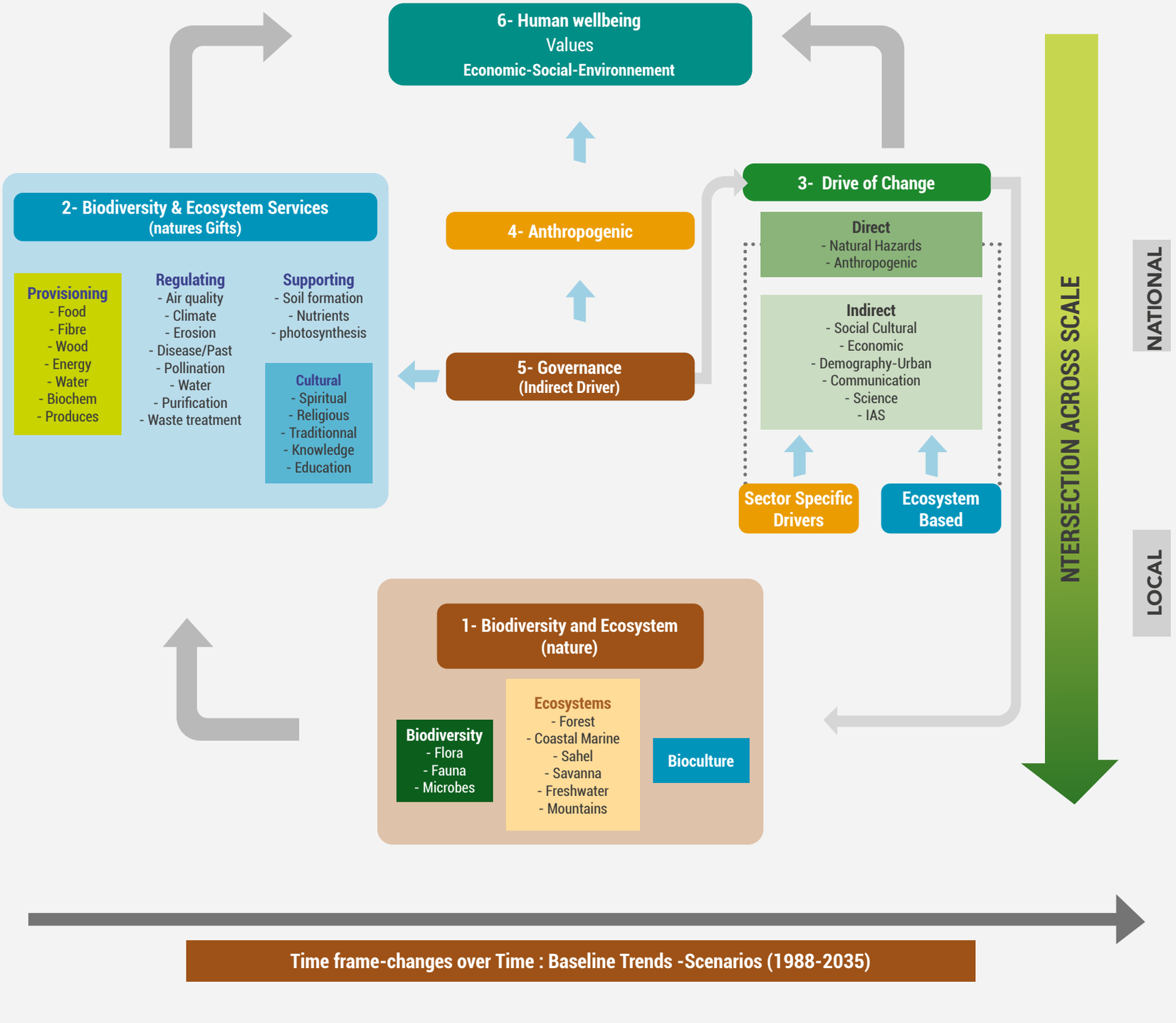


Table 1. Evolution of drivers of BES in all six ecosystems of Cameroon

Drivers	Ecosystems																							
	Dense humid forest				Coastal and marine				Tropical wooded savannah				Montane				Semi-arid				Freshwater			
	Pa	Pr	Future		Pa	Pr	Future		Pa	Pr	Future		Pa	Pr	Future		Pa	Pr	Future		Pa	Pr	Future	
			BaU	EF			BaU	EF			BaU	EF			BaU	EF			BaU	EF			BaU	EF
Small scale agriculture	↗	↑	↑	↘	↗	↗	↗	→	↗	↗	↗	↘	→	↗	↑	↘	↑	↑	↑	↗	↗	↗	↑	→
Agro industries	→	↗	↗	→	↑	↑	↑	→	→	↗	↗	→	→	↗	↗	→	→	→	→	→	→	↗	↗	→
Demography	→	↗	↗	↗	↗	↗	↑	↗	↗	↑	↑	↘	→	↗	↗	→	↗	↗	↗	↗	↗	↗	↗	↘
Infrastructure	→	↗	↗	→	↗	↗	↑	↗	↗	↗	↑	→	↗	↗	↗	↗	→	↗	↗	→	↗	↗	↑	→
Urbanization	→	↗	↗	↗	↗	↗	↑	↗	↗	↑	↑	↗	↗	↗	↗	→	→	→	→	→	→	↗	↗	→
Mining	→	↗	↗	→	→	→	→	→	→	→	→	→	↗	↗	↗	→	→	→	→	→	→	↗	↗	→
NFTP exploitation	↗	↗	↗	→	→	↗	↗	→	→	→	→	→	→	↗	↗	→	→	→	→	→	↗	↗	↗	→
Poaching and illegal wildlife trade	↗	↑	↑	↘	→	↗	↗	→	↗	↗	↗	→	→	→	→	→	→	↗	↗	→	NA	NA	NA	NA
Legal and illegal logging	↗	↑	↑	↘	NA	NA	NA	NA	↗	↗	↗	→	→	↗	↗	→	NA	NA	NA	NA	NA	NA	NA	NA
Overlapping/encroaching of sector activities	→	↗	↗	→	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Extraction of timber and mangrove	NA	NA	NA	NA	↗	↗	↗	→	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Unsustainable fishing	NA	NA	NA	NA	↗	↗	↗	→	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	→	↗	↗	→
Pollution	NA	NA	NA	NA	↗	↗	↑	→	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	↗	↑	↑	→
Invasive species	NA	NA	NA	NA	→	↗	↗	→	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	↗	↗	↗	→
Floods	NA	NA	NA	NA	→	↗	↑	↘	→	→	→	→	NA	NA	NA	NA	↗	↗	↗	↗	↗	↗	↗	↗
Droughts	NA	NA	NA	NA	NA	NA	NA	NA	↗	↗	↗	↗	NA	NA	NA	NA	↗	↗	↗	↗	↗	↗	↗	↗
Wild or bushfires	NA	NA	NA	NA	NA	NA	NA	NA	↗	↗	↗	↗	→	↗	↗	→	↗	↗	↗	→	NA	NA	NA	NA
Overgrazing	NA	NA	NA	NA	NA	NA	NA	NA	↗	↗	↗	→	NA	NA	NA	NA	↑	↑	↑	→	NA	NA	NA	NA
Desertification	NA	NA	NA	NA	NA	NA	NA	NA	↗	↗	↗	→	NA	NA	NA	NA	↑	↑	↑	↗	NA	NA	NA	NA
Unsustainable fuelwood harvesting	NA	NA	NA	NA	NA	NA	NA	NA	↗	↗	↗	→	NA	NA	NA	NA	↑	↑	↑	→	NA	NA	NA	NA
Unsustainable exploitation of water resources	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	↗	↗	↗	→
Disasters and landslides	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	↗	↗	↗	↗	NA	NA	NA	NA	NA	NA	NA	NA

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